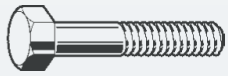


 **FABORY**  
MASTERS IN FASTENERS





**1** Bolts



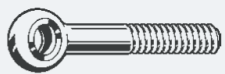
**2** Hexagon socket products



**3** Nuts/rivet nuts/inserts



**4** Threaded rods/stud bolts



**5** Hook/eye products

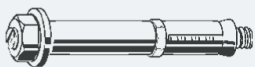


**6** Screws

**I** Index



**7** Washers/o-rings



**8** Anchoring products/plugs



**9** Rivets/pins/keys



**10** Systems/furniture-/security fasteners

















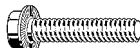









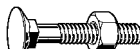



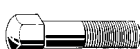









**11** Assortments/storage systems



**12** Engineering parts/machine parts

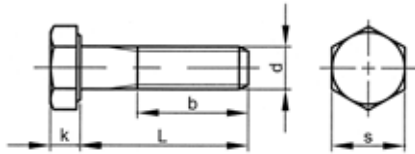
**T** Fastener Technology

# Bolts 1

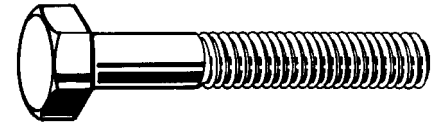
|   |   |   |   |  |
|---|---|---|---|--|
|  <p>Page 1-2<br/>ISO 4014<br/>DIN 931</p> <p><b>Metric</b></p>                                       |  <p>Page 1-16<br/>ISO 4016/-<br/>DIN 601/555<br/>(1987)</p> <p><b>With hexagon nut Metric</b></p>    |  <p>Page 1-17<br/>ISO 4017<br/>DIN 933</p> <p><b>Metric</b></p>                          |  <p>Page 1-31<br/>ISO ≈4017<br/>DIN ≈933</p> <p><b>With slot Metric</b></p>                           |  <p>Page 1-32<br/>ISO 8765<br/>DIN 960</p> <p><b>Metric fine</b></p>  |
|  <p>Page 1-35<br/>ISO 8676<br/>DIN 961</p> <p><b>Metric fine</b></p>                                 |  <p>Page 1-38<br/>ANSI ≈B18.2.1<br/>BS ≈1768</p> <p><b>UNC</b></p>                                   |  <p>Page 1-42<br/>ANSI ≈B18.2.1<br/>BS ≈1768</p> <p><b>UNF</b></p>                       |  <p>Page 1-45<br/>DIN ≈931 (1954)<br/>NEN ≈2336<br/>(1961)</p> <p><b>BSW</b></p>                      |  <p>Page 1-46<br/>BS ≈1083<br/>(1965)</p> <p><b>BSF</b></p>   |
|  <p>Page 1-47<br/>ANSI ≈B18.2.1<br/>BS ≈1768</p> <p><b>UNC</b></p>                                   |  <p>Page 1-50<br/>ANSI ≈B18.2.1<br/>BS ≈1768</p> <p><b>UNF</b></p>                                   |  <p>Page 1-52<br/>DIN ≈933 (1954)<br/>NEN ≈2337<br/>(1961)</p> <p><b>BSW</b></p>         |  <p>Page 1-53<br/>BS ≈1083<br/>(1965)</p> <p><b>BSF</b></p>   |  <p>Page 1-54</p> <p><b>RIPP Metric</b></p>   |
|  <p>Page 1-56</p> <p><b>TENSILOCK Metric</b></p>  |  <p>Page 1-58<br/>DIN 6921<br/>ANSI B18.2.3.4M</p> <p><b>Metric</b></p>                             |  <p>Page 1-60<br/>DIN 6921<br/>ANSI B18.2.3.4M</p> <p><b>Metric fine</b></p>            |  <p>Page 1-61<br/>DIN 609</p> <p><b>With long thread Metric</b></p>                                  |  <p>Page 1-62<br/>ISO 8677<br/>DIN 603</p> <p><b>Without hexagon nut Metric</b></p>                                    |
|  <p>Page 1-65<br/>ISO 8677/-<br/>DIN 603/555<br/>(1987)</p> <p><b>With hexagon nut Metric</b></p>  |  <p>Page 1-67<br/>DIN ≈608<br/>BS ≈4933</p> <p><b>With short square neck Metric</b></p>            |  <p>Page 1-68<br/>DIN - / 555<br/>(1987)<br/>NEN - / 697</p> <p><b>SEHA Metric</b></p> |  <p>Page 1-69<br/>DIN 604/555<br/>(1987)<br/>NEN 2355/697</p> <p><b>With hexagon nut Metric</b></p> |  <p>Page 1-70<br/>DIN 605/555<br/>(1987)<br/>NF - / E25-402</p> <p><b>With square neck and hexagon nut Metric</b></p> |
|  <p>Page 1-71<br/>DIN 15237</p> <p><b>Seating screw</b></p>  |  <p>Page 1-72<br/>DIN 15237</p> <p><b>For seating screws</b></p>                                   |  <p>Page 1-73<br/>DIN 479<br/>NF E25-134</p> <p><b>With short dog point Metric</b></p> |  <p>Page 1-74</p> <p><b>Trackshoe bolt UNF</b></p>  |  <p>Page 1-75<br/>DIN 561<br/>NF E25-133</p> <p><b>With small hexagon and dog point Metric</b></p>                    |
|  <p>Page 1-77<br/>EN 14399-4</p> <p><b>PEINER</b></p>  |  <p>Page 1-81<br/>EN 14399-4</p> <p><b>PEINER</b></p>  |  <p>Page 1-82<br/>EN 14399-6</p> <p><b>PEINER</b></p>                                  |  <p>Page 1-83<br/>DIN 6917<br/>NEN 5515</p> <p><b>PEINER I-sections</b></p>                         |  <p>Page 1-84<br/>DIN 6918<br/>NEN 5514</p> <p><b>PEINER U-sections</b></p>   |
|  <p>Page 1-85<br/>ISO 4014/4032<br/>EN 15048</p> <p><b>Structural assembly set, CE marking</b></p> |  <p>Page 1-87<br/>ISO 4017/4032<br/>EN 15048</p> <p><b>Structural assembly set, CE marking</b></p> |  <p>Page 1-89</p> <p><b>Plastic</b></p>  |   |  |

## Hexagon head bolt

1



ISO 4014  
DIN 931  
NEN 1555  
ANSI B18.2.3.1M  
NF E25-112



### Technical data

| d         | P    | b (min.): L≤125mm | b (min.): 125mm<L≤200mm | b (min.): L>200mm | k    | s  |
|-----------|------|-------------------|-------------------------|-------------------|------|----|
| M4        | 0,7  | 14                | -                       | -                 | 2,8  | 7  |
| M5        | 0,8  | 16                | 22                      | -                 | 3,5  | 8  |
| M6        | 1    | 18                | 24                      | -                 | 4    | 10 |
| M7        | 1    | 20                | 26                      | -                 | 4,8  | 11 |
| M8        | 1,25 | 22                | 28                      | -                 | 5,3  | 13 |
| M10 (DIN) | 1,5  | 26                | 32                      | 45                | 6,4  | 17 |
| M10       | 1,5  | 26                | -                       | -                 | 6,4  | 16 |
| M12 (DIN) | 1,75 | 30                | 36                      | 49                | 7,5  | 19 |
| M12       | 1,75 | 30                | 36                      | -                 | 7,5  | 18 |
| M14 (DIN) | 2    | 34                | 40                      | 53                | 8,8  | 22 |
| M14       | 2    | 34                | 40                      | -                 | 8,8  | 21 |
| M16       | 2    | 38                | 44                      | 57                | 10   | 24 |
| M18       | 2,5  | 42                | 48                      | 61                | 11,5 | 27 |
| M20       | 2,5  | 46                | 52                      | 65                | 12,5 | 30 |
| M22 (DIN) | 2,5  | 50                | 56                      | 69                | 14   | 32 |
| M22       | 2,5  | 50                | 56                      | 69                | 14   | 34 |
| M24       | 3    | 54                | 60                      | 73                | 15   | 36 |
| M27       | 3    | 60                | 66                      | 79                | 17   | 41 |
| M30       | 3,5  | 66                | 72                      | 85                | 18,7 | 46 |
| M33       | 3,5  | 72                | 78                      | 91                | 21   | 50 |
| M36       | 4    | 78                | 84                      | 97                | 22,5 | 55 |
| M39       | 4    | 84                | 90                      | 103               | 25   | 60 |
| M42       | 4,5  | 90                | 96                      | 109               | 26   | 65 |
| M45       | 4,5  | 96                | 102                     | 115               | 28   | 70 |
| M48       | 5    | 102               | 108                     | 121               | 30   | 75 |
| M52       | 5    | -                 | 116                     | 119               | 33   | 80 |
| M56       | 5,5  | -                 | 124                     | 137               | 35   | 85 |
| M60       | 5,5  | -                 | 132                     | 145               | 38   | 90 |
| M64       | 6    | -                 | 140                     | 153               | 40   | 95 |

- Size 'b' is a guide value, it amounts on the minimum length of the threaded part.

### Article groups

| Thread | Driving features | Material   | Class  | Surface treatment | Colour               | Packaging | Code  | Page |
|--------|------------------|------------|--------|-------------------|----------------------|-----------|-------|------|
| M      | hexagon          | St         | 8.8    |                   |                      | Standard  | 01000 | 1-3  |
| M      | hexagon          | St         | 8.8    | Zipl              |                      | Standard  | 01200 | 1-4  |
| M      | hexagon          | St         | 8.8    | Zipl yell.p.      |                      | Standard  | 01220 | 1-6  |
| M      | hexagon          | St         | 8.8    | Hot d.g.          | iso metric           | Standard  | 01400 | 1-7  |
| M      | hexagon          | St         | 8.8    | Hot d.g.          | oversized            | Standard  | 01420 | 1-8  |
| M      | hexagon          | St         | 10.9   |                   |                      | Standard  | 04100 | 1-8  |
| M      | hexagon          | St         | 10.9   | FLZNNC-NC6        |                      | Standard  | 04105 | 1-9  |
| M      | hexagon          | St         | 8.8    | FLZNNC-NC6        |                      | Standard  | 01226 | 1-10 |
| M      | hexagon          | St         | 12.9   |                   |                      | Standard  | 04108 | 1-10 |
| M      | hexagon          | St         | 5.6    |                   | for pressure vessels | Standard  | 08750 | 1-11 |
| M      | hexagon          | St.St. A2  | 70     |                   |                      | Standard  | 51000 | 1-11 |
| M      | hexagon          | St.St. A4  | 70     |                   |                      | Standard  | 55000 | 1-13 |
| M      | hexagon          | St.St. A4  | 80     |                   |                      | Standard  | 53510 | 1-14 |
| M      | hexagon          | St 24CrMo5 | G      |                   |                      | Standard  | 23010 | 1-15 |
| M      | hexagon          | Plastic PA | PA 6.6 |                   | White                | Standard  | 56090 | 1-15 |













1

**01400 Hexagon head bolt iso-metric fitting thread**

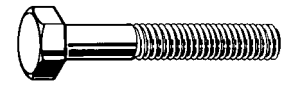
| d x L | Art.number | d x L | Art.number | d x L | Art.number |
|-------|------------|-------|------------|-------|------------|
|-------|------------|-------|------------|-------|------------|

- The corresponding ISO-METRIC FITTING nuts have been threaded according to the tolerance class 6H AFTER galvanizing so that they perfectly fit onto the bolts.

**01420 Hexagon head bolt oversized thread**

A07A

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Steel              |
| <b>Class</b>             | 8.8                |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |



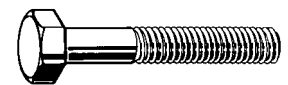
| d x L        | Art.number                        | d x L       | Art.number                       | d x L        | Art.number                       |
|--------------|-----------------------------------|-------------|----------------------------------|--------------|----------------------------------|
| M10X40/S=17  | 100 <a href="#">01420.100.040</a> | M16X100     | 25 <a href="#">01420.160.100</a> | M22X90/S=32  | 10 <a href="#">01420.220.090</a> |
| M10X50/S=17  | 50 <a href="#">01420.100.050</a>  | M16X110     | 25 <a href="#">01420.160.110</a> | M22X100/S=32 | 10 <a href="#">01420.220.100</a> |
|              |                                   | M16X120     | 25 <a href="#">01420.160.120</a> | M22X120/S=32 | 10 <a href="#">01420.220.120</a> |
| M12X45/S=19  | 100 <a href="#">01420.120.045</a> | M16X140     | 25 <a href="#">01420.160.140</a> | M22X140/S=32 | 10 <a href="#">01420.220.140</a> |
| M12X50/S=19  | 100 <a href="#">01420.120.050</a> | M16X150     | 25 <a href="#">01420.160.150</a> | M22X160/S=32 | 10 <a href="#">01420.220.160</a> |
| M12X55/S=19  | 100 <a href="#">01420.120.055</a> | M16X160     | 25 <a href="#">01420.160.160</a> | M22X180/S=32 | 10 <a href="#">01420.220.180</a> |
| M12X60/S=19  | 100 <a href="#">01420.120.060</a> | M16X180     | 25 <a href="#">01420.160.180</a> | M22X200/S=32 | 10 <a href="#">01420.220.200</a> |
| M12X65/S=19  | 100 <a href="#">01420.120.065</a> |             |                                  |              |                                  |
| M12X70/S=19  | 100 <a href="#">01420.120.070</a> | M18X60      | 50 <a href="#">01420.180.060</a> | M24X75       | 25 <a href="#">01420.240.075</a> |
| M12X75/S=19  | 50 <a href="#">01420.120.075</a>  | M18X70      | 50 <a href="#">01420.180.070</a> | M24X80       | 25 <a href="#">01420.240.080</a> |
| M12X80/S=19  | 50 <a href="#">01420.120.080</a>  | M18X80      | 25 <a href="#">01420.180.080</a> | M24X90       | 10 <a href="#">01420.240.090</a> |
| M12X90/S=19  | 50 <a href="#">01420.120.090</a>  | M18X90      | 25 <a href="#">01420.180.090</a> | M24X100      | 10 <a href="#">01420.240.100</a> |
| M12X100/S=19 | 50 <a href="#">01420.120.100</a>  | M18X100     | 25 <a href="#">01420.180.100</a> | M24X110      | 10 <a href="#">01420.240.110</a> |
| M12X120/S=19 | 50 <a href="#">01420.120.120</a>  | M18X120     | 25 <a href="#">01420.180.120</a> | M24X120      | 10 <a href="#">01420.240.120</a> |
| M12X140/S=19 | 50 <a href="#">01420.120.140</a>  | M18X140     | 25 <a href="#">01420.180.140</a> | M24X130      | 10 <a href="#">01420.240.130</a> |
| M12X160/S=19 | 25 <a href="#">01420.120.160</a>  |             |                                  | M24X140      | 10 <a href="#">01420.240.140</a> |
|              |                                   | M20X65      | 25 <a href="#">01420.200.065</a> | M24X150      | 10 <a href="#">01420.240.150</a> |
| M14X50/S=22  | 50 <a href="#">01420.140.050</a>  | M20X70      | 25 <a href="#">01420.200.070</a> | M24X160      | 10 <a href="#">01420.240.160</a> |
| M14X60/S=22  | 50 <a href="#">01420.140.060</a>  | M20X75      | 25 <a href="#">01420.200.075</a> | M24X180      | 10 <a href="#">01420.240.180</a> |
| M14X70/S=22  | 50 <a href="#">01420.140.070</a>  | M20X80      | 25 <a href="#">01420.200.080</a> |              |                                  |
| M14X80/S=22  | 25 <a href="#">01420.140.080</a>  | M20X85      | 25 <a href="#">01420.200.085</a> | M27X80       | 10 <a href="#">01420.270.080</a> |
| M14X90/S=22  | 25 <a href="#">01420.140.090</a>  | M20X90      | 25 <a href="#">01420.200.090</a> | M27X100      | 10 <a href="#">01420.270.100</a> |
| M14X100/S=22 | 25 <a href="#">01420.140.100</a>  | M20X100     | 25 <a href="#">01420.200.100</a> | M27X120      | 10 <a href="#">01420.270.120</a> |
| M14X120/S=22 | 25 <a href="#">01420.140.120</a>  | M20X110     | 25 <a href="#">01420.200.110</a> | M27X140      | 10 <a href="#">01420.270.140</a> |
| M14X140/S=22 | 25 <a href="#">01420.140.140</a>  | M20X120     | 25 <a href="#">01420.200.120</a> | M27X160      | 10 <a href="#">01420.270.160</a> |
|              |                                   | M20X130     | 25 <a href="#">01420.200.130</a> |              |                                  |
| M16X55       | 50 <a href="#">01420.160.055</a>  | M20X140     | 25 <a href="#">01420.200.140</a> | M30X100      | 10 <a href="#">01420.300.100</a> |
| M16X60       | 50 <a href="#">01420.160.060</a>  | M20X160     | 10 <a href="#">01420.200.160</a> | M30X120      | 10 <a href="#">01420.300.120</a> |
| M16X65       | 50 <a href="#">01420.160.065</a>  | M20X180     | 10 <a href="#">01420.200.180</a> | M30X140      | 10 <a href="#">01420.300.140</a> |
| M16X70       | 50 <a href="#">01420.160.070</a>  | M20X260     | 10 <a href="#">01420.200.260</a> | M30X160      | 10 <a href="#">01420.300.160</a> |
| M16X75       | 25 <a href="#">01420.160.075</a>  |             |                                  |              |                                  |
| M16X80       | 25 <a href="#">01420.160.080</a>  | M22X70/S=32 | 25 <a href="#">01420.220.070</a> |              |                                  |
| M16X90       | 25 <a href="#">01420.160.090</a>  | M22X80/S=32 | 25 <a href="#">01420.220.080</a> |              |                                  |

- For hot dip galvanized bolts with OVERSIZED thread the zinc layer is applied ON the normal thread, so AFTER galvanizing these bolts are no longer ISO-metric mating, but thicker: so called OVERSIZED.
- They do not mate the usual fit of screwthread and cannot be used in e.g. normal threaded holes.
- The corresponding OVERSIZED nuts have been tapped about 0,3 mm larger AFTER galvanizing running perfectly onto these bolts.

**04100 Hexagon head bolt**

C01A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 10.9          |
| <b>Packaging</b> | Standard      |



| d x L  | Art.number                        | d x L        | Art.number                        | d x L        | Art.number                        |
|--------|-----------------------------------|--------------|-----------------------------------|--------------|-----------------------------------|
| M6X30  | 200 <a href="#">04100.060.030</a> | M10X40/S=17  | 100 <a href="#">04100.100.040</a> | M12X65/S=19  | 50 <a href="#">04100.120.065</a>  |
| M6X35  | 200 <a href="#">04100.060.035</a> | M10X45/S=17  | 100 <a href="#">04100.100.045</a> | M12X70/S=19  | 50 <a href="#">04100.120.070</a>  |
| M6X40  | 200 <a href="#">04100.060.040</a> | M10X50/S=17  | 100 <a href="#">04100.100.050</a> | M12X75/S=19  | 100 <a href="#">04100.120.075</a> |
| M6X45  | 200 <a href="#">04100.060.045</a> | M10X55/S=17  | 100 <a href="#">04100.100.055</a> | M12X80/S=19  | 50 <a href="#">04100.120.080</a>  |
| M6X50  | 200 <a href="#">04100.060.050</a> | M10X60/S=17  | 100 <a href="#">04100.100.060</a> | M12X85/S=19  | 50 <a href="#">04100.120.085</a>  |
| M6X55  | 200 <a href="#">04100.060.055</a> | M10X65/S=17  | 100 <a href="#">04100.100.065</a> | M12X90/S=19  | 50 <a href="#">04100.120.090</a>  |
| M6X60  | 200 <a href="#">04100.060.060</a> | M10X70/S=17  | 100 <a href="#">04100.100.070</a> | M12X100/S=19 | 50 <a href="#">04100.120.100</a>  |
| M6X70  | 200 <a href="#">04100.060.070</a> | M10X75/S=17  | 100 <a href="#">04100.100.075</a> | M12X110/S=19 | 50 <a href="#">04100.120.110</a>  |
| M6X80  | 200 <a href="#">04100.060.080</a> | M10X80/S=17  | 100 <a href="#">04100.100.080</a> | M12X120/S=19 | 50 <a href="#">04100.120.120</a>  |
|        |                                   | M10X90/S=17  | 100 <a href="#">04100.100.090</a> | M12X130/S=19 | 25 <a href="#">04100.120.130</a>  |
| M8X30  | 200 <a href="#">04100.080.030</a> | M10X100/S=17 | 100 <a href="#">04100.100.100</a> | M12X140/S=19 | 25 <a href="#">04100.120.140</a>  |
| M8X35  | 200 <a href="#">04100.080.035</a> | M10X110/S=17 | 50 <a href="#">04100.100.110</a>  | M12X150/S=19 | 25 <a href="#">04100.120.150</a>  |
| M8X40  | 200 <a href="#">04100.080.040</a> | M10X120/S=17 | 50 <a href="#">04100.100.120</a>  | M12X160/S=19 | 25 <a href="#">04100.120.160</a>  |
| M8X45  | 200 <a href="#">04100.080.045</a> | M10X130/S=17 | 50 <a href="#">04100.100.130</a>  | M12X180/S=19 | 25 <a href="#">04100.120.180</a>  |
| M8X50  | 200 <a href="#">04100.080.050</a> | M10X140/S=17 | 50 <a href="#">04100.100.140</a>  | M12X200/S=19 | 25 <a href="#">04100.120.200</a>  |
| M8X60  | 200 <a href="#">04100.080.060</a> | M10X150/S=17 | 50 <a href="#">04100.100.150</a>  | M12X220/S=19 | 25 <a href="#">04100.120.220</a>  |
| M8X70  | 200 <a href="#">04100.080.070</a> | M10X160/S=17 | 50 <a href="#">04100.100.160</a>  |              |                                   |
| M8X80  | 200 <a href="#">04100.080.080</a> | M10X180/S=17 | 50 <a href="#">04100.100.180</a>  |              |                                   |
| M8X90  | 100 <a href="#">04100.080.090</a> |              |                                   | M14X45/S=22  | 50 <a href="#">04100.140.045</a>  |
| M8X100 | 100 <a href="#">04100.080.100</a> | M12X45/S=19  | 100 <a href="#">04100.120.045</a> | M14X50/S=22  | 50 <a href="#">04100.140.050</a>  |
| M8X110 | 100 <a href="#">04100.080.110</a> | M12X50/S=19  | 100 <a href="#">04100.120.050</a> | M14X55/S=22  | 50 <a href="#">04100.140.055</a>  |
| M8X120 | 100 <a href="#">04100.080.120</a> | M12X55/S=19  | 100 <a href="#">04100.120.055</a> | M14X60/S=22  | 50 <a href="#">04100.140.060</a>  |
|        |                                   | M12X60/S=19  | 100 <a href="#">04100.120.060</a> | M14X65/S=22  | 50 <a href="#">04100.140.065</a>  |
|        |                                   |              |                                   | M14X70/S=22  | 50 <a href="#">04100.140.070</a>  |



**04105 Hexagon head bolt**

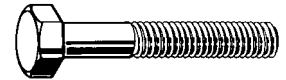
| d x L   | Art.number                       | d x L   | Art.number                       | d x L   | Art.number                       |
|---------|----------------------------------|---------|----------------------------------|---------|----------------------------------|
| M20X100 | 25 <a href="#">04105.200.100</a> | M24X80  | 25 <a href="#">04105.240.080</a> | M24X180 | 10 <a href="#">04105.240.180</a> |
| M20X120 | 25 <a href="#">04105.200.120</a> | M24X90  | 10 <a href="#">04105.240.090</a> | M24X200 | 10 <a href="#">04105.240.200</a> |
| M20X140 | 25 <a href="#">04105.200.140</a> | M24X100 | 10 <a href="#">04105.240.100</a> |         |                                  |
| M20X160 | 10 <a href="#">04105.200.160</a> | M24X120 | 10 <a href="#">04105.240.120</a> |         |                                  |
| M20X200 | 10 <a href="#">04105.200.200</a> | M24X140 | 10 <a href="#">04105.240.140</a> |         |                                  |
|         |                                  | M24X160 | 10 <a href="#">04105.240.160</a> |         |                                  |

- Technical brochure available on request.

**01226 Hexagon head bolt**

A96A

|                          |   |
|--------------------------|---|
| <b>Thread</b>            | Metric thread                           |
| <b>Material</b>          | Steel                                   |
| <b>Class</b>             | 8.8                                     |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |
| <b>Packaging</b>         | Standard                                |



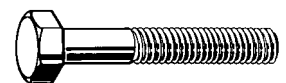
| d x L        | Art.number                        | d x L        | Art.number                        | d x L   | Art.number                       |
|--------------|-----------------------------------|--------------|-----------------------------------|---------|----------------------------------|
| M6X30        | 200 <a href="#">01226.060.030</a> | M12X55/S=19  | 100 <a href="#">01226.120.055</a> | M18X80  | 25 <a href="#">01226.180.080</a> |
| M6X35        | 200 <a href="#">01226.060.035</a> | M12X60/S=19  | 100 <a href="#">01226.120.060</a> | M18X90  | 25 <a href="#">01226.180.090</a> |
| M6X40        | 200 <a href="#">01226.060.040</a> | M12X65/S=19  | 50 <a href="#">01226.120.065</a>  | M20X65  | 25 <a href="#">01226.200.065</a> |
| M6X45        | 200 <a href="#">01226.060.045</a> | M12X70/S=19  | 50 <a href="#">01226.120.070</a>  | M20X70  | 25 <a href="#">01226.200.070</a> |
| M6X50        | 200 <a href="#">01226.060.050</a> | M12X80/S=19  | 50 <a href="#">01226.120.080</a>  | M20X75  | 25 <a href="#">01226.200.075</a> |
| M6X60        | 200 <a href="#">01226.060.060</a> | M12X90/S=19  | 50 <a href="#">01226.120.090</a>  | M20X80  | 25 <a href="#">01226.200.080</a> |
|              |                                   | M12X100/S=19 | 50 <a href="#">01226.120.100</a>  | M20X85  | 25 <a href="#">01226.200.085</a> |
| M8X35        | 200 <a href="#">01226.080.035</a> | M12X110/S=19 | 50 <a href="#">01226.120.110</a>  | M20X90  | 25 <a href="#">01226.200.090</a> |
| M8X40        | 200 <a href="#">01226.080.040</a> | M12X120/S=19 | 50 <a href="#">01226.120.120</a>  | M20X100 | 25 <a href="#">01226.200.100</a> |
| M8X45        | 200 <a href="#">01226.080.045</a> | M12X140/S=19 | 50 <a href="#">01226.120.140</a>  | M20X110 | 25 <a href="#">01226.200.110</a> |
| M8X50        | 200 <a href="#">01226.080.050</a> | M12X150/S=19 | 50 <a href="#">01226.120.150</a>  | M20X120 | 25 <a href="#">01226.200.120</a> |
| M8X55        | 200 <a href="#">01226.080.055</a> | M12X170/S=19 | 25 <a href="#">01226.120.170</a>  | M20X130 | 25 <a href="#">01226.200.130</a> |
| M8X60        | 200 <a href="#">01226.080.060</a> |              |                                   | M20X140 | 25 <a href="#">01226.200.140</a> |
| M8X70        | 200 <a href="#">01226.080.070</a> | M16X55       | 50 <a href="#">01226.160.055</a>  | M20X150 | 25 <a href="#">01226.200.150</a> |
| M8X80        | 200 <a href="#">01226.080.080</a> | M16X60       | 50 <a href="#">01226.160.060</a>  | M20X160 | 10 <a href="#">01226.200.160</a> |
| M8X90        | 100 <a href="#">01226.080.090</a> | M16X65       | 25 <a href="#">01226.160.065</a>  | M20X180 | 10 <a href="#">01226.200.180</a> |
| M8X110       | 100 <a href="#">01226.080.110</a> | M16X70       | 25 <a href="#">01226.160.070</a>  | M20X200 | 10 <a href="#">01226.200.200</a> |
|              |                                   | M16X75       | 25 <a href="#">01226.160.075</a>  |         |                                  |
| M10X40/S=17  | 100 <a href="#">01226.100.040</a> | M16X80       | 25 <a href="#">01226.160.080</a>  | M24X70  | 25 <a href="#">01226.240.070</a> |
| M10X45/S=17  | 100 <a href="#">01226.100.045</a> | M16X90       | 25 <a href="#">01226.160.090</a>  | M24X80  | 25 <a href="#">01226.240.080</a> |
| M10X50/S=17  | 100 <a href="#">01226.100.050</a> | M16X100      | 25 <a href="#">01226.160.100</a>  | M24X90  | 10 <a href="#">01226.240.090</a> |
| M10X60/S=17  | 100 <a href="#">01226.100.060</a> | M16X110      | 25 <a href="#">01226.160.110</a>  | M24X100 | 10 <a href="#">01226.240.100</a> |
| M10X70/S=17  | 100 <a href="#">01226.100.070</a> | M16X120      | 25 <a href="#">01226.160.120</a>  | M24X110 | 10 <a href="#">01226.240.110</a> |
| M10X80/S=17  | 100 <a href="#">01226.100.080</a> | M16X130      | 25 <a href="#">01226.160.130</a>  | M24X130 | 10 <a href="#">01226.240.130</a> |
| M10X90/S=17  | 100 <a href="#">01226.100.090</a> | M16X140      | 25 <a href="#">01226.160.140</a>  | M24X140 | 10 <a href="#">01226.240.140</a> |
| M10X100/S=17 | 100 <a href="#">01226.100.100</a> | M16X150      | 25 <a href="#">01226.160.150</a>  | M24X160 | 10 <a href="#">01226.240.160</a> |
| M10X120/S=17 | 50 <a href="#">01226.100.120</a>  | M16X160      | 25 <a href="#">01226.160.160</a>  | M24X180 | 10 <a href="#">01226.240.180</a> |
|              |                                   | M16X180      | 25 <a href="#">01226.160.180</a>  | M24X200 | 10 <a href="#">01226.240.200</a> |
| M12X45/S=19  | 100 <a href="#">01226.120.045</a> |              |                                   |         |                                  |
| M12X50/S=19  | 100 <a href="#">01226.120.050</a> | M18X60       | 25 <a href="#">01226.180.060</a>  |         |                                  |

- A ISO 10683 Zinc Flake surface coating eliminates the possibilities of damage which can arise due to hydrogen embrittlement.

**04108 Hexagon head bolt**

C01A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 12.9          |
| <b>Packaging</b> | Standard      |



| d x L        | Art.number                        | d x L        | Art.number                        | d x L   | Art.number                       |
|--------------|-----------------------------------|--------------|-----------------------------------|---------|----------------------------------|
| M6X30        | 200 <a href="#">04108.060.030</a> | M12X60/S=19  | 100 <a href="#">04108.120.060</a> | M16X120 | 25 <a href="#">04108.160.120</a> |
| M6X40        | 200 <a href="#">04108.060.040</a> | M12X70/S=19  | 50 <a href="#">04108.120.070</a>  | M16X130 | 25 <a href="#">04108.160.130</a> |
| M6X50        | 200 <a href="#">04108.060.050</a> | M12X80/S=19  | 50 <a href="#">04108.120.080</a>  | M16X140 | 25 <a href="#">04108.160.140</a> |
| M6X60        | 200 <a href="#">04108.060.060</a> | M12X90/S=19  | 50 <a href="#">04108.120.090</a>  | M16X160 | 25 <a href="#">04108.160.160</a> |
|              |                                   | M12X100/S=19 | 50 <a href="#">04108.120.100</a>  |         |                                  |
| M8X40        | 200 <a href="#">04108.080.040</a> | M12X110/S=19 | 50 <a href="#">04108.120.110</a>  | M20X70  | 25 <a href="#">04108.200.070</a> |
| M8X50        | 200 <a href="#">04108.080.050</a> | M12X120/S=19 | 50 <a href="#">04108.120.120</a>  | M20X80  | 25 <a href="#">04108.200.080</a> |
| M8X60        | 200 <a href="#">04108.080.060</a> |              |                                   | M20X90  | 25 <a href="#">04108.200.090</a> |
| M8X80        | 200 <a href="#">04108.080.080</a> | M14X50/S=22  | 50 <a href="#">04108.140.050</a>  | M20X100 | 25 <a href="#">04108.200.100</a> |
| M8X100       | 100 <a href="#">04108.080.100</a> | M14X60/S=22  | 50 <a href="#">04108.140.060</a>  | M20X110 | 25 <a href="#">04108.200.110</a> |
|              |                                   | M14X70/S=22  | 50 <a href="#">04108.140.070</a>  | M20X140 | 25 <a href="#">04108.200.140</a> |
| M10X40/S=17  | 100 <a href="#">04108.100.040</a> | M14X80/S=22  | 50 <a href="#">04108.140.080</a>  | M20X160 | 10 <a href="#">04108.200.160</a> |
| M10X45/S=17  | 100 <a href="#">04108.100.045</a> | M14X90/S=22  | 50 <a href="#">04108.140.090</a>  |         |                                  |
| M10X50/S=17  | 100 <a href="#">04108.100.050</a> | M14X100/S=22 | 50 <a href="#">04108.140.100</a>  | M24X80  | 25 <a href="#">04108.240.080</a> |
| M10X60/S=17  | 100 <a href="#">04108.100.060</a> | M14X120/S=22 | 50 <a href="#">04108.140.120</a>  | M24X90  | 10 <a href="#">04108.240.090</a> |
| M10X70/S=17  | 100 <a href="#">04108.100.070</a> |              |                                   | M24X100 | 10 <a href="#">04108.240.100</a> |
| M10X80/S=17  | 100 <a href="#">04108.100.080</a> | M16X60       | 50 <a href="#">04108.160.060</a>  |         |                                  |
| M10X100/S=17 | 100 <a href="#">04108.100.100</a> | M16X70       | 25 <a href="#">04108.160.070</a>  | M30X90  | 10 <a href="#">04108.300.090</a> |
| M10X120/S=17 | 50 <a href="#">04108.100.120</a>  | M16X80       | 25 <a href="#">04108.160.080</a>  | M30X100 | 10 <a href="#">04108.300.100</a> |
|              |                                   | M16X90       | 25 <a href="#">04108.160.090</a>  | M30X110 | 10 <a href="#">04108.300.110</a> |
| M12X45/S=19  | 100 <a href="#">04108.120.045</a> | M16X100      | 25 <a href="#">04108.160.100</a>  | M30X120 | 10 <a href="#">04108.300.120</a> |
| M12X50/S=19  | 100 <a href="#">04108.120.050</a> | M16X110      | 25 <a href="#">04108.160.110</a>  |         |                                  |

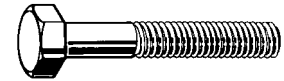
**04108 Hexagon head bolt**

| d x L | Art.number | d x L | Art.number | d x L | Art.number |
|-------|------------|-------|------------|-------|------------|
|-------|------------|-------|------------|-------|------------|

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**08750 Hexagon head bolt for pressure vessels etc.**
**E11A**

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 5.6           |
| <b>Packaging</b> | Standard      |

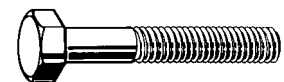


| d x L       | Art.number                        | d x L   | Art.number                       | d x L   | Art.number                       |
|-------------|-----------------------------------|---------|----------------------------------|---------|----------------------------------|
| M12X50/S=18 | 100 <a href="#">08750.120.051</a> | M16X160 | 25 <a href="#">08750.160.160</a> | M24X110 | 25 <a href="#">08750.240.110</a> |
| M12X55/S=18 | 100 <a href="#">08750.120.056</a> | M16X180 | 25 <a href="#">08750.160.180</a> | M24X120 | 25 <a href="#">08750.240.120</a> |
| M12X60/S=18 | 100 <a href="#">08750.120.061</a> |         |                                  | M24X150 | 10 <a href="#">08750.240.150</a> |
| M12X65/S=18 | 50 <a href="#">08750.120.066</a>  | M20X75  | 25 <a href="#">08750.200.075</a> | M24X160 | 10 <a href="#">08750.240.160</a> |
| M12X70/S=18 | 50 <a href="#">08750.120.071</a>  | M20X80  | 25 <a href="#">08750.200.080</a> | M24X180 | 10 <a href="#">08750.240.180</a> |
| M12X80/S=18 | 50 <a href="#">08750.120.081</a>  | M20X90  | 25 <a href="#">08750.200.090</a> | M24X200 | 10 <a href="#">08750.240.200</a> |
|             |                                   | M20X100 | 25 <a href="#">08750.200.100</a> | M24X220 | 10 <a href="#">08750.240.220</a> |
| M16X60      | 50 <a href="#">08750.160.060</a>  | M20X110 | 25 <a href="#">08750.200.110</a> |         |                                  |
| M16X65      | 25 <a href="#">08750.160.065</a>  | M20X120 | 25 <a href="#">08750.200.120</a> | M27X90  | 10 <a href="#">08750.270.090</a> |
| M16X70      | 25 <a href="#">08750.160.070</a>  | M20X130 | 25 <a href="#">08750.200.130</a> | M27X100 | 10 <a href="#">08750.270.100</a> |
| M16X75      | 25 <a href="#">08750.160.075</a>  | M20X140 | 25 <a href="#">08750.200.140</a> | M27X110 | 10 <a href="#">08750.270.110</a> |
| M16X80      | 25 <a href="#">08750.160.080</a>  | M20X150 | 25 <a href="#">08750.200.150</a> | M27X120 | 10 <a href="#">08750.270.120</a> |
| M16X90      | 25 <a href="#">08750.160.090</a>  | M20X160 | 10 <a href="#">08750.200.160</a> | M27X130 | 10 <a href="#">08750.270.130</a> |
| M16X100     | 25 <a href="#">08750.160.100</a>  | M20X180 | 10 <a href="#">08750.200.180</a> | M27X240 | 5 <a href="#">08750.270.240</a>  |
| M16X110     | 25 <a href="#">08750.160.110</a>  |         |                                  |         |                                  |
| M16X120     | 25 <a href="#">08750.160.120</a>  | M24X90  | 25 <a href="#">08750.240.090</a> |         |                                  |
| M16X140     | 25 <a href="#">08750.160.140</a>  | M24X100 | 25 <a href="#">08750.240.100</a> | M30X120 | 10 <a href="#">08750.300.120</a> |

- Special features hexagon head bolts for pressure vessels etc.:
- Are intended for use in pressure vessels, steam apparatus, equipment and flanged joints at temperatures from -10°C up to +300°C, overpressures max. 40 bar and sizes up to and including M30.
- Meets the requirements of AD-Merkblatt W7, TRD 106 of the TÜV (Technischer Überwachungsverein) and DIN 267-13.
- According to TÜV-Merkblatt Werkstoffe 1253, the manufacturer has been certified to deliver these bolts without a 3.1 certificate, the trade-mark and class designation are sufficient.
- This certification is also accepted by the Dutch "STOOMWEZEN BV" and meets the requirements M0802.

**51000 Hexagon head bolt**
**Q01A**

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| d x L    | Art.number                        | d x L       | Art.number                        | d x L          | Art.number                       |
|----------|-----------------------------------|-------------|-----------------------------------|----------------|----------------------------------|
| M5X25 *  | 200 <a href="#">51000.050.025</a> | M6X180      | 50 <a href="#">51000.060.180</a>  | M10X65/S=17    | 50 <a href="#">51000.100.065</a> |
| M5X30    | 100 <a href="#">51000.050.030</a> |             |                                   | M10X70/S=17    | 50 <a href="#">51000.100.070</a> |
| M5X35    | 100 <a href="#">51000.050.035</a> | M8X30       | 200 <a href="#">51000.080.030</a> | M10X75/S=17    | 50 <a href="#">51000.100.075</a> |
| M5X40    | 100 <a href="#">51000.050.040</a> | M8X35       | 100 <a href="#">51000.080.040</a> | M10X80/S=17    | 50 <a href="#">51000.100.080</a> |
| M5X45    | 100 <a href="#">51000.050.045</a> | M8X40       | 100 <a href="#">51000.080.040</a> | M10X85/S=17 *  | 50 <a href="#">51000.100.085</a> |
| M5X50    | 100 <a href="#">51000.050.050</a> | M8X45       | 100 <a href="#">51000.080.045</a> | M10X90/S=17    | 50 <a href="#">51000.100.090</a> |
| M5X55    | 100 <a href="#">51000.050.055</a> | M8X50       | 100 <a href="#">51000.080.050</a> | M10X100/S=17   | 50 <a href="#">51000.100.100</a> |
| M5X60    | 100 <a href="#">51000.050.060</a> | M8X55       | 100 <a href="#">51000.080.055</a> | M10X110/S=17   | 50 <a href="#">51000.100.110</a> |
| M5X65 *  | 200 <a href="#">51000.050.065</a> | M8X60       | 100 <a href="#">51000.080.060</a> | M10X120/S=17   | 25 <a href="#">51000.100.120</a> |
| M5X70 *  | 100 <a href="#">51000.050.070</a> | M8X65       | 100 <a href="#">51000.080.065</a> | M10X130/S=17   | 25 <a href="#">51000.100.130</a> |
| M5X75 *  | 100 <a href="#">51000.050.075</a> | M8X70       | 100 <a href="#">51000.080.070</a> | M10X140/S=17   | 25 <a href="#">51000.100.140</a> |
| M5X80 *  | 100 <a href="#">51000.050.080</a> | M8X75       | 100 <a href="#">51000.080.075</a> | M10X150/S=17   | 25 <a href="#">51000.100.150</a> |
| M5X90 *  | 100 <a href="#">51000.050.090</a> | M8X80       | 100 <a href="#">51000.080.080</a> | M10X160/S=17   | 25 <a href="#">51000.100.160</a> |
| M5X100 * | 100 <a href="#">51000.050.100</a> | M8X85 *     | 50 <a href="#">51000.080.085</a>  | M10X170/S=17   | 25 <a href="#">51000.100.170</a> |
|          |                                   | M8X90       | 100 <a href="#">51000.080.090</a> | M10X180/S=17   | 25 <a href="#">51000.100.180</a> |
| M6X25 *  | 200 <a href="#">51000.060.025</a> | M8X95 *     | 50 <a href="#">51000.080.095</a>  | M10X190/S=17   | 25 <a href="#">51000.100.190</a> |
| M6X30    | 200 <a href="#">51000.060.030</a> | M8X100      | 100 <a href="#">51000.080.100</a> | M10X200/S=17   | 10 <a href="#">51000.100.200</a> |
| M6X35    | 100 <a href="#">51000.060.035</a> | M8X110      | 50 <a href="#">51000.080.110</a>  | M10X210/S=17 * | 10 <a href="#">51000.100.210</a> |
| M6X40    | 100 <a href="#">51000.060.040</a> | M8X120      | 50 <a href="#">51000.080.120</a>  | M10X220/S=17 * | 10 <a href="#">51000.100.220</a> |
| M6X45    | 100 <a href="#">51000.060.045</a> | M8X130      | 50 <a href="#">51000.080.130</a>  | M10X240/S=17 * | 10 <a href="#">51000.100.240</a> |
| M6X50    | 100 <a href="#">51000.060.050</a> | M8X140      | 50 <a href="#">51000.080.140</a>  | M10X260 *      | 10 <a href="#">51000.100.260</a> |
| M6X55    | 100 <a href="#">51000.060.055</a> | M8X150      | 50 <a href="#">51000.080.150</a>  | M10X280/S=17 * | 10 <a href="#">51000.100.280</a> |
| M6X60    | 100 <a href="#">51000.060.060</a> | M8X160      | 25 <a href="#">51000.080.160</a>  | M10X300 *      | 10 <a href="#">51000.100.300</a> |
| M6X65    | 100 <a href="#">51000.060.065</a> | M8X170      | 25 <a href="#">51000.080.170</a>  | M10X340 *      | 10 <a href="#">51000.100.340</a> |
| M6X70    | 100 <a href="#">51000.060.070</a> | M8X180      | 25 <a href="#">51000.080.180</a>  | M10X380 *      | 10 <a href="#">51000.100.380</a> |
| M6X75 *  | 100 <a href="#">51000.060.075</a> | M8X190      | 25 <a href="#">51000.080.190</a>  | M10X400 *      | 10 <a href="#">51000.100.400</a> |
| M6X80    | 100 <a href="#">51000.060.080</a> | M8X200      | 10 <a href="#">51000.080.200</a>  | M10X420 *      | 10 <a href="#">51000.100.420</a> |
| M6X85 *  | 100 <a href="#">51000.060.085</a> | M8X210 *    | 25 <a href="#">51000.080.210</a>  | M10X440 *      | 10 <a href="#">51000.100.440</a> |
| M6X90    | 100 <a href="#">51000.060.090</a> | M8X220 *    | 25 <a href="#">51000.080.220</a>  | M10X480 *      | 10 <a href="#">51000.100.480</a> |
| M6X100   | 100 <a href="#">51000.060.100</a> | M8X240 *    | 25 <a href="#">51000.080.240</a>  |                |                                  |
| M6X110   | 50 <a href="#">51000.060.110</a>  |             |                                   | M12X45/S=19    | 50 <a href="#">51000.120.045</a> |
| M6X120   | 50 <a href="#">51000.060.120</a>  | M10X40/S=17 | 100 <a href="#">51000.100.040</a> | M12X50/S=19    | 50 <a href="#">51000.120.050</a> |
| M6X130   | 50 <a href="#">51000.060.130</a>  | M10X45/S=17 | 100 <a href="#">51000.100.045</a> | M12X55/S=19    | 50 <a href="#">51000.120.055</a> |
| M6X140   | 50 <a href="#">51000.060.140</a>  | M10X50/S=17 | 100 <a href="#">51000.100.050</a> | M12X60/S=19    | 50 <a href="#">51000.120.060</a> |
| M6X150   | 50 <a href="#">51000.060.150</a>  | M10X55/S=17 | 100 <a href="#">51000.100.055</a> | M12X65/S=19    | 50 <a href="#">51000.120.065</a> |
| M6X170 * | 100 <a href="#">51000.060.170</a> | M10X60/S=17 | 100 <a href="#">51000.100.060</a> | M12X70/S=19    | 50 <a href="#">51000.120.070</a> |









**53510 Hexagon head bolt** ←

| d x L | ☒ | Art.number | d x L     | ☒  | Art.number                    | d x L | ☒ | Art.number |
|-------|---|------------|-----------|----|-------------------------------|-------|---|------------|
|       |   |            | M30X150 * | 10 | <a href="#">53510.300.150</a> |       |   |            |

- Depending on availability it is possible that the diameters M10 and M12 are supplied acc. to DIN 931 with the appropriate values stated between brackets.

**23010 Hexagon head bolt** G90A

|                  |               |  |  |  |  |  |  |  |
|------------------|---------------|--|--|--|--|--|--|--|
| <b>Thread</b>    | Metric thread |  |  |  |  |  |  |  |
| <b>Material</b>  | Steel 24CrMo5 |  |  |  |  |  |  |  |
| <b>Class</b>     | G             |  |  |  |  |  |  |  |
| <b>Packaging</b> | Standard      |  |  |  |  |  |  |  |

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M20X100 | 10 | <a href="#">23010.200.100</a> | M24X120 | 10 | <a href="#">23010.240.120</a> | M30X150 | 5 | <a href="#">23010.300.150</a> |
| M20X120 | 10 | <a href="#">23010.200.120</a> | M24X140 | 10 | <a href="#">23010.240.140</a> |         |   |                               |

- Special features hexagon head bolts:
- Made of steel 24 Cr Mo 5 materialnumber: 1.7258.
- Intended for use at high temperatures up to 400°C.
- Threadlengths not acc. to ISO 4014.
- Mechanical properties acc. to DIN 17240.
- The bolthead is marked with the marking sign G, acc. to DIN 267-13.

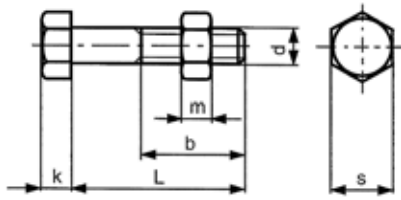
**56090 Hexagon head bolt plastic** W02A

|                  |                           |  |  |  |  |  |  |  |
|------------------|---------------------------|--|--|--|--|--|--|--|
| <b>Thread</b>    | Metric thread             |  |  |  |  |  |  |  |
| <b>Material</b>  | Plastic Polyamide (nylon) |  |  |  |  |  |  |  |
| <b>Class</b>     | PA 6.6                    |  |  |  |  |  |  |  |
| <b>Colour</b>    | White                     |  |  |  |  |  |  |  |
| <b>Packaging</b> | Standard                  |  |  |  |  |  |  |  |
|                  | ISO ≈4014                 |  |  |  |  |  |  |  |
|                  | <b>DIN ≈931</b>           |  |  |  |  |  |  |  |
|                  | NEN ≈1555                 |  |  |  |  |  |  |  |
|                  | ANSI ≈B18.2.3.1M          |  |  |  |  |  |  |  |
|                  | NF ≈E25-112               |  |  |  |  |  |  |  |

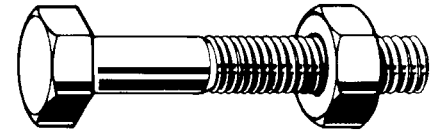
| d x L/b   | ☒  | Art.number                    | d x L/b   | ☒  | Art.number                    | d x L/b   | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M8X70     | 50 | <a href="#">56090.080.070</a> | M12X50/50 | 25 | <a href="#">56090.120.050</a> | M12X80/30 | 25 | <a href="#">56090.120.080</a> |
| M10X60/50 | 25 | <a href="#">56090.100.060</a> | M12X60/50 | 25 | <a href="#">56090.120.060</a> |           |    |                               |
| M12X40/30 | 25 | <a href="#">56090.120.040</a> |           |    |                               |           |    |                               |

## Hexagon head bolt with hexagon nut

1



ISO 4016/-  
**DIN 601/555 (1987)**  
 NEN 102/697  
 NF E25-115-1/E25-402



### Technical data

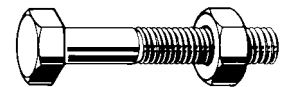
| d          | P    | b (min.): L≤125mm | b (min.): 125mm<L≤200mm | b (min.): L>200mm | k    | m   | s  |
|------------|------|-------------------|-------------------------|-------------------|------|-----|----|
| <b>M5</b>  | 0,8  | 16                | 22                      | 35                | 3,5  | 4   | 8  |
| <b>M6</b>  | 1    | 18                | 24                      | 37                | 4    | 5   | 10 |
| <b>M8</b>  | 1,25 | 22                | 28                      | 41                | 5,3  | 6,5 | 13 |
| <b>M10</b> | 1,5  | 26                | 32                      | 45                | 6,4  | 8   | 17 |
| <b>M12</b> | 1,75 | 30                | 36                      | 49                | 7,5  | 10  | 19 |
| <b>M16</b> | 2    | 38                | 44                      | 57                | 10   | 13  | 24 |
| <b>M20</b> | 2,5  | 46                | 52                      | 65                | 12,5 | 16  | 30 |
| <b>M24</b> | 3    | 54                | 60                      | 73                | 15   | 19  | 36 |
| <b>M27</b> | 3    | 60                | 66                      | 79                | 17   | 22  | 41 |

- The corresponding hexagon nuts have a property class ≥ I4I.

### 08200 Hexagon head bolt with hexagon nut

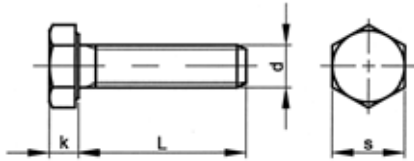
E03A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥4.6  
**Surface treatment** Zinc plated  
**Packaging** Standard

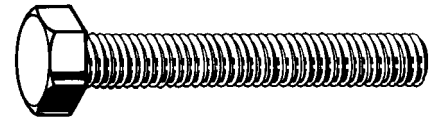


| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M6X16  | 500 | <a href="#">08200.060.016</a> | M10X100 | 100 | <a href="#">08200.100.100</a> | M16X140 | 25 | <a href="#">08200.160.140</a> |
| M6X20  | 500 | <a href="#">08200.060.020</a> | M10X120 | 50  | <a href="#">08200.100.120</a> | M16X160 | 25 | <a href="#">08200.160.160</a> |
| M6X25  | 500 | <a href="#">08200.060.025</a> | M10X140 | 50  | <a href="#">08200.100.140</a> | M16X180 | 25 | <a href="#">08200.160.180</a> |
| M6X30  | 500 | <a href="#">08200.060.030</a> |         |     |                               | M16X200 | 25 | <a href="#">08200.160.200</a> |
| M6X40  | 200 | <a href="#">08200.060.040</a> | M12X25  | 100 | <a href="#">08200.120.025</a> | M20X40  | 25 | <a href="#">08200.200.040</a> |
| M6X50  | 200 | <a href="#">08200.060.050</a> | M12X30  | 100 | <a href="#">08200.120.030</a> | M20X50  | 25 | <a href="#">08200.200.050</a> |
| M6X60  | 200 | <a href="#">08200.060.060</a> | M12X35  | 100 | <a href="#">08200.120.035</a> | M20X60  | 25 | <a href="#">08200.200.060</a> |
| M6X70  | 200 | <a href="#">08200.060.070</a> | M12X40  | 100 | <a href="#">08200.120.040</a> | M20X65  | 25 | <a href="#">08200.200.065</a> |
| M6X80  | 200 | <a href="#">08200.060.080</a> | M12X45  | 100 | <a href="#">08200.120.045</a> | M20X70  | 25 | <a href="#">08200.200.070</a> |
| M6X100 | 100 | <a href="#">08200.060.100</a> | M12X50  | 100 | <a href="#">08200.120.050</a> | M20X75  | 25 | <a href="#">08200.200.075</a> |
|        |     |                               | M12X55  | 100 | <a href="#">08200.120.055</a> | M20X80  | 25 | <a href="#">08200.200.080</a> |
| M8X20  | 200 | <a href="#">08200.080.020</a> | M12X60  | 100 | <a href="#">08200.120.060</a> | M20X90  | 25 | <a href="#">08200.200.090</a> |
| M8X25  | 200 | <a href="#">08200.080.025</a> | M12X70  | 50  | <a href="#">08200.120.070</a> | M20X100 | 25 | <a href="#">08200.200.100</a> |
| M8X30  | 200 | <a href="#">08200.080.030</a> | M12X80  | 50  | <a href="#">08200.120.080</a> | M20X110 | 25 | <a href="#">08200.200.110</a> |
| M8X40  | 200 | <a href="#">08200.080.040</a> | M12X100 | 50  | <a href="#">08200.120.100</a> | M20X120 | 25 | <a href="#">08200.200.120</a> |
| M8X45  | 200 | <a href="#">08200.080.045</a> | M12X110 | 50  | <a href="#">08200.120.110</a> | M20X130 | 25 | <a href="#">08200.200.130</a> |
| M8X50  | 200 | <a href="#">08200.080.050</a> | M12X130 | 50  | <a href="#">08200.120.130</a> | M20X140 | 25 | <a href="#">08200.200.140</a> |
| M8X55  | 200 | <a href="#">08200.080.055</a> | M12X150 | 50  | <a href="#">08200.120.150</a> | M20X150 | 10 | <a href="#">08200.200.150</a> |
| M8X60  | 200 | <a href="#">08200.080.060</a> |         |     |                               | M20X160 | 10 | <a href="#">08200.200.160</a> |
| M8X70  | 200 | <a href="#">08200.080.070</a> | M16X35  | 50  | <a href="#">08200.160.035</a> | M20X180 | 10 | <a href="#">08200.200.180</a> |
| M8X80  | 200 | <a href="#">08200.080.080</a> | M16X40  | 50  | <a href="#">08200.160.040</a> | M20X200 | 10 | <a href="#">08200.200.200</a> |
| M8X90  | 100 | <a href="#">08200.080.090</a> | M16X45  | 50  | <a href="#">08200.160.045</a> | M20X220 | 10 | <a href="#">08200.200.220</a> |
| M8X100 | 100 | <a href="#">08200.080.100</a> | M16X50  | 50  | <a href="#">08200.160.050</a> | M20X240 | 10 | <a href="#">08200.200.240</a> |
|        |     |                               | M16X55  | 50  | <a href="#">08200.160.055</a> |         |    |                               |
| M10X25 | 200 | <a href="#">08200.100.025</a> | M16X60  | 50  | <a href="#">08200.160.060</a> | M24X70  | 25 | <a href="#">08200.240.070</a> |
| M10X30 | 200 | <a href="#">08200.100.030</a> | M16X65  | 25  | <a href="#">08200.160.065</a> | M24X80  | 25 | <a href="#">08200.240.080</a> |
| M10X35 | 100 | <a href="#">08200.100.035</a> | M16X70  | 25  | <a href="#">08200.160.070</a> | M24X90  | 10 | <a href="#">08200.240.090</a> |
| M10X40 | 100 | <a href="#">08200.100.040</a> | M16X80  | 25  | <a href="#">08200.160.080</a> | M24X100 | 10 | <a href="#">08200.240.100</a> |
| M10X45 | 100 | <a href="#">08200.100.045</a> | M16X100 | 25  | <a href="#">08200.160.100</a> | M24X110 | 10 | <a href="#">08200.240.110</a> |
| M10X50 | 100 | <a href="#">08200.100.050</a> | M16X110 | 25  | <a href="#">08200.160.110</a> |         |    |                               |
| M10X70 | 100 | <a href="#">08200.100.070</a> | M16X120 | 25  | <a href="#">08200.160.120</a> |         |    |                               |
| M10X90 | 100 | <a href="#">08200.100.090</a> | M16X130 | 25  | <a href="#">08200.160.130</a> |         |    |                               |

## Hexagon head screw



ISO 4017  
DIN 933  
NEN 1568  
ANSI B18.2.3.1M  
NF E25-114



### Technical data

| d         | P    | k   | s   |
|-----------|------|-----|-----|
| M2        | 0,4  | 1,4 | 4   |
| M2,5      | 0,45 | 1,7 | 5   |
| M3        | 0,5  | 2   | 5,5 |
| M4        | 0,7  | 2,8 | 7   |
| M5        | 0,8  | 3,5 | 8   |
| M6        | 1    | 4   | 10  |
| M7        | 1    | 4,8 | 11  |
| M8        | 1,25 | 5,3 | 13  |
| M10 (DIN) | 1,5  | 6,4 | 17  |
| M10       | 1,5  | 6,4 | 16  |
| M12 (DIN) | 1,75 | 7,5 | 19  |

| d         | P    | k    | s  |
|-----------|------|------|----|
| M12       | 1,75 | 7,5  | 18 |
| M14 (DIN) | 2    | 8,8  | 22 |
| M14       | 2    | 8,8  | 21 |
| M16       | 2    | 10   | 24 |
| M18       | 2,5  | 11,5 | 27 |
| M20       | 2,5  | 12,5 | 30 |
| M22 (DIN) | 2,5  | 14   | 32 |
| M22       | 2,5  | 14   | 34 |
| M24       | 3    | 15   | 36 |
| M27       | 3    | 17   | 41 |
| M30       | 3,5  | 18,7 | 46 |

| d   | P   | k    | s  |
|-----|-----|------|----|
| M33 | 3,5 | 21   | 50 |
| M36 | 4   | 22,5 | 55 |
| M39 | 4   | 25   | 60 |
| M42 | 4,5 | 26   | 65 |
| M45 | 4,5 | 28   | 70 |
| M48 | 5   | 30   | 75 |
| M52 | 5   | 33   | 80 |
| M64 | 6   | 40   | 95 |

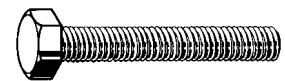
### Article groups

| Thread | Driving features | Material      | Class  | Surface treatment | Colour               | Packaging | Code  | Page |
|--------|------------------|---------------|--------|-------------------|----------------------|-----------|-------|------|
| M      | hexagon          | St            | 8.8    |                   |                      | Standard  | 01010 | 1-17 |
| M      | hexagon          | St            | 8.8    | Zipl              |                      | Standard  | 01210 | 1-19 |
| M      | hexagon          | St            | 8.8    | Zipl yell.p.      |                      | Standard  | 01230 | 1-20 |
| M      | hexagon          | St            | 8.8    | Hot d.g.          | iso metric           | Standard  | 01410 | 1-21 |
| M      | hexagon          | St            | 8.8    | Hot d.g.          | oversized            | Standard  | 01430 | 1-22 |
| M      | hexagon          | St            | 10.9   |                   |                      | Standard  | 04110 | 1-22 |
| M      | hexagon          | St            | 10.9   | FLZNNC-NC6        |                      | Standard  | 04116 | 1-23 |
| M      | hexagon          | St            | 8.8    | FLZNNC-NC6        |                      | Standard  | 01236 | 1-23 |
| M      | hexagon          | St            | 12.9   |                   |                      | Standard  | 04118 | 1-24 |
| M      | hexagon          | St            | 5.6    |                   | for pressure vessels | Standard  | 08760 | 1-24 |
| M      | hexagon          | St.St. A2     | 70     |                   |                      | Standard  | 51010 | 1-24 |
| M      | hexagon          | St.St. A4     | 70     |                   |                      | Standard  | 55010 | 1-26 |
| M      | hexagon          | St.St. A4     | 80     |                   |                      | Standard  | 53520 | 1-27 |
| M      | hexagon          | Al Sopral P40 |        |                   |                      | Standard  | 45010 | 1-28 |
| M      | hexagon          | Al Sopral P60 |        |                   |                      | Standard  | 45210 | 1-28 |
| M      | hexagon          | Kuprodur Cu5  | 60     |                   |                      | Standard  | 45810 | 1-28 |
| M      | hexagon          | Br Cu2/Cu3    |        |                   |                      | Standard  | 46010 | 1-29 |
| M      | hexagon          | Br Cu2/Cu3    |        | Ni.pl.            |                      | Standard  | 46060 | 1-29 |
| M      | hexagon          | Ti ASTM       | Gr.2   |                   |                      | Standard  | 45910 | 1-29 |
| M      | hexagon          | Plastic PA    | PA 6.6 |                   | White                | Standard  | 56100 | 1-30 |

#### 01010 Hexagon head screw

A01A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M4X8  | 500 | <a href="#">01010.040.008</a> | M5X20 | 200 | <a href="#">01010.050.020</a> | M6X30 | 200 | <a href="#">01010.060.030</a> |
| M4X10 | 500 | <a href="#">01010.040.010</a> | M5X25 | 200 | <a href="#">01010.050.025</a> | M6X35 | 200 | <a href="#">01010.060.035</a> |
| M4X12 | 500 | <a href="#">01010.040.012</a> | M5X30 | 200 | <a href="#">01010.050.030</a> | M6X40 | 200 | <a href="#">01010.060.040</a> |
| M4X16 | 500 | <a href="#">01010.040.016</a> | M5X35 | 200 | <a href="#">01010.050.035</a> | M6X45 | 200 | <a href="#">01010.060.045</a> |
| M4X20 | 500 | <a href="#">01010.040.020</a> | M5X40 | 200 | <a href="#">01010.050.040</a> | M6X50 | 200 | <a href="#">01010.060.050</a> |
| M4X25 | 500 | <a href="#">01010.040.025</a> | M5X50 | 200 | <a href="#">01010.050.050</a> | M6X60 | 200 | <a href="#">01010.060.060</a> |
| M4X30 | 500 | <a href="#">01010.040.030</a> |       |     |                               | M6X70 | 200 | <a href="#">01010.060.070</a> |
| M4X35 | 500 | <a href="#">01010.040.035</a> | M6X8  | 200 | <a href="#">01010.060.008</a> | M6X80 | 200 | <a href="#">01010.060.080</a> |
| M4X40 | 500 | <a href="#">01010.040.040</a> | M6X10 | 200 | <a href="#">01010.060.010</a> |       |     |                               |
| M4X50 | 500 | <a href="#">01010.040.050</a> | M6X12 | 200 | <a href="#">01010.060.012</a> | M7X12 | 200 | <a href="#">01010.070.012</a> |
|       |     |                               | M6X14 | 200 | <a href="#">01010.060.014</a> | M7X16 | 200 | <a href="#">01010.070.016</a> |
|       |     |                               | M6X16 | 200 | <a href="#">01010.060.016</a> | M7X20 | 200 | <a href="#">01010.070.020</a> |
| M5X8  | 200 | <a href="#">01010.050.008</a> | M6X18 | 200 | <a href="#">01010.060.018</a> | M7X25 | 200 | <a href="#">01010.070.025</a> |
| M5X10 | 200 | <a href="#">01010.050.010</a> | M6X20 | 200 | <a href="#">01010.060.020</a> | M7X30 | 200 | <a href="#">01010.070.030</a> |
| M5X12 | 200 | <a href="#">01010.050.012</a> | M6X22 | 200 | <a href="#">01010.060.022</a> | M7X35 | 200 | <a href="#">01010.070.035</a> |
| M5X16 | 200 | <a href="#">01010.050.016</a> | M6X25 | 200 | <a href="#">01010.060.025</a> | M7X40 | 200 | <a href="#">01010.070.040</a> |
| M5X18 | 200 | <a href="#">01010.050.018</a> |       |     |                               |       |     |                               |







**01230 Hexagon head screw**

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M16X60  | 50 | <a href="#">01230.160.060</a> | M20X55  | 25 | <a href="#">01230.200.055</a> | M24X130 | 10 | <a href="#">01230.240.130</a> |
| M16X65  | 50 | <a href="#">01230.160.065</a> | M20X60  | 25 | <a href="#">01230.200.060</a> | M24X140 | 10 | <a href="#">01230.240.140</a> |
| M16X70  | 25 | <a href="#">01230.160.070</a> | M20X65  | 25 | <a href="#">01230.200.065</a> | M24X150 | 10 | <a href="#">01230.240.150</a> |
| M16X80  | 25 | <a href="#">01230.160.080</a> | M20X70  | 25 | <a href="#">01230.200.070</a> | M24X160 | 10 | <a href="#">01230.240.160</a> |
| M16X90  | 25 | <a href="#">01230.160.090</a> | M20X80  | 25 | <a href="#">01230.200.080</a> | M24X180 | 10 | <a href="#">01230.240.180</a> |
| M16X100 | 25 | <a href="#">01230.160.100</a> | M20X90  | 25 | <a href="#">01230.200.090</a> | M24X200 | 10 | <a href="#">01230.240.200</a> |
| M16X110 | 25 | <a href="#">01230.160.110</a> | M20X100 | 25 | <a href="#">01230.200.100</a> |         |    |                               |
| M16X120 | 25 | <a href="#">01230.160.120</a> | M20X110 | 25 | <a href="#">01230.200.110</a> | M27X50  | 10 | <a href="#">01230.270.050</a> |
| M16X130 | 25 | <a href="#">01230.160.130</a> | M20X120 | 25 | <a href="#">01230.200.120</a> | M27X60  | 10 | <a href="#">01230.270.060</a> |
| M16X140 | 25 | <a href="#">01230.160.140</a> | M20X140 | 25 | <a href="#">01230.200.140</a> | M27X70  | 10 | <a href="#">01230.270.070</a> |
| M16X150 | 25 | <a href="#">01230.160.150</a> | M20X150 | 25 | <a href="#">01230.200.150</a> | M27X80  | 10 | <a href="#">01230.270.080</a> |
| M16X160 | 25 | <a href="#">01230.160.160</a> | M20X160 | 10 | <a href="#">01230.200.160</a> | M27X90  | 10 | <a href="#">01230.270.090</a> |
| M16X180 | 25 | <a href="#">01230.160.180</a> | M20X180 | 10 | <a href="#">01230.200.180</a> | M27X100 | 10 | <a href="#">01230.270.100</a> |
| M16X200 | 25 | <a href="#">01230.160.200</a> | M20X200 | 10 | <a href="#">01230.200.200</a> | M27X120 | 10 | <a href="#">01230.270.120</a> |
|         |    |                               |         |    |                               |         |    |                               |
| M18X40  | 50 | <a href="#">01230.180.040</a> | M24X40  | 25 | <a href="#">01230.240.040</a> | M30X60  | 10 | <a href="#">01230.300.060</a> |
| M18X45  | 50 | <a href="#">01230.180.045</a> | M24X45  | 25 | <a href="#">01230.240.045</a> | M33X80  | 5  | <a href="#">01230.330.080</a> |
| M18X50  | 50 | <a href="#">01230.180.050</a> | M24X50  | 25 | <a href="#">01230.240.050</a> | M33X90  | 5  | <a href="#">01230.330.090</a> |
|         |    |                               | M24X55  | 25 | <a href="#">01230.240.055</a> | M33X100 | 5  | <a href="#">01230.330.100</a> |
| M20X30  | 25 | <a href="#">01230.200.030</a> | M24X60  | 25 | <a href="#">01230.240.060</a> |         |    |                               |
| M20X35  | 25 | <a href="#">01230.200.035</a> | M24X70  | 25 | <a href="#">01230.240.070</a> | M36X80  | 5  | <a href="#">01230.360.080</a> |
| M20X40  | 25 | <a href="#">01230.200.040</a> | M24X80  | 25 | <a href="#">01230.240.080</a> | M36X90  | 5  | <a href="#">01230.360.090</a> |
| M20X45  | 25 | <a href="#">01230.200.045</a> | M24X90  | 25 | <a href="#">01230.240.090</a> | M36X100 | 5  | <a href="#">01230.360.100</a> |
| M20X50  | 25 | <a href="#">01230.200.050</a> | M24X100 | 10 | <a href="#">01230.240.100</a> |         |    |                               |
|         |    |                               | M24X120 | 10 | <a href="#">01230.240.120</a> |         |    |                               |

**01410 Hexagon head screw iso-metric fitting thread**
**A07A**

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Steel              |
| <b>Class</b>             | 8.8                |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |



| d x L        | ☒   | Art.number                    | d x L        | ☒   | Art.number                    | d x L       | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|-------------|----|-------------------------------|
| M6X16        | 100 | <a href="#">01410.060.016</a> | M12X60/S=19  | 100 | <a href="#">01410.120.060</a> | M22X50/S=34 | 25 | <a href="#">01410.220.051</a> |
| M6X20        | 100 | <a href="#">01410.060.020</a> | M12X70/S=19  | 100 | <a href="#">01410.120.070</a> | M22X60/S=34 | 25 | <a href="#">01410.220.061</a> |
| M6X25        | 100 | <a href="#">01410.060.025</a> | M12X80/S=19  | 50  | <a href="#">01410.120.080</a> | M22X65/S=34 | 25 | <a href="#">01410.220.066</a> |
| M6X30        | 500 | <a href="#">01410.060.030</a> | M12X90/S=19  | 50  | <a href="#">01410.120.090</a> |             |    |                               |
| M6X40        | 200 | <a href="#">01410.060.040</a> | M12X100/S=19 | 50  | <a href="#">01410.120.100</a> | M24X40      | 25 | <a href="#">01410.240.040</a> |
|              |     |                               | M12X120/S=19 | 50  | <a href="#">01410.120.120</a> | M24X50      | 25 | <a href="#">01410.240.050</a> |
| M8X12        | 100 | <a href="#">01410.080.012</a> |              |     |                               | M24X55      | 25 | <a href="#">01410.240.055</a> |
| M8X16        | 100 | <a href="#">01410.080.016</a> | M16X25       | 50  | <a href="#">01410.160.025</a> | M24X60      | 25 | <a href="#">01410.240.060</a> |
| M8X20        | 100 | <a href="#">01410.080.020</a> | M16X30       | 50  | <a href="#">01410.160.030</a> | M24X65      | 25 | <a href="#">01410.240.065</a> |
| M8X25        | 100 | <a href="#">01410.080.025</a> | M16X35       | 50  | <a href="#">01410.160.035</a> | M24X70      | 25 | <a href="#">01410.240.070</a> |
| M8X30        | 100 | <a href="#">01410.080.030</a> | M16X40       | 50  | <a href="#">01410.160.040</a> | M24X80      | 25 | <a href="#">01410.240.080</a> |
| M8X35        | 100 | <a href="#">01410.080.035</a> | M16X45       | 50  | <a href="#">01410.160.045</a> | M24X90      | 10 | <a href="#">01410.240.090</a> |
| M8X40        | 100 | <a href="#">01410.080.040</a> | M16X50       | 50  | <a href="#">01410.160.050</a> |             |    |                               |
| M8X45        | 100 | <a href="#">01410.080.045</a> | M16X55       | 50  | <a href="#">01410.160.055</a> | M27X50      | 10 | <a href="#">01410.270.050</a> |
| M8X50        | 100 | <a href="#">01410.080.050</a> | M16X60       | 50  | <a href="#">01410.160.060</a> | M27X60      | 10 | <a href="#">01410.270.060</a> |
| M8X60        | 100 | <a href="#">01410.080.060</a> | M16X70       | 50  | <a href="#">01410.160.070</a> | M27X70      | 10 | <a href="#">01410.270.070</a> |
|              |     |                               | M16X80       | 50  | <a href="#">01410.160.080</a> | M27X80      | 10 | <a href="#">01410.270.080</a> |
| M10X16/S=17  | 100 | <a href="#">01410.100.016</a> | M16X90       | 25  | <a href="#">01410.160.090</a> | M27X90      | 10 | <a href="#">01410.270.090</a> |
| M10X20/S=17  | 100 | <a href="#">01410.100.020</a> | M16X100      | 25  | <a href="#">01410.160.100</a> |             |    |                               |
| M10X25/S=17  | 100 | <a href="#">01410.100.025</a> | M16X120      | 25  | <a href="#">01410.160.120</a> | M30X60      | 10 | <a href="#">01410.300.060</a> |
| M10X30/S=17  | 100 | <a href="#">01410.100.030</a> |              |     |                               | M30X70      | 10 | <a href="#">01410.300.070</a> |
| M10X35/S=17  | 100 | <a href="#">01410.100.035</a> | M18X40       | 25  | <a href="#">01410.180.040</a> | M30X80      | 10 | <a href="#">01410.300.080</a> |
| M10X40/S=17  | 100 | <a href="#">01410.100.040</a> | M18X45       | 25  | <a href="#">01410.180.045</a> | M30X90      | 10 | <a href="#">01410.300.090</a> |
| M10X50/S=17  | 100 | <a href="#">01410.100.050</a> | M18X50       | 25  | <a href="#">01410.180.050</a> | M30X100     | 10 | <a href="#">01410.300.100</a> |
| M10X60/S=17  | 100 | <a href="#">01410.100.060</a> | M18X55       | 25  | <a href="#">01410.180.055</a> | M30X120     | 10 | <a href="#">01410.300.120</a> |
| M10X70/S=17  | 100 | <a href="#">01410.100.070</a> |              |     |                               |             |    |                               |
| M10X80/S=17  | 100 | <a href="#">01410.100.080</a> | M20X40       | 25  | <a href="#">01410.200.040</a> |             |    |                               |
| M10X100/S=17 | 100 | <a href="#">01410.100.100</a> | M20X45       | 25  | <a href="#">01410.200.045</a> | M33X80      | 5  | <a href="#">01410.330.080</a> |
|              |     |                               | M20X50       | 25  | <a href="#">01410.200.050</a> | M33X90      | 5  | <a href="#">01410.330.090</a> |
| M12X20/S=19  | 100 | <a href="#">01410.120.020</a> | M20X55       | 25  | <a href="#">01410.200.055</a> | M33X100     | 5  | <a href="#">01410.330.100</a> |
| M12X25/S=19  | 100 | <a href="#">01410.120.025</a> | M20X60       | 25  | <a href="#">01410.200.060</a> |             |    |                               |
| M12X30/S=19  | 100 | <a href="#">01410.120.030</a> | M20X70       | 25  | <a href="#">01410.200.070</a> | M36X80      | 5  | <a href="#">01410.360.080</a> |
| M12X35/S=19  | 100 | <a href="#">01410.120.035</a> | M20X80       | 25  | <a href="#">01410.200.080</a> | M36X90      | 5  | <a href="#">01410.360.090</a> |
| M12X40/S=19  | 100 | <a href="#">01410.120.040</a> | M20X90       | 25  | <a href="#">01410.200.090</a> | M36X100     | 5  | <a href="#">01410.360.100</a> |
| M12X45/S=19  | 100 | <a href="#">01410.120.045</a> | M20X100      | 25  | <a href="#">01410.200.100</a> |             |    |                               |
| M12X50/S=19  | 100 | <a href="#">01410.120.050</a> | M20X120      | 25  | <a href="#">01410.200.120</a> |             |    |                               |

- For hot dip galvanized bolts with ISO-METRIC FITTING thread, the thread is rolled undersize so that it will meet the go-gauge with tolerance class h AFTER galvanizing.
- The advantage of this way of manufacturing is that the bolts can be used in any threaded hole without any problem.
- The corresponding ISO-METRIC FITTING nuts have been threaded according to the tolerance class 6H AFTER galvanizing so that they perfectly fit onto the bolts.







1

| 01236 Hexagon head screw |   |            |                               |   |            |       |   |            |
|--------------------------|---|------------|-------------------------------|---|------------|-------|---|------------|
| d x L                    | ☒ | Art.number | d x L                         | ☒ | Art.number | d x L | ☒ | Art.number |
| M24X80                   |   | 25         | <a href="#">01236.240.080</a> |   |            |       |   |            |

| 04118 Hexagon head screw |               |  |  |  |  |  |  | C01A |
|--------------------------|---------------|--|--|--|--|--|--|------|
| <b>Thread</b>            | Metric thread |  |  |  |  |  |  |      |
| <b>Material</b>          | Steel         |  |  |  |  |  |  |      |
| <b>Class</b>             | 12.9          |  |  |  |  |  |  |      |
| <b>Packaging</b>         | Standard      |  |  |  |  |  |  |      |

| d x L       | ☒ | Art.number | d x L                         | ☒ | Art.number | d x L | ☒  | Art.number                    |
|-------------|---|------------|-------------------------------|---|------------|-------|----|-------------------------------|
| M8X20       |   | 200        | <a href="#">04118.080.020</a> |   | M16X30     |       | 50 | <a href="#">04118.160.030</a> |
| M8X25       |   | 200        | <a href="#">04118.080.025</a> |   | M16X35     |       | 50 | <a href="#">04118.160.035</a> |
| M8X30       |   | 200        | <a href="#">04118.080.030</a> |   | M16X40     |       | 50 | <a href="#">04118.160.040</a> |
|             |   |            |                               |   | M16X45     |       | 50 | <a href="#">04118.160.045</a> |
| M10X20/S=17 |   | 200        | <a href="#">04118.100.020</a> |   | M16X50     |       | 50 | <a href="#">04118.160.050</a> |
| M10X25/S=17 |   | 200        | <a href="#">04118.100.025</a> |   | M16X60     |       | 50 | <a href="#">04118.160.060</a> |
| M10X30/S=17 |   | 200        | <a href="#">04118.100.030</a> |   | M16X70     |       | 25 | <a href="#">04118.160.070</a> |
| M10X35/S=17 |   | 100        | <a href="#">04118.100.035</a> |   | M16X80     |       | 25 | <a href="#">04118.160.080</a> |
| M10X40/S=17 |   | 100        | <a href="#">04118.100.040</a> |   |            |       |    |                               |
|             |   |            |                               |   | M20X40     |       | 25 | <a href="#">04118.200.040</a> |
| M12X25/S=19 |   | 100        | <a href="#">04118.120.025</a> |   | M20X50     |       | 25 | <a href="#">04118.200.050</a> |
| M12X30/S=19 |   | 100        | <a href="#">04118.120.030</a> |   | M20X60     |       | 25 | <a href="#">04118.200.060</a> |
| M12X35/S=19 |   | 100        | <a href="#">04118.120.035</a> |   | M20X70     |       | 25 | <a href="#">04118.200.070</a> |
| M12X40/S=19 |   | 100        | <a href="#">04118.120.040</a> |   | M20X80     |       | 25 | <a href="#">04118.200.080</a> |
| M12X45/S=19 |   | 100        | <a href="#">04118.120.045</a> |   | M20X90     |       | 25 | <a href="#">04118.200.090</a> |
|             |   |            |                               |   | M20X100    |       | 25 | <a href="#">04118.200.100</a> |
|             |   |            |                               |   |            |       |    |                               |
|             |   |            |                               |   | M24X50     |       | 25 | <a href="#">04118.240.050</a> |
|             |   |            |                               |   | M24X60     |       | 25 | <a href="#">04118.240.060</a> |
|             |   |            |                               |   | M24X70     |       | 25 | <a href="#">04118.240.070</a> |
|             |   |            |                               |   | M24X80     |       | 25 | <a href="#">04118.240.080</a> |
|             |   |            |                               |   | M24X90     |       | 10 | <a href="#">04118.240.090</a> |
|             |   |            |                               |   | M24X100    |       | 10 | <a href="#">04118.240.100</a> |
|             |   |            |                               |   |            |       |    |                               |
|             |   |            |                               |   | M30X60     |       | 10 | <a href="#">04118.300.060</a> |
|             |   |            |                               |   | M30X70     |       | 10 | <a href="#">04118.300.070</a> |
|             |   |            |                               |   | M30X80     |       | 10 | <a href="#">04118.300.080</a> |
|             |   |            |                               |   | M30X90     |       | 10 | <a href="#">04118.300.090</a> |
|             |   |            |                               |   | M30X100    |       | 10 | <a href="#">04118.300.100</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 08760 Hexagon head screw for pressure vessels etc. |               |  |  |  |  |  |  | E11A |
|--|---------------|--|--|--|--|--|--|------|
| <b>Thread</b>                                      | Metric thread |  |  |  |  |  |  |      |
| <b>Material</b>                                    | Steel         |  |  |  |  |  |  |      |
| <b>Class</b>                                       | 5.6           |  |  |  |  |  |  |      |
| <b>Packaging</b>                                   | Standard      |  |  |  |  |  |  |      |

| d x L       | ☒ | Art.number | d x L                         | ☒ | Art.number | d x L | ☒  | Art.number                    |
|-------------|---|------------|-------------------------------|---|------------|-------|----|-------------------------------|
| M10X25/S=16 |   | 200        | <a href="#">08760.100.026</a> |   | M16X45     |       | 50 | <a href="#">08760.160.045</a> |
| M12X25/S=18 |   | 100        | <a href="#">08760.120.026</a> |   | M16X50     |       | 50 | <a href="#">08760.160.050</a> |
| M12X30/S=18 |   | 100        | <a href="#">08760.120.031</a> |   | M16X55     |       | 50 | <a href="#">08760.160.055</a> |
| M12X35/S=18 |   | 100        | <a href="#">08760.120.036</a> |   | M16X60     |       | 50 | <a href="#">08760.160.060</a> |
| M12X40/S=18 |   | 100        | <a href="#">08760.120.041</a> |   |            |       |    |                               |
| M12X45/S=18 |   | 100        | <a href="#">08760.120.046</a> |   | M20X50     |       | 25 | <a href="#">08760.200.050</a> |
|             |   |            |                               |   | M20X60     |       | 25 | <a href="#">08760.200.060</a> |
| M16X35      |   | 50         | <a href="#">08760.160.035</a> |   | M20X65     |       | 25 | <a href="#">08760.200.065</a> |
|             |   |            |                               |   |            |       |    |                               |
|             |   |            |                               |   | M20X70     |       | 25 | <a href="#">08760.200.070</a> |
|             |   |            |                               |   |            |       |    |                               |
|             |   |            |                               |   | M24X55     |       | 25 | <a href="#">08760.240.055</a> |
|             |   |            |                               |   | M24X70     |       | 25 | <a href="#">08760.240.070</a> |
|             |   |            |                               |   | M24X80     |       | 25 | <a href="#">08760.240.080</a> |
|             |   |            |                               |   |            |       |    |                               |
|             |   |            |                               |   | M27X65     |       | 10 | <a href="#">08760.270.065</a> |

- Special features hexagon head screws for pressure vessels etc.:
- Are intended for use in pressure vessels, steam apparatus, equipment and flanged joints at temperatures from -10°C up to +300°C, overpressures max. 40 bar and sizes up to and including M30.
- Meets the requirements of AD-Merkblatt W7, TRD 106 of the TÜV (Technischer Überwachungsverein) and DIN 267-13.
- According to TÜV-Merkblatt Werkstoffe 1253, the manufacturer has been certified to deliver these screws without a 3.1 certificate, the trademark and class designation are sufficient.
- This certification is also accepted by the Dutch "STOOMWEZEN BV" and meets the requirements M0802.

| 51010 Hexagon head screw |                    |  |  |  |  |  |  | Q01A |
|--------------------------|--------------------|--|--|--|--|--|--|------|
| <b>Thread</b>            | Metric thread      |  |  |  |  |  |  |      |
| <b>Material</b>          | Stainless steel A2 |  |  |  |  |  |  |      |
| <b>Class</b>             | 70                 |  |  |  |  |  |  |      |
| <b>Packaging</b>         | Standard           |  |  |  |  |  |  |      |

| d x L    | ☒ | Art.number | d x L                         | ☒ | Art.number | d x L | ☒    | Art.number                    |
|----------|---|------------|-------------------------------|---|------------|-------|------|-------------------------------|
| M2X4     |   | 1000       | <a href="#">51010.020.004</a> |   | M2,5X14    |       | 1000 | <a href="#">51010.025.014</a> |
| M2X5     |   | 1000       | <a href="#">51010.020.005</a> |   | M2,5X16    |       | 1000 | <a href="#">51010.025.016</a> |
| M2X6     |   | 1000       | <a href="#">51010.020.006</a> |   |            |       |      |                               |
| M2X8     |   | 1000       | <a href="#">51010.020.008</a> |   | M3X6       |       | 200  | <a href="#">51010.030.006</a> |
| M2X12    |   | 1000       | <a href="#">51010.020.012</a> |   | M3X8       |       | 200  | <a href="#">51010.030.008</a> |
| M2X16    |   | 1000       | <a href="#">51010.020.016</a> |   | M3X10      |       | 200  | <a href="#">51010.030.010</a> |
| M2X20    |   | 1000       | <a href="#">51010.020.020</a> |   | M3X12      |       | 200  | <a href="#">51010.030.012</a> |
|          |   |            |                               |   | M3X14      |       | 1000 | <a href="#">51010.030.014</a> |
| M2,5X4 * |   | 1000       | <a href="#">51010.025.004</a> |   | M3X16      |       | 200  | <a href="#">51010.030.016</a> |
| M2,5X5   |   | 1000       | <a href="#">51010.025.005</a> |   | M3X20      |       | 200  | <a href="#">51010.030.020</a> |
| M2,5X10  |   | 1000       | <a href="#">51010.025.010</a> |   | M3X25      |       | 200  | <a href="#">51010.030.025</a> |
| M2,5X12  |   | 1000       | <a href="#">51010.025.012</a> |   | M3X30      |       | 200  | <a href="#">51010.030.030</a> |
|          |   |            |                               |   |            |       |      |                               |
|          |   |            |                               |   | M4X4       |       | 1000 | <a href="#">51010.040.004</a> |
|          |   |            |                               |   | M4X5       |       | 1000 | <a href="#">51010.040.005</a> |
|          |   |            |                               |   | M4X6       |       | 200  | <a href="#">51010.040.006</a> |
|          |   |            |                               |   | M4X8       |       | 200  | <a href="#">51010.040.008</a> |
|          |   |            |                               |   | M4X10      |       | 200  | <a href="#">51010.040.010</a> |
|          |   |            |                               |   | M4X12      |       | 200  | <a href="#">51010.040.012</a> |
|          |   |            |                               |   | M4X14 *    |       | 1000 | <a href="#">51010.040.014</a> |
|          |   |            |                               |   | M4X16      |       | 200  | <a href="#">51010.040.016</a> |
|          |   |            |                               |   | M4X18 *    |       | 1000 | <a href="#">51010.040.018</a> |
|          |   |            |                               |   | M4X20      |       | 200  | <a href="#">51010.040.020</a> |
|          |   |            |                               |   | M4X22 *    |       | 500  | <a href="#">51010.040.022</a> |







1

**53520 Hexagon head screw**

| d x L         | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|---------------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M14X80/S=22 * | 50 | <a href="#">53520.140.080</a> | M20X30 *  | 25 | <a href="#">53520.200.030</a> | M20X140 * | 25 | <a href="#">53520.200.140</a> |
| M16X25 *      | 25 | <a href="#">53520.160.025</a> | M20X35 *  | 25 | <a href="#">53520.200.035</a> | M20X150 * | 25 | <a href="#">53520.200.150</a> |
| M16X30        | 25 | <a href="#">53520.160.030</a> | M20X40    | 10 | <a href="#">53520.200.040</a> | M24X40 *  | 10 | <a href="#">53520.240.040</a> |
| M16X35        | 25 | <a href="#">53520.160.035</a> | M20X45 *  | 25 | <a href="#">53520.200.045</a> | M24X50    | 10 | <a href="#">53520.240.050</a> |
| M16X40        | 25 | <a href="#">53520.160.040</a> | M20X50    | 10 | <a href="#">53520.200.050</a> | M24X55 *  | 10 | <a href="#">53520.240.055</a> |
| M16X45        | 25 | <a href="#">53520.160.045</a> | M20X55    | 10 | <a href="#">53520.200.055</a> | M24X60    | 10 | <a href="#">53520.240.060</a> |
| M16X50        | 25 | <a href="#">53520.160.050</a> | M20X60    | 10 | <a href="#">53520.200.060</a> | M24X65 *  | 10 | <a href="#">53520.240.065</a> |
| M16X55        | 25 | <a href="#">53520.160.055</a> | M20X65 *  | 25 | <a href="#">53520.200.065</a> | M24X70    | 10 | <a href="#">53520.240.070</a> |
| M16X60        | 25 | <a href="#">53520.160.060</a> | M20X70 *  | 25 | <a href="#">53520.200.070</a> | M24X75 *  | 10 | <a href="#">53520.240.075</a> |
| M16X65        | 25 | <a href="#">53520.160.065</a> | M20X75 *  | 25 | <a href="#">53520.200.075</a> | M24X80    | 10 | <a href="#">53520.240.080</a> |
| M16X70        | 25 | <a href="#">53520.160.070</a> | M20X80 *  | 25 | <a href="#">53520.200.080</a> | M24X90 *  | 10 | <a href="#">53520.240.090</a> |
| M16X75 *      | 25 | <a href="#">53520.160.075</a> | M20X90 *  | 25 | <a href="#">53520.200.090</a> | M24X100 * | 10 | <a href="#">53520.240.100</a> |
| M16X80 *      | 25 | <a href="#">53520.160.080</a> | M20X100 * | 25 | <a href="#">53520.200.100</a> | M24X120 * | 10 | <a href="#">53520.240.120</a> |
| M16X90 *      | 25 | <a href="#">53520.160.090</a> | M20X110 * | 25 | <a href="#">53520.200.110</a> |           |    |                               |
| M16X100 *     | 25 | <a href="#">53520.160.100</a> | M20X120 * | 25 | <a href="#">53520.200.120</a> |           |    |                               |
| M16X130 *     | 25 | <a href="#">53520.160.130</a> | M20X130 * | 25 | <a href="#">53520.200.130</a> |           |    |                               |

**45010 Hexagon head screw**
W01A

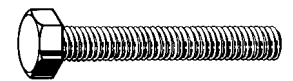
**Thread** Metric thread  
**Material** Aluminium Sopral P40  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| M6X10 | 100 | <a href="#">45010.060.010</a> | M8X16       | 100 | <a href="#">45010.080.016</a> | M10X40/S=17 | 100 | <a href="#">45010.100.040</a> |
| M6X16 | 100 | <a href="#">45010.060.016</a> | M8X25       | 100 | <a href="#">45010.080.025</a> | M10X50/S=17 | 100 | <a href="#">45010.100.050</a> |
| M6X25 | 100 | <a href="#">45010.060.025</a> | M8X30       | 100 | <a href="#">45010.080.030</a> |             |     |                               |
| M6X30 | 100 | <a href="#">45010.060.030</a> | M8X50       | 100 | <a href="#">45010.080.050</a> |             |     |                               |
| M6X50 | 100 | <a href="#">45010.060.050</a> | M10X30/S=17 | 100 | <a href="#">45010.100.030</a> |             |     |                               |

**45210 Hexagon head screw**
W01A

**Thread** Metric thread  
**Material** Aluminium Sopral P60  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L       | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|----|-------------------------------|
| M8X20 | 100 | <a href="#">45210.080.020</a> | M10X30/S=17 | 100 | <a href="#">45210.100.030</a> | M12X70/S=19 | 25 | <a href="#">45210.120.070</a> |
| M8X25 | 100 | <a href="#">45210.080.025</a> | M10X35/S=17 | 100 | <a href="#">45210.100.035</a> | M12X80/S=19 | 25 | <a href="#">45210.120.080</a> |
| M8X30 | 100 | <a href="#">45210.080.030</a> | M12X60/S=19 | 50  | <a href="#">45210.120.060</a> |             |    |                               |
| M8X35 | 100 | <a href="#">45210.080.035</a> |             |     |                               |             |    |                               |
| M8X40 | 100 | <a href="#">45210.080.040</a> |             |     |                               |             |    |                               |

**45810 Hexagon head screw**
M11A

**Thread** Metric thread  
**Material** Kuprodur Cu5  
**Class** 60  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L       | ☒  | Art.number                    | d x L       | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| M6X16 | 100 | <a href="#">45810.060.016</a> | M10X20/S=17 | 50 | <a href="#">45810.100.020</a> | M12X40/S=19 | 25 | <a href="#">45810.120.040</a> |
| M6X20 | 100 | <a href="#">45810.060.020</a> | M10X25/S=17 | 50 | <a href="#">45810.100.025</a> | M12X50/S=19 | 25 | <a href="#">45810.120.050</a> |
| M6X25 | 100 | <a href="#">45810.060.025</a> | M10X30/S=17 | 50 | <a href="#">45810.100.030</a> | M12X60/S=19 | 25 | <a href="#">45810.120.060</a> |
| M6X30 | 100 | <a href="#">45810.060.030</a> | M10X35/S=17 | 50 | <a href="#">45810.100.035</a> | M16X35      | 10 | <a href="#">45810.160.035</a> |
| M8X20 | 100 | <a href="#">45810.080.020</a> | M10X40/S=17 | 50 | <a href="#">45810.100.040</a> | M16X40      | 10 | <a href="#">45810.160.040</a> |
| M8X25 | 100 | <a href="#">45810.080.025</a> | M10X45/S=17 | 50 | <a href="#">45810.100.045</a> | M16X50      | 10 | <a href="#">45810.160.050</a> |
| M8X30 | 100 | <a href="#">45810.080.030</a> | M12X30/S=19 | 25 | <a href="#">45810.120.030</a> |             |    |                               |
| M8X35 | 100 | <a href="#">45810.080.035</a> | M12X35/S=19 | 25 | <a href="#">45810.120.035</a> |             |    |                               |
| M8X40 | 100 | <a href="#">45810.080.040</a> |             |    |                               |             |    |                               |

|                                 |               |             |
|---------------------------------|---------------|-------------|
| <b>46010 Hexagon head screw</b> |               | <b>M01A</b> |
| <b>Thread</b>                   | Metric thread |             |
| <b>Material</b>                 | Brass Cu2/Cu3 |             |
| <b>Packaging</b>                | Standard      |             |

| d x L | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L        | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------------|-----|-------------------------------|--------------|----|-------------------------------|
| M4X10 | 200 | <a href="#">46010.040.010</a> | M6X50       | 200 | <a href="#">46010.060.050</a> | M12X20/S=19  | 50 | <a href="#">46010.120.020</a> |
| M4X12 | 200 | <a href="#">46010.040.012</a> | M8X16       | 100 | <a href="#">46010.080.016</a> | M12X25/S=19  | 50 | <a href="#">46010.120.025</a> |
| M4X16 | 200 | <a href="#">46010.040.016</a> | M8X20       | 100 | <a href="#">46010.080.020</a> | M12X30/S=19  | 50 | <a href="#">46010.120.030</a> |
| M4X20 | 200 | <a href="#">46010.040.020</a> | M8X25       | 100 | <a href="#">46010.080.025</a> | M12X35/S=19  | 50 | <a href="#">46010.120.035</a> |
| M4X25 | 200 | <a href="#">46010.040.025</a> | M8X30       | 100 | <a href="#">46010.080.030</a> | M12X40/S=19  | 25 | <a href="#">46010.120.040</a> |
| M4X30 | 200 | <a href="#">46010.040.030</a> | M8X40       | 100 | <a href="#">46010.080.040</a> | M12X50/S=19  | 25 | <a href="#">46010.120.050</a> |
| M5X10 | 200 | <a href="#">46010.050.010</a> | M8X50       | 100 | <a href="#">46010.080.050</a> | M12X60/S=19  | 25 | <a href="#">46010.120.060</a> |
| M5X12 | 200 | <a href="#">46010.050.012</a> | M8X60       | 100 | <a href="#">46010.080.060</a> | M12X70/S=19  | 25 | <a href="#">46010.120.070</a> |
| M5X16 | 200 | <a href="#">46010.050.016</a> | M8X70       | 100 | <a href="#">46010.080.070</a> | M12X80/S=19  | 25 | <a href="#">46010.120.080</a> |
| M5X20 | 200 | <a href="#">46010.050.020</a> | M10X16/S=17 | 100 | <a href="#">46010.100.016</a> | M12X90/S=19  | 25 | <a href="#">46010.120.090</a> |
| M5X25 | 200 | <a href="#">46010.050.025</a> | M10X20/S=17 | 50  | <a href="#">46010.100.020</a> | M12X100/S=19 | 25 | <a href="#">46010.120.100</a> |
| M5X30 | 200 | <a href="#">46010.050.030</a> | M10X25/S=17 | 50  | <a href="#">46010.100.025</a> | M16X30       | 25 | <a href="#">46010.160.030</a> |
| M5X40 | 200 | <a href="#">46010.050.040</a> | M10X30/S=17 | 50  | <a href="#">46010.100.030</a> | M16X40       | 25 | <a href="#">46010.160.040</a> |
| M6X12 | 200 | <a href="#">46010.060.012</a> | M10X35/S=17 | 50  | <a href="#">46010.100.035</a> | M16X50       | 10 | <a href="#">46010.160.050</a> |
| M6X16 | 200 | <a href="#">46010.060.016</a> | M10X40/S=17 | 50  | <a href="#">46010.100.040</a> | M16X60       | 10 | <a href="#">46010.160.060</a> |
| M6X20 | 200 | <a href="#">46010.060.020</a> | M10X45/S=17 | 50  | <a href="#">46010.100.045</a> | M16X70       | 10 | <a href="#">46010.160.070</a> |
| M6X25 | 200 | <a href="#">46010.060.025</a> | M10X50/S=17 | 50  | <a href="#">46010.100.050</a> | M16X80       | 10 | <a href="#">46010.160.080</a> |
| M6X30 | 200 | <a href="#">46010.060.030</a> | M10X60/S=17 | 50  | <a href="#">46010.100.060</a> | M16X90       | 10 | <a href="#">46010.160.090</a> |
| M6X40 | 200 | <a href="#">46010.060.040</a> |             |     |                               | M16X100      | 10 | <a href="#">46010.160.100</a> |

|                                 |               |             |
|---------------------------------|---------------|-------------|
| <b>46060 Hexagon head screw</b> |               | <b>M01A</b> |
| <b>Thread</b>                   | Metric thread |             |
| <b>Material</b>                 | Brass Cu2/Cu3 |             |
| <b>Surface treatment</b>        | Nickel plated |             |
| <b>Packaging</b>                | Standard      |             |

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L       | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------------|-----|-------------------------------|
| M4X8  | 200 | <a href="#">46060.040.008</a> | M5X50 | 200 | <a href="#">46060.050.050</a> | M8X40       | 100 | <a href="#">46060.080.040</a> |
| M4X10 | 200 | <a href="#">46060.040.010</a> | M6X10 | 200 | <a href="#">46060.060.010</a> | M8X45       | 100 | <a href="#">46060.080.045</a> |
| M4X12 | 200 | <a href="#">46060.040.012</a> | M6X12 | 200 | <a href="#">46060.060.012</a> | M8X50       | 100 | <a href="#">46060.080.050</a> |
| M4X16 | 200 | <a href="#">46060.040.016</a> | M6X16 | 200 | <a href="#">46060.060.016</a> | M8X60       | 100 | <a href="#">46060.080.060</a> |
| M4X20 | 200 | <a href="#">46060.040.020</a> | M6X20 | 200 | <a href="#">46060.060.020</a> | M8X70       | 100 | <a href="#">46060.080.070</a> |
| M4X25 | 200 | <a href="#">46060.040.025</a> | M6X25 | 200 | <a href="#">46060.060.025</a> | M10X16/S=17 | 50  | <a href="#">46060.100.016</a> |
| M4X30 | 200 | <a href="#">46060.040.030</a> | M6X30 | 200 | <a href="#">46060.060.030</a> | M10X20/S=17 | 50  | <a href="#">46060.100.020</a> |
| M4X35 | 200 | <a href="#">46060.040.035</a> | M6X35 | 200 | <a href="#">46060.060.035</a> | M10X25/S=17 | 50  | <a href="#">46060.100.025</a> |
| M4X40 | 200 | <a href="#">46060.040.040</a> | M6X40 | 200 | <a href="#">46060.060.040</a> | M10X30/S=17 | 50  | <a href="#">46060.100.030</a> |
| M5X8  | 200 | <a href="#">46060.050.008</a> | M6X50 | 200 | <a href="#">46060.060.050</a> | M10X35/S=17 | 50  | <a href="#">46060.100.035</a> |
| M5X10 | 200 | <a href="#">46060.050.010</a> | M6X60 | 100 | <a href="#">46060.060.060</a> | M10X40/S=17 | 50  | <a href="#">46060.100.040</a> |
| M5X12 | 200 | <a href="#">46060.050.012</a> | M8X12 | 100 | <a href="#">46060.080.012</a> | M10X45/S=17 | 50  | <a href="#">46060.100.045</a> |
| M5X16 | 200 | <a href="#">46060.050.016</a> | M8X16 | 100 | <a href="#">46060.080.016</a> | M10X50/S=17 | 50  | <a href="#">46060.100.050</a> |
| M5X20 | 200 | <a href="#">46060.050.020</a> | M8X20 | 100 | <a href="#">46060.080.020</a> | M10X60/S=17 | 50  | <a href="#">46060.100.060</a> |
| M5X25 | 200 | <a href="#">46060.050.025</a> | M8X25 | 100 | <a href="#">46060.080.025</a> | M10X70/S=17 | 25  | <a href="#">46060.100.070</a> |
| M5X30 | 200 | <a href="#">46060.050.030</a> | M8X30 | 100 | <a href="#">46060.080.030</a> | M12X40/S=19 | 25  | <a href="#">46060.120.040</a> |
| M5X40 | 200 | <a href="#">46060.050.040</a> | M8X35 | 100 | <a href="#">46060.080.035</a> |             |     |                               |
| M5X45 | 200 | <a href="#">46060.050.045</a> |       |     |                               |             |     |                               |

|                                 |               |             |
|---------------------------------|---------------|-------------|
| <b>45910 Hexagon head screw</b> |               | <b>W01A</b> |
| <b>Thread</b>                   | Metric thread |             |
| <b>Material</b>                 | Titanium ASTM |             |
| <b>Class</b>                    | Gr.2          |             |
| <b>Packaging</b>                | Standard      |             |
|                                 | ISO ≈4017     |             |
|                                 | DIN ≈933      |             |
|                                 | NEN ≈1568     |             |
|                                 | NF ≈E25-114   |             |

| d x L | ☒  | Art.number                    | d x L       | ☒  | Art.number                    | d x L       | ☒  | Art.number                    |
|-------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| M6X20 | 10 | <a href="#">45910.060.020</a> | M8X30       | 10 | <a href="#">45910.080.030</a> | M10X30/S=17 | 10 | <a href="#">45910.100.030</a> |
| M6X30 | 10 | <a href="#">45910.060.030</a> | M8X40       | 10 | <a href="#">45910.080.040</a> | M10X40/S=17 | 5  | <a href="#">45910.100.040</a> |
| M6X40 | 10 | <a href="#">45910.060.040</a> | M8X50       | 10 | <a href="#">45910.080.050</a> | M10X50/S=17 | 5  | <a href="#">45910.100.050</a> |
| M8X20 | 10 | <a href="#">45910.080.020</a> | M10X20/S=17 | 10 | <a href="#">45910.100.020</a> |             |    |                               |

- Titanium ASTM Grade 2 (materialnumber 3.7035) with a high percentage of pure titanium, ensures product stability and -suitability in extremely corrosive environments where other materials i.e. stainless steel fail.
- Titanium Grade 2 is also suitable for other light loaded applications.

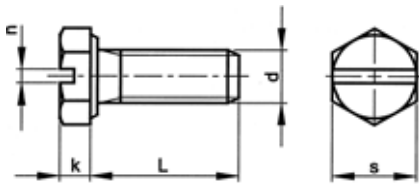
**1**

| 56100 Hexagon head screw plastic |                           | W02A  |
|----------------------------------|---------------------------|---|
| <b>Thread</b>                    | Metric thread             |  |
| <b>Material</b>                  | Plastic Polyamide (nylon) |   |
| <b>Class</b>                     | PA 6.6                    |   |
| <b>Colour</b>                    | White                     |   |
| <b>Packaging</b>                 | Standard                  |   |
|                                  | ISO ≈4017                 |   |
|                                  | DIN ≈933                  |   |
|                                  | NEN ≈1568                 |   |
|                                  | ANSI ≈B18.2.3.1M          |   |
|                                  | NF ≈E25-114               |   |

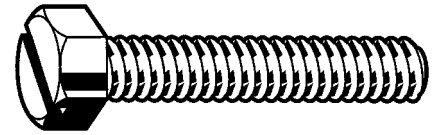
| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L       | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------------|----|-------------------------------|
| M3X10 | 200 | <a href="#">56100.030.010</a> | M5X50 | 100 | <a href="#">56100.050.050</a> | M8X50       | 50 | <a href="#">56100.080.050</a> |
| M3X16 | 200 | <a href="#">56100.030.016</a> |       |     |                               | M8X60       | 50 | <a href="#">56100.080.060</a> |
| M3X20 | 200 | <a href="#">56100.030.020</a> | M6X10 | 50  | <a href="#">56100.060.010</a> | M10X20/S=17 | 25 | <a href="#">56100.100.020</a> |
| M3X25 | 200 | <a href="#">56100.030.025</a> | M6X12 | 50  | <a href="#">56100.060.012</a> | M10X25/S=16 | 25 | <a href="#">56100.100.025</a> |
|       |     |                               | M6X16 | 50  | <a href="#">56100.060.016</a> | M10X30/S=17 | 25 | <a href="#">56100.100.030</a> |
| M4X10 | 200 | <a href="#">56100.040.010</a> | M6X20 | 50  | <a href="#">56100.060.020</a> | M10X40/S=17 | 25 | <a href="#">56100.100.040</a> |
| M4X12 | 200 | <a href="#">56100.040.012</a> | M6X25 | 50  | <a href="#">56100.060.025</a> | M10X50/S=17 | 25 | <a href="#">56100.100.050</a> |
| M4X16 | 200 | <a href="#">56100.040.016</a> | M6X30 | 50  | <a href="#">56100.060.030</a> |             |    |                               |
| M4X20 | 200 | <a href="#">56100.040.020</a> | M6X40 | 50  | <a href="#">56100.060.040</a> | M12X20/S=19 | 25 | <a href="#">56100.120.020</a> |
| M4X30 | 200 | <a href="#">56100.040.030</a> | M6X50 | 50  | <a href="#">56100.060.050</a> | M12X35/S=19 | 25 | <a href="#">56100.120.035</a> |
|       |     |                               |       |     |                               | M12X40/S=19 | 25 | <a href="#">56100.120.040</a> |
| M5X10 | 100 | <a href="#">56100.050.010</a> | M8X16 | 50  | <a href="#">56100.080.016</a> | M12X50/S=19 | 25 | <a href="#">56100.120.050</a> |
| M5X12 | 100 | <a href="#">56100.050.012</a> | M8X20 | 50  | <a href="#">56100.080.020</a> |             |    |                               |
| M5X16 | 100 | <a href="#">56100.050.016</a> | M8X25 | 50  | <a href="#">56100.080.025</a> | M16X50      | 25 | <a href="#">56100.160.050</a> |
| M5X20 | 100 | <a href="#">56100.050.020</a> | M8X30 | 50  | <a href="#">56100.080.030</a> |             |    |                               |
| M5X25 | 100 | <a href="#">56100.050.025</a> | M8X35 | 50  | <a href="#">56100.080.035</a> |             |    |                               |
| M5X30 | 100 | <a href="#">56100.050.030</a> | M8X40 | 50  | <a href="#">56100.080.040</a> |             |    |                               |



**Slotted hexagon head screw**



ISO ≈4017  
DIN ≈933  
NEN ≈1568  
ANSI ≈B18.2.3.1M  
NF ≈E25-137



**Technical data**

| d  | P    | k   | s   | n   |
|----|------|-----|-----|-----|
| M3 | 0,5  | 2   | 5,5 | 0,8 |
| M4 | 0,7  | 2,8 | 7   | 1   |
| M5 | 0,8  | 3,5 | 8   | 1,2 |
| M6 | 1    | 4   | 10  | 1,6 |
| M8 | 1,25 | 5,3 | 13  | 2   |

- Slot acc. to DIN 962 SZ.

**51012 Slotted hexagon head screw**

Q01A

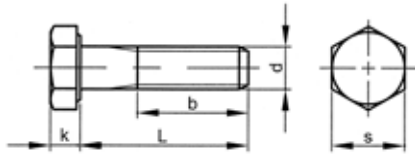
**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard



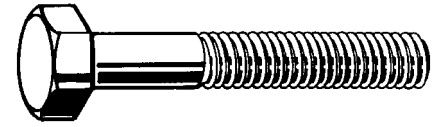
| d x L   | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|------|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X8 *  | 1000 | <a href="#">51012.030.008</a> | M5X16   | 200 | <a href="#">51012.050.016</a> | M6X30   | 200 | <a href="#">51012.060.030</a> |
| M4X6 *  | 500  | <a href="#">51012.040.006</a> | M5X20   | 200 | <a href="#">51012.050.020</a> | M6X35   | 200 | <a href="#">51012.060.035</a> |
| M4X8    | 200  | <a href="#">51012.040.008</a> | M5X25   | 200 | <a href="#">51012.050.025</a> | M6X40   | 200 | <a href="#">51012.060.040</a> |
| M4X10   | 200  | <a href="#">51012.040.010</a> | M5X30   | 200 | <a href="#">51012.050.030</a> |         |     |                               |
| M4X12   | 200  | <a href="#">51012.040.012</a> |         |     |                               | M8X16 * | 200 | <a href="#">51012.080.016</a> |
| M4X16 * | 500  | <a href="#">51012.040.016</a> | M6X10 * | 500 | <a href="#">51012.060.010</a> | M8X20 * | 200 | <a href="#">51012.080.020</a> |
| M4X20 * | 500  | <a href="#">51012.040.020</a> | M6X12   | 200 | <a href="#">51012.060.012</a> | M8X25 * | 100 | <a href="#">51012.080.025</a> |
|         |      |                               | M6X16   | 200 | <a href="#">51012.060.016</a> | M8X30 * | 100 | <a href="#">51012.080.030</a> |
| M5X8 *  | 500  | <a href="#">51012.050.008</a> | M6X18 * | 200 | <a href="#">51012.060.018</a> | M8X40 * | 100 | <a href="#">51012.080.040</a> |
| M5X10 * | 500  | <a href="#">51012.050.010</a> | M6X20   | 200 | <a href="#">51012.060.020</a> |         |     |                               |
| M5X12 * | 500  | <a href="#">51012.050.012</a> | M6X25   | 200 | <a href="#">51012.060.025</a> |         |     |                               |

## Hexagon head bolt MF

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ISO 8765  
 DIN 960  
 NEN 1555  
 NF E25-152



### Technical data

| d         | b (min.): L≤125mm | b (min.): 125mm<L≤200mm | b (min.): L>200mm | k    | s  |
|-----------|-------------------|-------------------------|-------------------|------|----|
| M8        | 22                | 28                      | 41                | 5,3  | 13 |
| M10 (DIN) | 26                | 32                      | 45                | 6,4  | 17 |
| M12 (DIN) | 30                | 36                      | 49                | 7,5  | 19 |
| M14 (DIN) | 34                | 40                      | 53                | 8,8  | 22 |
| M16       | 38                | 44                      | 57                | 10   | 24 |
| M18       | 42                | 48                      | 61                | 11,5 | 27 |
| M20       | 46                | 52                      | 65                | 12,5 | 30 |
| M22       | 50                | 56                      | 69                | 14   | 32 |
| M24       | 54                | 60                      | 73                | 15   | 36 |
| M27 (DIN) | 60                | 66                      | 79                | 17   | 41 |
| M30       | 66                | 72                      | 85                | 18,7 | 46 |

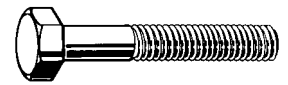
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| MF     | hexagon          | St       | 8.8   |                   | Standard  | 01060 | 1-32 |
| MEF    | hexagon          | St       | 8.8   |                   | Standard  | 01061 | 1-32 |
| MF     | hexagon          | St       | 8.8   | Zipl yell.p.      | Standard  | 01240 | 1-33 |
| MEF    | hexagon          | St       | 8.8   | Zipl yell.p.      | Standard  | 01241 | 1-33 |
| MF     | hexagon          | St       | 10.9  |                   | Standard  | 04160 | 1-33 |
| MEF    | hexagon          | St       | 10.9  |                   | Standard  | 04161 | 1-34 |

#### 01060 Hexagon head bolt MF

A09A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard

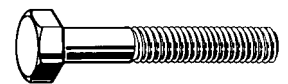


| d x P x L         | ☒   | Art.number                    | d x P x L         | ☒   | Art.number                    | d x P x L         | ☒  | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|-------------------|----|-------------------------------|
| M8X1,00X35        | 200 | <a href="#">01060.080.035</a> | M12X1,50X45/S=19  | 100 | <a href="#">01060.120.045</a> | M14X1,50X80/S=22  | 50 | <a href="#">01060.140.080</a> |
| M8X1,00X40        | 200 | <a href="#">01060.080.040</a> | M12X1,50X50/S=19  | 100 | <a href="#">01060.120.050</a> | M14X1,50X90/S=22  | 50 | <a href="#">01060.140.090</a> |
| M8X1,00X50        | 200 | <a href="#">01060.080.050</a> | M12X1,50X55/S=19  | 100 | <a href="#">01060.120.055</a> | M14X1,50X100/S=22 | 50 | <a href="#">01060.140.100</a> |
| M8X1,00X60        | 200 | <a href="#">01060.080.060</a> | M12X1,50X60/S=19  | 100 | <a href="#">01060.120.060</a> |                   |    |                               |
| M8X1,00X70        | 200 | <a href="#">01060.080.070</a> | M12X1,50X65/S=19  | 50  | <a href="#">01060.120.065</a> | M16X1,50X55       | 50 | <a href="#">01060.160.055</a> |
| M8X1,00X80        | 200 | <a href="#">01060.080.080</a> | M12X1,50X70/S=19  | 50  | <a href="#">01060.120.070</a> | M16X1,50X60       | 50 | <a href="#">01060.160.060</a> |
| M8X1,00X90        | 100 | <a href="#">01060.080.090</a> | M12X1,50X75/S=19  | 50  | <a href="#">01060.120.075</a> | M16X1,50X65       | 25 | <a href="#">01060.160.065</a> |
|                   |     |                               | M12X1,50X80/S=19  | 50  | <a href="#">01060.120.080</a> | M16X1,50X70       | 25 | <a href="#">01060.160.070</a> |
| M10X1,25X40/S=17  | 100 | <a href="#">01060.100.040</a> | M12X1,50X90/S=19  | 50  | <a href="#">01060.120.090</a> | M16X1,50X75       | 25 | <a href="#">01060.160.075</a> |
| M10X1,25X50/S=17  | 100 | <a href="#">01060.100.050</a> | M12X1,50X100/S=19 | 50  | <a href="#">01060.120.100</a> | M16X1,50X80       | 25 | <a href="#">01060.160.080</a> |
| M10X1,25X60/S=17  | 100 | <a href="#">01060.100.060</a> | M12X1,50X120/S=19 | 100 | <a href="#">01060.120.120</a> | M16X1,50X90       | 25 | <a href="#">01060.160.090</a> |
| M10X1,25X70/S=17  | 100 | <a href="#">01060.100.070</a> |                   |     |                               | M16X1,50X100      | 25 | <a href="#">01060.160.100</a> |
| M10X1,25X75/S=17  | 100 | <a href="#">01060.100.075</a> | M14X1,50X50/S=22  | 50  | <a href="#">01060.140.050</a> | M16X1,50X110      | 25 | <a href="#">01060.160.110</a> |
| M10X1,25X80/S=17  | 100 | <a href="#">01060.100.080</a> | M14X1,50X55/S=22  | 50  | <a href="#">01060.140.055</a> | M16X1,50X120      | 25 | <a href="#">01060.160.120</a> |
| M10X1,25X90/S=17  | 100 | <a href="#">01060.100.090</a> | M14X1,50X60/S=22  | 50  | <a href="#">01060.140.060</a> | M16X1,50X130      | 25 | <a href="#">01060.160.130</a> |
| M10X1,25X100/S=17 | 100 | <a href="#">01060.100.100</a> | M14X1,50X65/S=22  | 50  | <a href="#">01060.140.065</a> | M16X1,50X140      | 25 | <a href="#">01060.160.140</a> |
| M10X1,25X120/S=17 | 100 | <a href="#">01060.100.120</a> | M14X1,50X70/S=22  | 50  | <a href="#">01060.140.070</a> | M16X1,50X150      | 25 | <a href="#">01060.160.150</a> |
|                   |     |                               | M14X1,50X75/S=22  | 50  | <a href="#">01060.140.075</a> |                   |    |                               |

#### 01061 Hexagon head bolt MF

A09A

**Thread** Metric extra fine thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|-----|-------------------------------|
| M10X1,00X40/S=17 | 100 | <a href="#">01061.100.040</a> | M10X1,00X50/S=17 | 100 | <a href="#">01061.100.050</a> | M10X1,00X70/S=17 | 100 | <a href="#">01061.100.070</a> |
| M10X1,00X45/S=17 | 100 | <a href="#">01061.100.045</a> | M10X1,00X60/S=17 | 100 | <a href="#">01061.100.060</a> | M10X1,00X80/S=17 | 100 | <a href="#">01061.100.080</a> |

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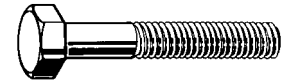
**01061 Hexagon head bolt MF**

| d x P x L         | ✉   | Art.number                    | d x P x L    | ✉  | Art.number                    | d x P x L    | ✉  | Art.number                    |
|-------------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10X1,00X90/S=17  | 100 | <a href="#">01061.100.090</a> | M18X1,50X70  | 25 | <a href="#">01061.180.070</a> | M18X1,50X200 | 10 | <a href="#">01061.180.200</a> |
| M10X1,00X100/S=17 | 100 | <a href="#">01061.100.100</a> | M18X1,50X80  | 25 | <a href="#">01061.180.080</a> | M20X1,50X70  | 25 | <a href="#">01061.200.070</a> |
| M12X1,25X45/S=19  | 100 | <a href="#">01061.120.045</a> | M18X1,50X90  | 25 | <a href="#">01061.180.090</a> | M20X1,50X80  | 25 | <a href="#">01061.200.080</a> |
| M12X1,25X50/S=19  | 100 | <a href="#">01061.120.050</a> | M18X1,50X100 | 25 | <a href="#">01061.180.100</a> | M20X1,50X90  | 25 | <a href="#">01061.200.090</a> |
| M12X1,25X55/S=19  | 100 | <a href="#">01061.120.055</a> | M18X1,50X120 | 25 | <a href="#">01061.180.120</a> | M20X1,50X100 | 25 | <a href="#">01061.200.100</a> |
| M12X1,25X60/S=19  | 100 | <a href="#">01061.120.060</a> | M18X1,50X130 | 25 | <a href="#">01061.180.130</a> | M20X1,50X120 | 25 | <a href="#">01061.200.120</a> |
| M12X1,25X70/S=19  | 50  | <a href="#">01061.120.070</a> | M18X1,50X140 | 25 | <a href="#">01061.180.140</a> | M20X1,50X130 | 25 | <a href="#">01061.200.130</a> |
| M12X1,25X80/S=19  | 50  | <a href="#">01061.120.080</a> | M18X1,50X150 | 25 | <a href="#">01061.180.150</a> | M20X1,50X140 | 25 | <a href="#">01061.200.140</a> |
| M12X1,25X90/S=19  | 50  | <a href="#">01061.120.090</a> | M18X1,50X160 | 10 | <a href="#">01061.180.160</a> | M20X1,50X150 | 25 | <a href="#">01061.200.150</a> |
| M12X1,25X100/S=19 | 50  | <a href="#">01061.120.100</a> | M18X1,50X170 | 10 | <a href="#">01061.180.170</a> |              |    |                               |
| M12X1,25X110/S=19 | 100 | <a href="#">01061.120.110</a> | M18X1,50X180 | 10 | <a href="#">01061.180.180</a> |              |    |                               |
| M12X1,25X140/S=19 | 100 | <a href="#">01061.120.140</a> | M18X1,50X190 | 10 | <a href="#">01061.180.190</a> |              |    |                               |

**01240 Hexagon head bolt MF**

A09A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard

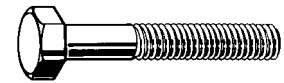


| d x P x L         | ✉   | Art.number                    | d x P x L         | ✉   | Art.number                    | d x P x L         | ✉  | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|-------------------|----|-------------------------------|
| M8X1,00X35        | 200 | <a href="#">01240.080.035</a> | M12X1,50X50/S=19  | 100 | <a href="#">01240.120.050</a> | M14X1,50X110/S=22 | 50 | <a href="#">01240.140.110</a> |
| M8X1,00X40        | 200 | <a href="#">01240.080.040</a> | M12X1,50X55/S=19  | 100 | <a href="#">01240.120.055</a> | M14X1,50X120/S=22 | 50 | <a href="#">01240.140.120</a> |
| M8X1,00X50        | 200 | <a href="#">01240.080.050</a> | M12X1,50X60/S=19  | 100 | <a href="#">01240.120.060</a> | M14X1,50X140/S=22 | 50 | <a href="#">01240.140.140</a> |
| M8X1,00X60        | 200 | <a href="#">01240.080.060</a> | M12X1,50X65/S=19  | 50  | <a href="#">01240.120.065</a> |                   |    |                               |
| M8X1,00X70        | 200 | <a href="#">01240.080.070</a> | M12X1,50X70/S=19  | 50  | <a href="#">01240.120.070</a> | M16X1,50X55       | 50 | <a href="#">01240.160.055</a> |
| M8X1,00X80        | 200 | <a href="#">01240.080.080</a> | M12X1,50X80/S=19  | 50  | <a href="#">01240.120.080</a> | M16X1,50X60       | 50 | <a href="#">01240.160.060</a> |
| M8X1,00X90        | 100 | <a href="#">01240.080.090</a> | M12X1,50X90/S=19  | 50  | <a href="#">01240.120.090</a> | M16X1,50X65       | 25 | <a href="#">01240.160.065</a> |
| M10X1,25X40/S=17  | 100 | <a href="#">01240.100.040</a> | M12X1,50X100/S=19 | 50  | <a href="#">01240.120.100</a> | M16X1,50X70       | 25 | <a href="#">01240.160.070</a> |
| M10X1,25X50/S=17  | 100 | <a href="#">01240.100.050</a> | M14X1,50X50/S=22  | 50  | <a href="#">01240.140.050</a> | M16X1,50X75       | 25 | <a href="#">01240.160.075</a> |
| M10X1,25X60/S=17  | 100 | <a href="#">01240.100.060</a> | M14X1,50X55/S=22  | 50  | <a href="#">01240.140.055</a> | M16X1,50X80       | 25 | <a href="#">01240.160.080</a> |
| M10X1,25X70/S=17  | 100 | <a href="#">01240.100.070</a> | M14X1,50X60/S=22  | 50  | <a href="#">01240.140.060</a> | M16X1,50X90       | 25 | <a href="#">01240.160.090</a> |
| M10X1,25X80/S=17  | 100 | <a href="#">01240.100.080</a> | M14X1,50X65/S=22  | 50  | <a href="#">01240.140.065</a> | M16X1,50X100      | 25 | <a href="#">01240.160.100</a> |
| M10X1,25X90/S=17  | 100 | <a href="#">01240.100.090</a> | M14X1,50X70/S=22  | 50  | <a href="#">01240.140.070</a> | M16X1,50X110      | 25 | <a href="#">01240.160.110</a> |
| M10X1,25X100/S=17 | 100 | <a href="#">01240.100.100</a> | M14X1,50X75/S=22  | 50  | <a href="#">01240.140.075</a> | M16X1,50X120      | 25 | <a href="#">01240.160.120</a> |
| M10X1,25X110/S=17 | 100 | <a href="#">01240.100.110</a> | M14X1,50X80/S=22  | 50  | <a href="#">01240.140.080</a> | M16X1,50X130      | 25 | <a href="#">01240.160.130</a> |
| M12X1,50X45/S=19  | 100 | <a href="#">01240.120.045</a> | M14X1,50X90/S=22  | 50  | <a href="#">01240.140.090</a> | M16X1,50X140      | 25 | <a href="#">01240.160.140</a> |
|                   |     |                               | M14X1,50X100/S=22 | 50  | <a href="#">01240.140.100</a> | M16X1,50X150      | 25 | <a href="#">01240.160.150</a> |

**01241 Hexagon head bolt MF**

A09A

**Thread** Metric extra fine thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard

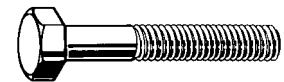


| d x P x L         | ✉   | Art.number                    | d x P x L         | ✉  | Art.number                    | d x P x L    | ✉  | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|----|-------------------------------|--------------|----|-------------------------------|
| M10X1,00X40/S=17  | 100 | <a href="#">01241.100.040</a> | M12X1,25X70/S=19  | 50 | <a href="#">01241.120.070</a> | M18X1,50X120 | 25 | <a href="#">01241.180.120</a> |
| M10X1,00X45/S=17  | 100 | <a href="#">01241.100.045</a> | M12X1,25X80/S=19  | 50 | <a href="#">01241.120.080</a> | M20X1,50X70  | 25 | <a href="#">01241.200.070</a> |
| M10X1,00X50/S=17  | 100 | <a href="#">01241.100.050</a> | M12X1,25X90/S=19  | 50 | <a href="#">01241.120.090</a> | M20X1,50X80  | 25 | <a href="#">01241.200.080</a> |
| M10X1,00X60/S=17  | 100 | <a href="#">01241.100.060</a> | M12X1,25X100/S=19 | 50 | <a href="#">01241.120.100</a> | M20X1,50X90  | 25 | <a href="#">01241.200.090</a> |
| M10X1,00X70/S=17  | 100 | <a href="#">01241.100.070</a> | M12X1,25X110/S=19 | 50 | <a href="#">01241.120.110</a> | M20X1,50X100 | 25 | <a href="#">01241.200.100</a> |
| M10X1,00X80/S=17  | 100 | <a href="#">01241.100.080</a> |                   |    |                               | M20X1,50X110 | 25 | <a href="#">01241.200.110</a> |
| M10X1,00X90/S=17  | 100 | <a href="#">01241.100.090</a> | M18X1,50X60       | 25 | <a href="#">01241.180.060</a> | M20X1,50X120 | 25 | <a href="#">01241.200.120</a> |
| M10X1,00X100/S=17 | 100 | <a href="#">01241.100.100</a> | M18X1,50X70       | 25 | <a href="#">01241.180.070</a> | M20X1,50X140 | 25 | <a href="#">01241.200.140</a> |
| M12X1,25X45/S=19  | 100 | <a href="#">01241.120.045</a> | M18X1,50X80       | 25 | <a href="#">01241.180.080</a> | M20X1,50X150 | 25 | <a href="#">01241.200.150</a> |
| M12X1,25X50/S=19  | 100 | <a href="#">01241.120.050</a> | M18X1,50X90       | 25 | <a href="#">01241.180.090</a> |              |    |                               |
| M12X1,25X60/S=19  | 100 | <a href="#">01241.120.060</a> | M18X1,50X100      | 25 | <a href="#">01241.180.100</a> |              |    |                               |
|                   |     |                               | M18X1,50X110      | 25 | <a href="#">01241.180.110</a> |              |    |                               |

**04160 Hexagon head bolt MF**

C02A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 10.9  
**Packaging** Standard



| d x P x L  | ✉   | Art.number                    | d x P x L        | ✉   | Art.number                    | d x P x L         | ✉   | Art.number                    |
|------------|-----|-------------------------------|------------------|-----|-------------------------------|-------------------|-----|-------------------------------|
| M8X1,00X35 | 200 | <a href="#">04160.080.035</a> | M10X1,25X45/S=17 | 100 | <a href="#">04160.100.045</a> | M10X1,25X100/S=17 | 100 | <a href="#">04160.100.100</a> |
| M8X1,00X40 | 200 | <a href="#">04160.080.040</a> | M10X1,25X50/S=17 | 100 | <a href="#">04160.100.050</a> | M12X1,50X50/S=19  | 50  | <a href="#">04160.120.050</a> |
| M8X1,00X50 | 200 | <a href="#">04160.080.050</a> | M10X1,25X60/S=17 | 100 | <a href="#">04160.100.060</a> | M12X1,50X60/S=19  | 50  | <a href="#">04160.120.060</a> |
| M8X1,00X60 | 200 | <a href="#">04160.080.060</a> | M10X1,25X70/S=17 | 100 | <a href="#">04160.100.070</a> | M12X1,50X70/S=19  | 50  | <a href="#">04160.120.070</a> |
| M8X1,00X70 | 100 | <a href="#">04160.080.070</a> | M10X1,25X80/S=17 | 100 | <a href="#">04160.100.080</a> | M12X1,50X80/S=19  | 50  | <a href="#">04160.120.080</a> |
| M8X1,00X80 | 100 | <a href="#">04160.080.080</a> | M10X1,25X90/S=17 | 100 | <a href="#">04160.100.090</a> | M12X1,50X90/S=19  | 50  | <a href="#">04160.120.090</a> |
| M8X1,00X90 | 100 | <a href="#">04160.080.090</a> |                  |     |                               |                   |     |                               |

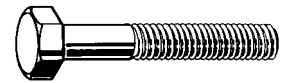
**1**
**04160 Hexagon head bolt MF**

| d x P x L         | ☒  | Art.number                    | d x P x L    | ☒  | Art.number                    | d x P x L    | ☒  | Art.number                    |
|-------------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M12X1,50X100/S=19 | 50 | <a href="#">04160.120.100</a> | M16X1,50X60  | 25 | <a href="#">04160.160.060</a> | M24X2,00X100 | 10 | <a href="#">04160.240.100</a> |
| M12X1,50X120/S=19 | 25 | <a href="#">04160.120.120</a> | M16X1,50X65  | 25 | <a href="#">04160.160.065</a> | M24X2,00X110 | 10 | <a href="#">04160.240.110</a> |
| M14X1,50X50/S=22  | 50 | <a href="#">04160.140.050</a> | M16X1,50X70  | 25 | <a href="#">04160.160.070</a> | M24X2,00X120 | 10 | <a href="#">04160.240.120</a> |
| M14X1,50X60/S=22  | 50 | <a href="#">04160.140.060</a> | M16X1,50X80  | 25 | <a href="#">04160.160.080</a> | M24X2,00X130 | 10 | <a href="#">04160.240.130</a> |
| M14X1,50X65/S=22  | 50 | <a href="#">04160.140.065</a> | M16X1,50X90  | 25 | <a href="#">04160.160.090</a> | M24X2,00X140 | 10 | <a href="#">04160.240.140</a> |
| M14X1,50X70/S=22  | 50 | <a href="#">04160.140.070</a> | M16X1,50X100 | 25 | <a href="#">04160.160.100</a> | M24X2,00X150 | 10 | <a href="#">04160.240.150</a> |
| M14X1,50X80/S=22  | 25 | <a href="#">04160.140.080</a> | M16X1,50X110 | 25 | <a href="#">04160.160.110</a> | M24X2,00X160 | 10 | <a href="#">04160.240.160</a> |
| M14X1,50X90/S=22  | 25 | <a href="#">04160.140.090</a> | M16X1,50X120 | 25 | <a href="#">04160.160.120</a> | M24X2,00X180 | 10 | <a href="#">04160.240.180</a> |
| M14X1,50X100/S=22 | 25 | <a href="#">04160.140.100</a> | M16X1,50X130 | 20 | <a href="#">04160.160.130</a> | M24X2,00X200 | 10 | <a href="#">04160.240.200</a> |
| M14X1,50X110/S=22 | 25 | <a href="#">04160.140.110</a> | M16X1,50X140 | 20 | <a href="#">04160.160.140</a> | M27X2,00X190 | 10 | <a href="#">04160.270.190</a> |
| M14X1,50X120/S=22 | 25 | <a href="#">04160.140.120</a> | M16X1,50X150 | 20 | <a href="#">04160.160.150</a> | M30X2,00X140 | 5  | <a href="#">04160.300.140</a> |
| M16X1,50X50       | 25 | <a href="#">04160.160.050</a> | M24X2,00X80  | 15 | <a href="#">04160.240.080</a> |              |    |                               |
| M16X1,50X55       | 25 | <a href="#">04160.160.055</a> | M24X2,00X90  | 15 | <a href="#">04160.240.090</a> |              |    |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**04161 Hexagon head bolt MF**
**C02A**

**Thread** Metric extra fine thread  
**Material** Steel  
**Class** 10.9  
**Packaging** Standard

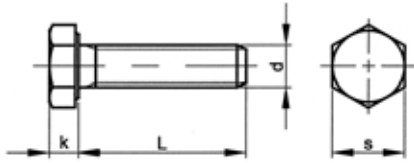


| d x P x L         | ☒   | Art.number                    | d x P x L    | ☒  | Art.number                    | d x P x L    | ☒  | Art.number                    |
|-------------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10X1,00X50/S=17  | 100 | <a href="#">04161.100.050</a> | M18X1,50X90  | 25 | <a href="#">04161.180.090</a> | M20X1,50X90  | 25 | <a href="#">04161.200.090</a> |
| M10X1,00X60/S=17  | 100 | <a href="#">04161.100.060</a> | M18X1,50X100 | 25 | <a href="#">04161.180.100</a> | M20X1,50X100 | 25 | <a href="#">04161.200.100</a> |
| M10X1,00X70/S=17  | 100 | <a href="#">04161.100.070</a> | M18X1,50X110 | 15 | <a href="#">04161.180.110</a> | M20X1,50X110 | 10 | <a href="#">04161.200.110</a> |
| M10X1,00X80/S=17  | 100 | <a href="#">04161.100.080</a> | M18X1,50X120 | 15 | <a href="#">04161.180.120</a> | M20X1,50X120 | 10 | <a href="#">04161.200.120</a> |
| M10X1,00X90/S=17  | 50  | <a href="#">04161.100.090</a> | M18X1,50X130 | 15 | <a href="#">04161.180.130</a> | M20X1,50X130 | 10 | <a href="#">04161.200.130</a> |
| M10X1,00X100/S=17 | 50  | <a href="#">04161.100.100</a> | M18X1,50X140 | 10 | <a href="#">04161.180.140</a> | M20X1,50X140 | 10 | <a href="#">04161.200.140</a> |
| M18X1,50X60       | 25  | <a href="#">04161.180.060</a> | M18X1,50X150 | 10 | <a href="#">04161.180.150</a> | M20X1,50X150 | 10 | <a href="#">04161.200.150</a> |
| M18X1,50X70       | 25  | <a href="#">04161.180.070</a> | M18X1,50X160 | 10 | <a href="#">04161.180.160</a> | M20X1,50X160 | 10 | <a href="#">04161.200.160</a> |
| M18X1,50X75       | 25  | <a href="#">04161.180.075</a> | M20X1,50X70  | 25 | <a href="#">04161.200.070</a> |              |    |                               |
| M18X1,50X80       | 25  | <a href="#">04161.180.080</a> | M20X1,50X80  | 25 | <a href="#">04161.200.080</a> |              |    |                               |

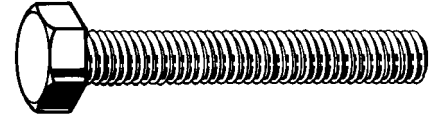
• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon head screw MF

1



ISO 8676  
DIN 961  
NEN 1568  
NF E25-151



### Technical data

| d         | k   | s  |
|-----------|-----|----|
| M8        | 5,3 | 13 |
| M10 (DIN) | 6,4 | 17 |
| M10       | 6,4 | 16 |
| M12 (DIN) | 7,5 | 19 |

| d         | k    | s  |
|-----------|------|----|
| M14 (DIN) | 8,8  | 22 |
| M16       | 10   | 24 |
| M18       | 11,5 | 27 |

| d   | k    | s  |
|-----|------|----|
| M20 | 12,5 | 30 |
| M24 | 15   | 36 |

### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| MF     | hexagon          | St       | 8.8   |                   | Standard  | 01070 | 1-35 |
| MEF    | hexagon          | St       | 8.8   |                   | Standard  | 01071 | 1-35 |
| MF     | hexagon          | St       | 8.8   | Zipl yell.p.      | Standard  | 01250 | 1-36 |
| MEF    | hexagon          | St       | 8.8   | Zipl yell.p.      | Standard  | 01251 | 1-36 |
| MF     | hexagon          | St       | 10.9  |                   | Standard  | 04170 | 1-36 |
| MEF    | hexagon          | St       | 10.9  |                   | Standard  | 04171 | 1-37 |

#### 01070 Hexagon head screw MF

A09A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    | d x P x L        | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|----|-------------------------------|
| M8X1,00X16       | 200 | <a href="#">01070.080.016</a> | M12X1,50X20/S=19 | 100 | <a href="#">01070.120.020</a> | M14X1,50X50/S=22 | 50 | <a href="#">01070.140.050</a> |
| M8X1,00X20       | 200 | <a href="#">01070.080.020</a> | M12X1,50X25/S=19 | 100 | <a href="#">01070.120.025</a> | M14X1,50X60/S=22 | 50 | <a href="#">01070.140.060</a> |
| M8X1,00X25       | 200 | <a href="#">01070.080.025</a> | M12X1,50X30/S=19 | 100 | <a href="#">01070.120.030</a> |                  |    |                               |
| M8X1,00X30       | 200 | <a href="#">01070.080.030</a> | M12X1,50X35/S=19 | 100 | <a href="#">01070.120.035</a> | M16X1,50X20      | 50 | <a href="#">01070.160.020</a> |
| M8X1,00X35       | 200 | <a href="#">01070.080.035</a> | M12X1,50X40/S=19 | 100 | <a href="#">01070.120.040</a> | M16X1,50X25      | 50 | <a href="#">01070.160.025</a> |
| M8X1,00X40       | 200 | <a href="#">01070.080.040</a> | M12X1,50X45/S=19 | 100 | <a href="#">01070.120.045</a> | M16X1,50X30      | 50 | <a href="#">01070.160.030</a> |
|                  |     |                               | M12X1,50X50/S=19 | 100 | <a href="#">01070.120.050</a> | M16X1,50X35      | 50 | <a href="#">01070.160.035</a> |
| M10X1,25X20/S=17 | 200 | <a href="#">01070.100.020</a> | M12X1,50X60/S=19 | 100 | <a href="#">01070.120.060</a> | M16X1,50X40      | 50 | <a href="#">01070.160.040</a> |
| M10X1,25X25/S=17 | 200 | <a href="#">01070.100.025</a> |                  |     |                               | M16X1,50X45      | 50 | <a href="#">01070.160.045</a> |
| M10X1,25X30/S=17 | 200 | <a href="#">01070.100.030</a> | M14X1,50X20/S=22 | 100 | <a href="#">01070.140.020</a> | M16X1,50X50      | 50 | <a href="#">01070.160.050</a> |
| M10X1,25X35/S=17 | 100 | <a href="#">01070.100.035</a> | M14X1,50X25/S=22 | 100 | <a href="#">01070.140.025</a> | M16X1,50X60      | 50 | <a href="#">01070.160.060</a> |
| M10X1,25X40/S=17 | 100 | <a href="#">01070.100.040</a> | M14X1,50X30/S=22 | 100 | <a href="#">01070.140.030</a> | M16X1,50X70      | 25 | <a href="#">01070.160.070</a> |
| M10X1,25X45/S=17 | 100 | <a href="#">01070.100.045</a> | M14X1,50X35/S=22 | 100 | <a href="#">01070.140.035</a> | M16X1,50X80      | 25 | <a href="#">01070.160.080</a> |
| M10X1,25X50/S=17 | 100 | <a href="#">01070.100.050</a> | M14X1,50X40/S=22 | 100 | <a href="#">01070.140.040</a> | M16X1,50X120     | 25 | <a href="#">01070.160.120</a> |
|                  |     |                               | M14X1,50X45/S=22 | 50  | <a href="#">01070.140.045</a> |                  |    |                               |

#### 01071 Hexagon head screw MF

A09A

**Thread** Metric extra fine thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    | d x P x L   | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|-------------|----|-------------------------------|
| M10X1,00X20/S=17 | 200 | <a href="#">01071.100.020</a> | M12X1,25X40/S=19 | 100 | <a href="#">01071.120.040</a> | M18X1,50X80 | 25 | <a href="#">01071.180.080</a> |
| M10X1,00X25/S=17 | 200 | <a href="#">01071.100.025</a> | M12X1,25X50/S=19 | 100 | <a href="#">01071.120.050</a> |             |    |                               |
| M10X1,00X30/S=17 | 200 | <a href="#">01071.100.030</a> |                  |     |                               | M20X1,50X40 | 25 | <a href="#">01071.200.040</a> |
| M10X1,00X35/S=17 | 100 | <a href="#">01071.100.035</a> | M18X1,50X35      | 50  | <a href="#">01071.180.035</a> | M20X1,50X45 | 25 | <a href="#">01071.200.045</a> |
| M10X1,00X40/S=17 | 100 | <a href="#">01071.100.040</a> | M18X1,50X40      | 50  | <a href="#">01071.180.040</a> | M20X1,50X50 | 25 | <a href="#">01071.200.050</a> |
|                  |     |                               | M18X1,50X45      | 50  | <a href="#">01071.180.045</a> | M20X1,50X60 | 25 | <a href="#">01071.200.060</a> |
| M12X1,25X25/S=19 | 100 | <a href="#">01071.120.025</a> | M18X1,50X50      | 50  | <a href="#">01071.180.050</a> | M20X1,50X70 | 25 | <a href="#">01071.200.070</a> |
| M12X1,25X30/S=19 | 100 | <a href="#">01071.120.030</a> | M18X1,50X60      | 25  | <a href="#">01071.180.060</a> | M20X1,50X80 | 25 | <a href="#">01071.200.080</a> |
| M12X1,25X35/S=19 | 100 | <a href="#">01071.120.035</a> | M18X1,50X70      | 25  | <a href="#">01071.180.070</a> |             |    |                               |

**1**

| 01250 Hexagon head screw MF |                               | A09A  |
|-----------------------------|-------------------------------|---|
| <b>Thread</b>               | Metric fine thread            |  |
| <b>Material</b>             | Steel                         |   |
| <b>Class</b>                | 8.8                           |   |
| <b>Surface treatment</b>    | Zinc plated yellow passivated |   |
| <b>Packaging</b>            | Standard                      |   |

| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    | d x P x L        | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|----|-------------------------------|
| M8X1,00X20       | 200 | <a href="#">01250.080.020</a> | M12X1,50X20/S=19 | 100 | <a href="#">01250.120.020</a> | M14X1,50X45/S=22 | 50 | <a href="#">01250.140.045</a> |
| M8X1,00X25       | 200 | <a href="#">01250.080.025</a> | M12X1,50X25/S=19 | 100 | <a href="#">01250.120.025</a> | M14X1,50X50/S=22 | 50 | <a href="#">01250.140.050</a> |
| M8X1,00X30       | 200 | <a href="#">01250.080.030</a> | M12X1,50X30/S=19 | 100 | <a href="#">01250.120.030</a> | M14X1,50X60/S=22 | 50 | <a href="#">01250.140.060</a> |
| M8X1,00X35       | 200 | <a href="#">01250.080.035</a> | M12X1,50X35/S=19 | 100 | <a href="#">01250.120.035</a> |                  |    |                               |
| M8X1,00X40       | 200 | <a href="#">01250.080.040</a> | M12X1,50X40/S=19 | 100 | <a href="#">01250.120.040</a> | M16X1,50X20      | 50 | <a href="#">01250.160.020</a> |
|                  |     |                               | M12X1,50X45/S=19 | 100 | <a href="#">01250.120.045</a> | M16X1,50X25      | 50 | <a href="#">01250.160.025</a> |
| M10X1,25X20/S=17 | 200 | <a href="#">01250.100.020</a> | M12X1,50X50/S=19 | 100 | <a href="#">01250.120.050</a> | M16X1,50X30      | 50 | <a href="#">01250.160.030</a> |
| M10X1,25X25/S=17 | 200 | <a href="#">01250.100.025</a> | M12X1,50X60/S=19 | 100 | <a href="#">01250.120.060</a> | M16X1,50X35      | 50 | <a href="#">01250.160.035</a> |
| M10X1,25X30/S=17 | 200 | <a href="#">01250.100.030</a> |                  |     |                               | M16X1,50X40      | 50 | <a href="#">01250.160.040</a> |
| M10X1,25X35/S=17 | 100 | <a href="#">01250.100.035</a> | M14X1,50X20/S=22 | 100 | <a href="#">01250.140.020</a> | M16X1,50X45      | 50 | <a href="#">01250.160.045</a> |
| M10X1,25X40/S=17 | 100 | <a href="#">01250.100.040</a> | M14X1,50X25/S=22 | 100 | <a href="#">01250.140.025</a> | M16X1,50X50      | 50 | <a href="#">01250.160.050</a> |
| M10X1,25X45/S=17 | 100 | <a href="#">01250.100.045</a> | M14X1,50X30/S=22 | 100 | <a href="#">01250.140.030</a> | M16X1,50X60      | 50 | <a href="#">01250.160.060</a> |
| M10X1,25X50/S=17 | 100 | <a href="#">01250.100.050</a> | M14X1,50X35/S=22 | 100 | <a href="#">01250.140.035</a> | M16X1,50X70      | 25 | <a href="#">01250.160.070</a> |
|                  |     |                               | M14X1,50X40/S=22 | 100 | <a href="#">01250.140.040</a> |                  |    |                               |

| 01251 Hexagon head screw MF |                               | A09A  |
|-----------------------------|-------------------------------|---|
| <b>Thread</b>               | Metric extra fine thread      |  |
| <b>Material</b>             | Steel                         |   |
| <b>Class</b>                | 8.8                           |   |
| <b>Surface treatment</b>    | Zinc plated yellow passivated |   |
| <b>Packaging</b>            | Standard                      |   |

| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    | d x P x L   | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|-------------|----|-------------------------------|
| M10X1,00X20/S=17 | 200 | <a href="#">01251.100.020</a> | M12X1,25X40/S=19 | 100 | <a href="#">01251.120.040</a> | M18X1,50X70 | 25 | <a href="#">01251.180.070</a> |
| M10X1,00X25/S=17 | 200 | <a href="#">01251.100.025</a> | M12X1,25X45/S=19 | 100 | <a href="#">01251.120.045</a> | M18X1,50X80 | 25 | <a href="#">01251.180.080</a> |
| M10X1,00X30/S=17 | 200 | <a href="#">01251.100.030</a> | M12X1,25X50/S=19 | 100 | <a href="#">01251.120.050</a> |             |    |                               |
| M10X1,00X35/S=17 | 100 | <a href="#">01251.100.035</a> |                  |     |                               | M20X1,50X40 | 25 | <a href="#">01251.200.040</a> |
| M10X1,00X40/S=17 | 100 | <a href="#">01251.100.040</a> | M18X1,50X35      | 50  | <a href="#">01251.180.035</a> | M20X1,50X50 | 25 | <a href="#">01251.200.050</a> |
|                  |     |                               | M18X1,50X40      | 50  | <a href="#">01251.180.040</a> | M20X1,50X60 | 25 | <a href="#">01251.200.060</a> |
| M12X1,25X25/S=19 | 100 | <a href="#">01251.120.025</a> | M18X1,50X45      | 50  | <a href="#">01251.180.045</a> | M20X1,50X70 | 25 | <a href="#">01251.200.070</a> |
| M12X1,25X30/S=19 | 100 | <a href="#">01251.120.030</a> | M18X1,50X50      | 50  | <a href="#">01251.180.050</a> | M20X1,50X80 | 25 | <a href="#">01251.200.080</a> |
| M12X1,25X35/S=19 | 100 | <a href="#">01251.120.035</a> | M18X1,50X60      | 25  | <a href="#">01251.180.060</a> |             |    |                               |

| 04170 Hexagon head screw MF |                    | C02A  |
|-----------------------------|--------------------|---|
| <b>Thread</b>               | Metric fine thread |  |
| <b>Material</b>             | Steel              |   |
| <b>Class</b>                | 10.9               |   |
| <b>Packaging</b>            | Standard           |   |

| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒   | Art.number                    | d x P x L   | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|-------------|----|-------------------------------|
| M8X1,00X20       | 200 | <a href="#">04170.080.020</a> | M12X1,50X30/S=19 | 100 | <a href="#">04170.120.030</a> | M16X1,50X40 | 50 | <a href="#">04170.160.040</a> |
| M8X1,00X25       | 200 | <a href="#">04170.080.025</a> | M12X1,50X35/S=19 | 100 | <a href="#">04170.120.035</a> | M16X1,50X45 | 50 | <a href="#">04170.160.045</a> |
| M8X1,00X30       | 200 | <a href="#">04170.080.030</a> | M12X1,50X40/S=19 | 100 | <a href="#">04170.120.040</a> | M16X1,50X50 | 25 | <a href="#">04170.160.050</a> |
| M8X1,00X35       | 200 | <a href="#">04170.080.035</a> |                  |     |                               | M16X1,50X60 | 25 | <a href="#">04170.160.060</a> |
| M8X1,00X40       | 200 | <a href="#">04170.080.040</a> | M14X1,50X25/S=22 | 50  | <a href="#">04170.140.025</a> |             |    |                               |
|                  |     |                               | M14X1,50X30/S=22 | 50  | <a href="#">04170.140.030</a> | M24X2,00X45 | 25 | <a href="#">04170.240.045</a> |
| M10X1,25X20/S=17 | 200 | <a href="#">04170.100.020</a> | M14X1,50X35/S=22 | 50  | <a href="#">04170.140.035</a> | M24X2,00X50 | 25 | <a href="#">04170.240.050</a> |
| M10X1,25X25/S=17 | 200 | <a href="#">04170.100.025</a> | M14X1,50X40/S=22 | 50  | <a href="#">04170.140.040</a> | M24X2,00X60 | 25 | <a href="#">04170.240.060</a> |
| M10X1,25X30/S=17 | 100 | <a href="#">04170.100.030</a> | M14X1,50X45/S=22 | 50  | <a href="#">04170.140.045</a> | M24X2,00X70 | 25 | <a href="#">04170.240.070</a> |
| M10X1,25X35/S=17 | 100 | <a href="#">04170.100.035</a> | M14X1,50X50/S=22 | 50  | <a href="#">04170.140.050</a> |             |    |                               |
| M10X1,25X40/S=17 | 100 | <a href="#">04170.100.040</a> | M14X1,50X60/S=22 | 50  | <a href="#">04170.140.060</a> |             |    |                               |
|                  |     |                               |                  |     |                               |             |    |                               |
| M12X1,50X20/S=19 | 100 | <a href="#">04170.120.020</a> | M16X1,50X30      | 50  | <a href="#">04170.160.030</a> |             |    |                               |
| M12X1,50X25/S=19 | 100 | <a href="#">04170.120.025</a> | M16X1,50X35      | 50  | <a href="#">04170.160.035</a> |             |    |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

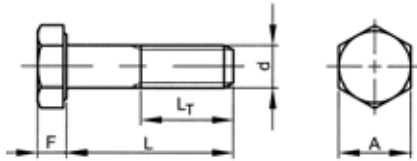
|                  |                              |   |
|------------------|------------------------------|---|
| <b>04171</b>     | <b>Hexagon head screw MF</b> | <b>C02A</b>   |
| <b>Thread</b>    | Metric extra fine thread     |  |
| <b>Material</b>  | Steel                        |   |
| <b>Class</b>     | 10.9                         |   |
| <b>Packaging</b> | Standard                     |   |

| d x P x L        | ☒   | Art.number                    | d x P x L        | ☒  | Art.number                    | d x P x L   | ☒           | Art.number                    |                               |
|------------------|-----|-------------------------------|------------------|----|-------------------------------|-------------|-------------|-------------------------------|-------------------------------|
| M10X1,00X20/S=17 | 100 | <a href="#">04171.100.020</a> | M12X1,25X30/S=19 | 50 | <a href="#">04171.120.030</a> | M20X1,50X40 | 25          | <a href="#">04171.200.040</a> |                               |
| M10X1,00X25/S=17 | 100 | <a href="#">04171.100.025</a> | M12X1,25X35/S=19 | 50 | <a href="#">04171.120.035</a> |             | M20X1,50X45 | 25                            | <a href="#">04171.200.045</a> |
| M10X1,00X30/S=17 | 100 | <a href="#">04171.100.030</a> | M12X1,25X40/S=19 | 50 | <a href="#">04171.120.040</a> |             | M20X1,50X50 | 25                            | <a href="#">04171.200.050</a> |
| M10X1,00X35/S=17 | 100 | <a href="#">04171.100.035</a> |                  |    |                               |             | M20X1,50X60 | 25                            | <a href="#">04171.200.060</a> |
| M10X1,00X40/S=17 | 100 | <a href="#">04171.100.040</a> | M18X1,50X40      | 25 | <a href="#">04171.180.040</a> |             |             |                               |                               |
|                  |     |                               | M18X1,50X50      | 25 | <a href="#">04171.180.050</a> |             |             |                               |                               |
| M12X1,25X25/S=19 | 50  | <a href="#">04171.120.025</a> | M18X1,50X60      | 25 | <a href="#">04171.180.060</a> |             |             |                               |                               |

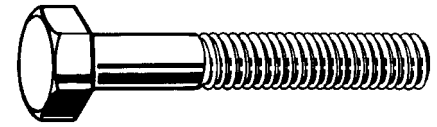
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon head bolt UNC

1



ANSI ≈ B18.2.1  
BS ≈ 1768



### Technical data

| d     | Threads per inch | L <sub>T</sub> (min.): L ≤ 6.IN. | L <sub>T</sub> (min.): L > 6.IN. | F    | A       |
|-------|------------------|----------------------------------|----------------------------------|------|---------|
| No.10 | 24               | -                                | -                                | 3    | 5/16    |
| 1/4   | 20               | 19                               | 25                               | 4    | 7/16    |
| 5/16  | 18               | 22                               | 29                               | 5,2  | 1/2     |
| 3/8   | 16               | 25                               | 32                               | 6    | 9/16    |
| 7/16  | 14               | 29                               | 35                               | 7,1  | 5/8     |
| 1/2   | 13               | 32                               | 38                               | 7,9  | 3/4     |
| 9/16  | 12               | 35                               | 41                               | 9,1  | 13/16   |
| 5/8   | 11               | 38                               | 44                               | 9,9  | 15/16   |
| 3/4   | 10               | 44                               | 51                               | 11,9 | 1.1/8   |
| 7/8   | 9                | 51                               | 57                               | 13,9 | 1.5/16  |
| 1.IN. | 8                | 57                               | 64                               | 15,5 | 1.1/2   |
| 1.1/8 | 7                | 64                               | 70                               | 17,5 | 1.11/16 |
| 1.1/4 | 7                | 70                               | 76                               | 19,8 | 1.7/8   |
| 1.1/2 | 6                | 83                               | 89                               | 23,8 | 2.1/4   |

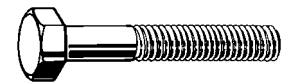
### Article groups


| Thread | Driving features | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|---------|-------------------|-----------|-------|------|
| UNC    | hexagon          | St        | Grade 5 |                   | Standard  | 02400 | 1-38 |
| UNC    | hexagon          | St        | Grade 5 | Zipl              | Standard  | 02420 | 1-39 |
| UNC    | hexagon          | St.St. A2 |         |                   | Standard  | 51006 | 1-40 |
| UNC    | hexagon          | St.St. A4 |         |                   | Standard  | 55006 | 1-40 |

#### 02400 Hexagon head bolt UNC

X01A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Steel                   |
| <b>Class</b>     | Grade 5                 |
| <b>Packaging</b> | Standard                |



- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|----|-------------------------------|
| 1/4X1.1/4  | 200 | <a href="#">02400.063.031</a> | 5/16X4.1/2 | 50  | <a href="#">02400.079.114</a> | 7/16X4.IN. | 50 | <a href="#">02400.111.101</a> |
| 1/4X1.1/2  | 200 | <a href="#">02400.063.038</a> | 5/16X5.IN. | 100 | <a href="#">02400.079.127</a> | 7/16X4.1/2 | 50 | <a href="#">02400.111.114</a> |
| 1/4X1.3/4  | 200 | <a href="#">02400.063.044</a> |            |     |                               |            |    |                               |
| 1/4X2.IN.  | 200 | <a href="#">02400.063.050</a> | 3/8X1.1/2  | 100 | <a href="#">02400.096.038</a> | 1/2X1.3/4  | 50 | <a href="#">02400.127.044</a> |
| 1/4X2.1/4  | 200 | <a href="#">02400.063.057</a> | 3/8X1.3/4  | 100 | <a href="#">02400.096.044</a> | 1/2X2.IN.  | 50 | <a href="#">02400.127.050</a> |
| 1/4X2.1/2  | 100 | <a href="#">02400.063.063</a> | 3/8X2.IN.  | 100 | <a href="#">02400.096.050</a> | 1/2X2.1/4  | 50 | <a href="#">02400.127.057</a> |
| 1/4X2.3/4  | 100 | <a href="#">02400.063.069</a> | 3/8X2.1/4  | 100 | <a href="#">02400.096.057</a> | 1/2X2.1/2  | 50 | <a href="#">02400.127.063</a> |
| 1/4X3.IN.  | 100 | <a href="#">02400.063.076</a> | 3/8X2.1/2  | 100 | <a href="#">02400.096.063</a> | 1/2X2.3/4  | 50 | <a href="#">02400.127.069</a> |
| 1/4X3.1/4  | 100 | <a href="#">02400.063.082</a> | 3/8X2.3/4  | 100 | <a href="#">02400.096.069</a> | 1/2X3.IN.  | 50 | <a href="#">02400.127.076</a> |
| 1/4X3.1/2  | 100 | <a href="#">02400.063.088</a> | 3/8X3.IN.  | 100 | <a href="#">02400.096.076</a> | 1/2X3.1/4  | 25 | <a href="#">02400.127.082</a> |
| 1/4X4.IN.  | 100 | <a href="#">02400.063.101</a> | 3/8X3.1/4  | 50  | <a href="#">02400.096.082</a> | 1/2X3.1/2  | 50 | <a href="#">02400.127.088</a> |
| 1/4X4.1/2  | 100 | <a href="#">02400.063.114</a> | 3/8X3.1/2  | 50  | <a href="#">02400.096.088</a> | 1/2X3.3/4  | 25 | <a href="#">02400.127.095</a> |
| 1/4X6.IN.  | 100 | <a href="#">02400.063.152</a> | 3/8X4.IN.  | 50  | <a href="#">02400.096.101</a> | 1/2X4.IN.  | 50 | <a href="#">02400.127.101</a> |
|            |     |                               | 3/8X4.1/2  | 50  | <a href="#">02400.096.114</a> | 1/2X4.1/2  | 50 | <a href="#">02400.127.114</a> |
| 5/16X1.1/4 | 200 | <a href="#">02400.079.031</a> | 3/8X5.IN.  | 50  | <a href="#">02400.096.127</a> | 1/2X5.IN.  | 50 | <a href="#">02400.127.127</a> |
| 5/16X1.1/2 | 200 | <a href="#">02400.079.038</a> | 3/8X5.1/2  | 50  | <a href="#">02400.096.139</a> | 1/2X5.1/2  | 25 | <a href="#">02400.127.139</a> |
| 5/16X1.3/4 | 100 | <a href="#">02400.079.044</a> | 3/8X6.IN.  | 50  | <a href="#">02400.096.152</a> | 1/2X6.IN.  | 25 | <a href="#">02400.127.152</a> |
| 5/16X2.IN. | 100 | <a href="#">02400.079.050</a> |            |     |                               | 1/2X6.1/2  | 25 | <a href="#">02400.127.165</a> |
| 5/16X2.1/4 | 100 | <a href="#">02400.079.057</a> | 7/16X1.1/2 | 100 | <a href="#">02400.111.038</a> | 1/2X7.IN.  | 25 | <a href="#">02400.127.177</a> |
| 5/16X2.1/2 | 100 | <a href="#">02400.079.063</a> | 7/16X1.3/4 | 50  | <a href="#">02400.111.044</a> | 1/2X8.IN.  | 10 | <a href="#">02400.127.203</a> |
| 5/16X2.3/4 | 100 | <a href="#">02400.079.069</a> | 7/16X2.IN. | 100 | <a href="#">02400.111.050</a> | 1/2X8.1/2  | 10 | <a href="#">02400.127.215</a> |
| 5/16X3.IN. | 100 | <a href="#">02400.079.076</a> | 7/16X2.1/2 | 50  | <a href="#">02400.111.063</a> | 1/2X10.IN. | 10 | <a href="#">02400.127.254</a> |
| 5/16X3.1/2 | 100 | <a href="#">02400.079.088</a> | 7/16X2.3/4 | 50  | <a href="#">02400.111.069</a> | 1/2X12.IN. | 10 | <a href="#">02400.127.304</a> |
| 5/16X3.3/4 | 100 | <a href="#">02400.079.095</a> | 7/16X3.IN. | 50  | <a href="#">02400.111.076</a> | 1/2X13.IN. | 10 | <a href="#">02400.127.330</a> |
| 5/16X4.IN. | 100 | <a href="#">02400.079.101</a> | 7/16X3.1/2 | 50  | <a href="#">02400.111.088</a> |            |    |                               |



**02400 Hexagon head bolt UNC**

| d x L      | Art.number                        | d x L        | Art.number                       | d x L        | Art.number                      |
|------------|-----------------------------------|--------------|----------------------------------|--------------|---------------------------------|
| 9/16X1.1/4 | 25 <a href="#">02400.142.031</a>  | 3/4X9.IN.    | 10 <a href="#">02400.191.228</a> | 1.1/8X3.IN.  | 4 <a href="#">02400.285.076</a> |
| 9/16X1.1/2 | 25 <a href="#">02400.142.038</a>  | 3/4X10.IN.   | 10 <a href="#">02400.191.254</a> | 1.1/8X3.1/2  | 4 <a href="#">02400.285.088</a> |
| 9/16X1.3/4 | 25 <a href="#">02400.142.044</a>  |              |                                  | 1.1/8X4.IN.  | 4 <a href="#">02400.285.101</a> |
| 9/16X2.IN. | 100 <a href="#">02400.142.050</a> | 7/8X2.1/4    | 25 <a href="#">02400.222.057</a> | 1.1/8X4.1/2  | 4 <a href="#">02400.285.114</a> |
| 9/16X3.IN. | 25 <a href="#">02400.142.076</a>  | 7/8X3.IN.    | 25 <a href="#">02400.222.076</a> | 1.1/8X5.IN.  | 4 <a href="#">02400.285.127</a> |
| 9/16X3.1/2 | 25 <a href="#">02400.142.088</a>  | 7/8X3.1/2    | 10 <a href="#">02400.222.088</a> | 1.1/8X5.1/2  | 4 <a href="#">02400.285.139</a> |
|            |                                   | 7/8X4.IN.    | 10 <a href="#">02400.222.101</a> | 1.1/8X6.IN.  | 4 <a href="#">02400.285.152</a> |
| 5/8X2.1/4  | 25 <a href="#">02400.158.057</a>  | 7/8X4.1/2    | 10 <a href="#">02400.222.114</a> |              |                                 |
| 5/8X2.1/2  | 25 <a href="#">02400.158.063</a>  | 7/8X5.IN.    | 10 <a href="#">02400.222.127</a> | 1.1/4X3.1/4  | 2 <a href="#">02400.317.082</a> |
| 5/8X2.3/4  | 25 <a href="#">02400.158.069</a>  | 7/8X5.1/2    | 10 <a href="#">02400.222.139</a> | 1.1/4X3.1/2  | 2 <a href="#">02400.317.088</a> |
| 5/8X3.IN.  | 25 <a href="#">02400.158.076</a>  | 7/8X6.IN.    | 10 <a href="#">02400.222.152</a> | 1.1/4X4.IN.  | 2 <a href="#">02400.317.101</a> |
| 5/8X3.1/4  | 25 <a href="#">02400.158.082</a>  | 7/8X6.1/2    | 10 <a href="#">02400.222.165</a> | 1.1/4X4.1/2  | 2 <a href="#">02400.317.114</a> |
| 5/8X3.1/2  | 25 <a href="#">02400.158.088</a>  | 7/8X7.IN.    | 10 <a href="#">02400.222.177</a> | 1.1/4X5.IN.  | 2 <a href="#">02400.317.127</a> |
| 5/8X3.3/4  | 25 <a href="#">02400.158.095</a>  | 7/8X8.IN.    | 5 <a href="#">02400.222.203</a>  | 1.1/4X5.1/2  | 2 <a href="#">02400.317.139</a> |
| 5/8X4.IN.  | 25 <a href="#">02400.158.101</a>  | 7/8X8.1/2    | 5 <a href="#">02400.222.215</a>  | 1.1/4X6.IN.  | 2 <a href="#">02400.317.152</a> |
| 5/8X4.1/2  | 25 <a href="#">02400.158.114</a>  |              |                                  | 1.1/4X6.1/2  | 2 <a href="#">02400.317.165</a> |
| 5/8X5.IN.  | 25 <a href="#">02400.158.127</a>  | 1.IN.X2.1/4  | 10 <a href="#">02400.254.057</a> | 1.1/4X7.IN.  | 2 <a href="#">02400.317.177</a> |
| 5/8X5.1/2  | 10 <a href="#">02400.158.139</a>  | 1.IN.X2.1/2  | 10 <a href="#">02400.254.063</a> | 1.1/4X8.IN.  | 2 <a href="#">02400.317.203</a> |
| 5/8X6.IN.  | 10 <a href="#">02400.158.152</a>  | 1.IN.X2.3/4  | 10 <a href="#">02400.254.069</a> | 1.1/4X9.IN.  | 2 <a href="#">02400.317.228</a> |
| 5/8X7.IN.  | 10 <a href="#">02400.158.177</a>  | 1.IN.X3.IN.  | 10 <a href="#">02400.254.076</a> | 1.1/4X10.IN. | 2 <a href="#">02400.317.254</a> |
| 5/8X8.IN.  | 10 <a href="#">02400.158.203</a>  | 1.IN.X3.1/4  | 10 <a href="#">02400.254.082</a> | 1.1/4X12.IN. | 2 <a href="#">02400.317.304</a> |
|            |                                   | 1.IN.X3.1/2  | 10 <a href="#">02400.254.088</a> |              |                                 |
| 3/4X2.1/4  | 25 <a href="#">02400.191.057</a>  | 1.IN.X4.IN.  | 10 <a href="#">02400.254.101</a> | 1.1/2X3.IN.  | 2 <a href="#">02400.381.076</a> |
| 3/4X2.1/2  | 25 <a href="#">02400.191.063</a>  | 1.IN.X4.1/2  | 10 <a href="#">02400.254.114</a> | 1.1/2X3.1/2  | 2 <a href="#">02400.381.088</a> |
| 3/4X2.3/4  | 25 <a href="#">02400.191.069</a>  | 1.IN.X5.IN.  | 10 <a href="#">02400.254.127</a> | 1.1/2X4.IN.  | 2 <a href="#">02400.381.101</a> |
| 3/4X3.IN.  | 25 <a href="#">02400.191.076</a>  | 1.IN.X5.1/2  | 10 <a href="#">02400.254.139</a> | 1.1/2X4.1/2  | 2 <a href="#">02400.381.114</a> |
| 3/4X3.1/4  | 25 <a href="#">02400.191.082</a>  | 1.IN.X6.IN.  | 10 <a href="#">02400.254.152</a> | 1.1/2X5.IN.  | 2 <a href="#">02400.381.127</a> |
| 3/4X3.1/2  | 25 <a href="#">02400.191.088</a>  | 1.IN.X6.1/2  | 5 <a href="#">02400.254.165</a>  | 1.1/2X5.1/2  | 2 <a href="#">02400.381.139</a> |
| 3/4X4.IN.  | 25 <a href="#">02400.191.101</a>  | 1.IN.X7.IN.  | 5 <a href="#">02400.254.177</a>  | 1.1/2X6.IN.  | 2 <a href="#">02400.381.152</a> |
| 3/4X4.1/2  | 10 <a href="#">02400.191.114</a>  | 1.IN.X7.1/2  | 5 <a href="#">02400.254.190</a>  | 1.1/2X8.IN.  | 2 <a href="#">02400.381.203</a> |
| 3/4X5.IN.  | 10 <a href="#">02400.191.127</a>  | 1.IN.X8.IN.  | 5 <a href="#">02400.254.203</a>  | 1.1/2X10.IN. | 1 <a href="#">02400.381.254</a> |
| 3/4X5.1/2  | 10 <a href="#">02400.191.139</a>  | 1.IN.X8.1/2  | 5 <a href="#">02400.254.215</a>  | 1.1/2X12.IN. | 1 <a href="#">02400.381.304</a> |
| 3/4X6.IN.  | 10 <a href="#">02400.191.152</a>  | 1.IN.X9.IN.  | 5 <a href="#">02400.254.228</a>  | 1.1/2X14.IN. | 1 <a href="#">02400.381.355</a> |
| 3/4X7.IN.  | 10 <a href="#">02400.191.177</a>  | 1.IN.X10.IN. | 5 <a href="#">02400.254.254</a>  |              |                                 |
| 3/4X8.IN.  | 10 <a href="#">02400.191.203</a>  |              |                                  |              |                                 |

**02420 Hexagon head bolt UNC** **X01A**

|                          |                         |
|--------------------------|-------------------------|
| <b>Thread</b>            | Unified National Coarse |
| <b>Material</b>          | Steel                   |
| <b>Class</b>             | Grade 5                 |
| <b>Surface treatment</b> | Zinc plated             |
| <b>Packaging</b>         | Standard                |



- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.

| d x L      | Art.number                        | d x L      | Art.number                        | d x L      | Art.number                        |
|------------|-----------------------------------|------------|-----------------------------------|------------|-----------------------------------|
| 1/4X1.IN.  | 200 <a href="#">02420.063.025</a> | 3/8X2.1/2  | 100 <a href="#">02420.096.063</a> | 1/2X2.3/4  | 100 <a href="#">02420.127.069</a> |
| 1/4X1.1/4  | 200 <a href="#">02420.063.031</a> | 3/8X2.3/4  | 100 <a href="#">02420.096.069</a> | 1/2X3.IN.  | 100 <a href="#">02420.127.076</a> |
| 1/4X1.1/2  | 200 <a href="#">02420.063.038</a> | 3/8X3.IN.  | 100 <a href="#">02420.096.076</a> | 1/2X3.1/4  | 50 <a href="#">02420.127.082</a>  |
| 1/4X1.3/4  | 200 <a href="#">02420.063.044</a> | 3/8X3.1/4  | 100 <a href="#">02420.096.082</a> | 1/2X3.1/2  | 50 <a href="#">02420.127.088</a>  |
| 1/4X2.IN.  | 200 <a href="#">02420.063.050</a> | 3/8X3.1/2  | 100 <a href="#">02420.096.088</a> | 1/2X3.3/4  | 50 <a href="#">02420.127.095</a>  |
| 1/4X2.1/4  | 200 <a href="#">02420.063.057</a> | 3/8X3.3/4  | 100 <a href="#">02420.096.095</a> | 1/2X4.IN.  | 50 <a href="#">02420.127.101</a>  |
| 1/4X2.1/2  | 200 <a href="#">02420.063.063</a> | 3/8X4.IN.  | 100 <a href="#">02420.096.101</a> | 1/2X4.1/2  | 50 <a href="#">02420.127.114</a>  |
| 1/4X2.3/4  | 200 <a href="#">02420.063.069</a> | 3/8X4.1/2  | 100 <a href="#">02420.096.114</a> | 1/2X5.IN.  | 50 <a href="#">02420.127.127</a>  |
| 1/4X3.IN.  | 200 <a href="#">02420.063.076</a> | 3/8X5.IN.  | 100 <a href="#">02420.096.127</a> | 1/2X5.1/2  | 50 <a href="#">02420.127.139</a>  |
| 1/4X3.1/2  | 100 <a href="#">02420.063.088</a> | 3/8X5.1/2  | 50 <a href="#">02420.096.139</a>  | 1/2X6.IN.  | 50 <a href="#">02420.127.152</a>  |
| 1/4X4.IN.  | 100 <a href="#">02420.063.101</a> | 3/8X6.IN.  | 50 <a href="#">02420.096.152</a>  | 1/2X6.1/2  | 50 <a href="#">02420.127.165</a>  |
| 1/4X4.1/2  | 100 <a href="#">02420.063.114</a> | 3/8X6.1/2  | 50 <a href="#">02420.096.165</a>  | 1/2X7.IN.  | 50 <a href="#">02420.127.177</a>  |
| 1/4X5.IN.  | 100 <a href="#">02420.063.127</a> | 3/8X7.IN.  | 50 <a href="#">02420.096.177</a>  | 1/2X7.1/2  | 50 <a href="#">02420.127.190</a>  |
| 1/4X6.IN.  | 100 <a href="#">02420.063.152</a> | 3/8X7.1/2  | 50 <a href="#">02420.096.190</a>  | 1/2X8.IN.  | 50 <a href="#">02420.127.203</a>  |
|            |                                   |            |                                   |            |                                   |
| 5/16X1.1/4 | 200 <a href="#">02420.079.031</a> | 7/16X1.1/2 | 100 <a href="#">02420.111.038</a> | 9/16X2.IN. | 50 <a href="#">02420.142.050</a>  |
| 5/16X1.1/2 | 200 <a href="#">02420.079.038</a> | 7/16X1.3/4 | 100 <a href="#">02420.111.044</a> | 9/16X2.1/4 | 25 <a href="#">02420.142.057</a>  |
| 5/16X1.3/4 | 200 <a href="#">02420.079.044</a> | 7/16X2.IN. | 100 <a href="#">02420.111.050</a> | 9/16X2.1/2 | 25 <a href="#">02420.142.063</a>  |
| 5/16X2.IN. | 200 <a href="#">02420.079.050</a> | 7/16X2.1/4 | 100 <a href="#">02420.111.057</a> | 9/16X3.IN. | 25 <a href="#">02420.142.076</a>  |
| 5/16X2.1/4 | 200 <a href="#">02420.079.057</a> | 7/16X2.1/2 | 100 <a href="#">02420.111.063</a> | 9/16X3.1/2 | 25 <a href="#">02420.142.088</a>  |
| 5/16X2.1/2 | 200 <a href="#">02420.079.063</a> | 7/16X2.3/4 | 100 <a href="#">02420.111.069</a> | 9/16X4.IN. | 25 <a href="#">02420.142.101</a>  |
| 5/16X2.3/4 | 200 <a href="#">02420.079.069</a> | 7/16X3.IN. | 100 <a href="#">02420.111.076</a> | 9/16X4.1/2 | 25 <a href="#">02420.142.114</a>  |
| 5/16X3.IN. | 200 <a href="#">02420.079.076</a> | 7/16X3.1/4 | 50 <a href="#">02420.111.082</a>  | 9/16X5.IN. | 25 <a href="#">02420.142.127</a>  |
| 5/16X3.1/4 | 100 <a href="#">02420.079.082</a> | 7/16X3.1/2 | 50 <a href="#">02420.111.088</a>  | 9/16X6.IN. | 25 <a href="#">02420.142.152</a>  |
| 5/16X3.1/2 | 100 <a href="#">02420.079.088</a> | 7/16X3.3/4 | 50 <a href="#">02420.111.095</a>  |            |                                   |
| 5/16X3.3/4 | 100 <a href="#">02420.079.095</a> | 7/16X4.IN. | 50 <a href="#">02420.111.101</a>  | 5/8X2.IN.  | 50 <a href="#">02420.158.050</a>  |
| 5/16X4.IN. | 100 <a href="#">02420.079.101</a> | 7/16X4.1/2 | 50 <a href="#">02420.111.114</a>  | 5/8X2.1/4  | 50 <a href="#">02420.158.057</a>  |
| 5/16X4.1/2 | 100 <a href="#">02420.079.114</a> | 7/16X5.IN. | 50 <a href="#">02420.111.127</a>  | 5/8X2.1/2  | 50 <a href="#">02420.158.063</a>  |
| 5/16X5.IN. | 100 <a href="#">02420.079.127</a> | 7/16X5.1/2 | 50 <a href="#">02420.111.139</a>  | 5/8X2.3/4  | 50 <a href="#">02420.158.069</a>  |
| 5/16X6.IN. | 50 <a href="#">02420.079.152</a>  | 7/16X6.IN. | 50 <a href="#">02420.111.152</a>  | 5/8X3.IN.  | 50 <a href="#">02420.158.076</a>  |
|            |                                   |            |                                   | 5/8X3.1/4  | 50 <a href="#">02420.158.082</a>  |
|            |                                   |            |                                   | 5/8X3.1/2  | 25 <a href="#">02420.158.088</a>  |
|            |                                   |            |                                   | 5/8X3.3/4  | 25 <a href="#">02420.158.095</a>  |
| 3/8X1.1/2  | 200 <a href="#">02420.096.038</a> | 1/2X1.3/4  | 100 <a href="#">02420.127.044</a> | 5/8X4.1/2  | 25 <a href="#">02420.158.101</a>  |
| 3/8X1.3/4  | 200 <a href="#">02420.096.044</a> | 1/2X2.IN.  | 100 <a href="#">02420.127.050</a> |            |                                   |
| 3/8X2.IN.  | 200 <a href="#">02420.096.050</a> | 1/2X2.1/4  | 100 <a href="#">02420.127.057</a> |            |                                   |
| 3/8X2.1/4  | 100 <a href="#">02420.096.057</a> | 1/2X2.1/2  | 100 <a href="#">02420.127.063</a> |            |                                   |

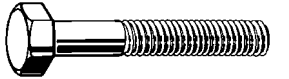
**02420 Hexagon head bolt UNC** ←

1

| d x L      | ☒  | Art.number                    | d x L       | ☒  | Art.number                    | d x L        | ☒   | Art.number                    |
|------------|----|-------------------------------|-------------|----|-------------------------------|--------------|-----|-------------------------------|
| 5/8X5.IN.  | 25 | <a href="#">02420.158.127</a> | 3/4X7.IN.   | 10 | <a href="#">02420.191.177</a> | 1.IN.X4.1/2  | 10  | <a href="#">02420.254.114</a> |
| 5/8X5.1/2  | 25 | <a href="#">02420.158.139</a> | 3/4X7.1/2   | 10 | <a href="#">02420.191.190</a> | 1.IN.X5.IN.  | 10  | <a href="#">02420.254.127</a> |
| 5/8X6.IN.  | 25 | <a href="#">02420.158.152</a> | 3/4X8.IN.   | 10 | <a href="#">02420.191.203</a> | 1.IN.X5.1/2  | 10  | <a href="#">02420.254.139</a> |
| 5/8X6.1/2  | 25 | <a href="#">02420.158.165</a> |             |    |                               | 1.IN.X6.IN.  | 10  | <a href="#">02420.254.152</a> |
| 5/8X7.IN.  | 25 | <a href="#">02420.158.177</a> | 7/8X3.IN.   | 25 | <a href="#">02420.222.076</a> | 1.IN.X6.1/2  | 10  | <a href="#">02420.254.165</a> |
| 5/8X8.IN.  | 25 | <a href="#">02420.158.203</a> | 7/8X3.1/4   | 25 | <a href="#">02420.222.082</a> | 1.IN.X7.IN.  | 10  | <a href="#">02420.254.177</a> |
| 5/8X10.IN. | 25 | <a href="#">02420.158.254</a> | 7/8X3.1/2   | 25 | <a href="#">02420.222.088</a> | 1.IN.X7.1/2  | 100 | <a href="#">02420.254.190</a> |
|            |    |                               | 7/8X4.IN.   | 25 | <a href="#">02420.222.101</a> | 1.IN.X8.IN.  | 10  | <a href="#">02420.254.203</a> |
| 3/4X2.1/4  | 50 | <a href="#">02420.191.057</a> | 7/8X4.1/2   | 25 | <a href="#">02420.222.114</a> | 1.IN.X10.IN. | 10  | <a href="#">02420.254.254</a> |
| 3/4X2.1/2  | 50 | <a href="#">02420.191.063</a> | 7/8X5.IN.   | 25 | <a href="#">02420.222.127</a> |              |     |                               |
| 3/4X2.3/4  | 25 | <a href="#">02420.191.069</a> | 7/8X5.1/2   | 25 | <a href="#">02420.222.139</a> | 1.1/4X3.1/2  | 5   | <a href="#">02420.317.088</a> |
| 3/4X3.IN.  | 25 | <a href="#">02420.191.076</a> | 7/8X6.IN.   | 25 | <a href="#">02420.222.152</a> | 1.1/4X5.1/2  | 5   | <a href="#">02420.317.139</a> |
| 3/4X3.1/4  | 25 | <a href="#">02420.191.082</a> | 7/8X6.1/2   | 10 | <a href="#">02420.222.165</a> | 1.1/4X6.IN.  | 5   | <a href="#">02420.317.152</a> |
| 3/4X3.1/2  | 25 | <a href="#">02420.191.088</a> | 7/8X7.IN.   | 10 | <a href="#">02420.222.177</a> | 1.1/4X6.1/2  | 5   | <a href="#">02420.317.165</a> |
| 3/4X3.3/4  | 25 | <a href="#">02420.191.095</a> | 7/8X8.IN.   | 10 | <a href="#">02420.222.203</a> | 1.1/4X7.IN.  | 5   | <a href="#">02420.317.177</a> |
| 3/4X4.IN.  | 25 | <a href="#">02420.191.101</a> | 7/8X10.IN.  | 10 | <a href="#">02420.222.254</a> | 1.1/4X10.IN. | 5   | <a href="#">02420.317.254</a> |
| 3/4X4.1/2  | 25 | <a href="#">02420.191.114</a> |             |    |                               | 1.1/4X12.IN. | 5   | <a href="#">02420.317.304</a> |
| 3/4X5.IN.  | 25 | <a href="#">02420.191.127</a> | 1.IN.X3.IN. | 10 | <a href="#">02420.254.076</a> |              |     |                               |
| 3/4X5.1/2  | 25 | <a href="#">02420.191.139</a> | 1.IN.X3.1/4 | 10 | <a href="#">02420.254.082</a> | 1.1/2X4.IN.  | 5   | <a href="#">02420.381.101</a> |
| 3/4X6.IN.  | 25 | <a href="#">02420.191.152</a> | 1.IN.X3.1/2 | 10 | <a href="#">02420.254.088</a> |              |     |                               |
| 3/4X6.1/2  | 10 | <a href="#">02420.191.165</a> | 1.IN.X4.IN. | 10 | <a href="#">02420.254.101</a> |              |     |                               |

**51006 Hexagon head bolt UNC** X15A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Stainless steel A2      |
| <b>Packaging</b> | Standard                |

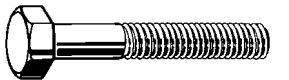


| d x L      | ☒   | Art.number                    | d x L      | ☒  | Art.number                    | d x L       | ☒ | Art.number                    |
|------------|-----|-------------------------------|------------|----|-------------------------------|-------------|---|-------------------------------|
| 1/4X1.IN.  | 100 | <a href="#">51006.063.025</a> | 3/8X3.1/2  | 25 | <a href="#">51006.096.088</a> | 5/8X3.IN.   | 5 | <a href="#">51006.158.076</a> |
| 1/4X1.1/4  | 100 | <a href="#">51006.063.031</a> | 3/8X3.3/4  | 25 | <a href="#">51006.096.095</a> | 5/8X3.1/4   | 5 | <a href="#">51006.158.082</a> |
| 1/4X1.1/2  | 100 | <a href="#">51006.063.038</a> | 3/8X4.IN.  | 25 | <a href="#">51006.096.101</a> | 5/8X3.1/2   | 5 | <a href="#">51006.158.088</a> |
| 1/4X1.3/4  | 50  | <a href="#">51006.063.044</a> | 3/8X4.1/2  | 25 | <a href="#">51006.096.114</a> | 5/8X3.3/4   | 5 | <a href="#">51006.158.095</a> |
| 1/4X2.IN.  | 50  | <a href="#">51006.063.050</a> | 3/8X5.IN.  | 25 | <a href="#">51006.096.127</a> | 5/8X4.IN.   | 5 | <a href="#">51006.158.101</a> |
| 1/4X2.1/4  | 50  | <a href="#">51006.063.057</a> | 3/8X6.IN.  | 25 | <a href="#">51006.096.152</a> | 5/8X4.1/2   | 5 | <a href="#">51006.158.114</a> |
| 1/4X2.1/2  | 50  | <a href="#">51006.063.063</a> | 3/8X7.IN.  | 25 | <a href="#">51006.096.177</a> | 5/8X5.IN.   | 5 | <a href="#">51006.158.127</a> |
| 1/4X2.3/4  | 50  | <a href="#">51006.063.069</a> |            |    |                               | 5/8X5.1/2   | 5 | <a href="#">51006.158.139</a> |
| 1/4X3.IN.  | 50  | <a href="#">51006.063.076</a> | 7/16X3/4   | 25 | <a href="#">51006.111.019</a> | 5/8X6.IN.   | 5 | <a href="#">51006.158.152</a> |
| 1/4X3.1/2  | 50  | <a href="#">51006.063.088</a> | 7/16X1.IN. | 25 | <a href="#">51006.111.025</a> | 5/8X6.1/2   | 5 | <a href="#">51006.158.165</a> |
| 1/4X4.IN.  | 50  | <a href="#">51006.063.101</a> | 7/16X1.1/4 | 25 | <a href="#">51006.111.031</a> | 5/8X7.IN.   | 5 | <a href="#">51006.158.177</a> |
| 1/4X4.1/2  | 50  | <a href="#">51006.063.114</a> | 7/16X1.1/2 | 25 | <a href="#">51006.111.038</a> |             |   |                               |
| 1/4X5.IN.  | 50  | <a href="#">51006.063.127</a> | 7/16X1.3/4 | 25 | <a href="#">51006.111.044</a> | 3/4X2.IN.   | 5 | <a href="#">51006.191.050</a> |
|            |     |                               | 7/16X2.IN. | 25 | <a href="#">51006.111.050</a> | 3/4X2.1/4   | 5 | <a href="#">51006.191.057</a> |
| 5/16X1.IN. | 100 | <a href="#">51006.079.025</a> | 7/16X4.IN. | 25 | <a href="#">51006.111.101</a> | 3/4X2.1/2   | 5 | <a href="#">51006.191.063</a> |
| 5/16X1.1/2 | 100 | <a href="#">51006.079.038</a> |            |    |                               | 3/4X2.3/4   | 5 | <a href="#">51006.191.069</a> |
| 5/16X1.3/4 | 50  | <a href="#">51006.079.044</a> | 1/2X1.3/4  | 25 | <a href="#">51006.127.044</a> | 3/4X3.IN.   | 5 | <a href="#">51006.191.076</a> |
| 5/16X2.IN. | 50  | <a href="#">51006.079.050</a> | 1/2X2.IN.  | 25 | <a href="#">51006.127.050</a> | 3/4X3.1/4   | 5 | <a href="#">51006.191.082</a> |
| 5/16X2.1/4 | 50  | <a href="#">51006.079.057</a> | 1/2X2.1/4  | 25 | <a href="#">51006.127.057</a> | 3/4X3.1/2   | 5 | <a href="#">51006.191.088</a> |
| 5/16X2.1/2 | 50  | <a href="#">51006.079.063</a> | 1/2X2.1/2  | 25 | <a href="#">51006.127.063</a> | 3/4X4.IN.   | 5 | <a href="#">51006.191.101</a> |
| 5/16X2.3/4 | 50  | <a href="#">51006.079.069</a> | 1/2X2.3/4  | 10 | <a href="#">51006.127.069</a> | 3/4X4.1/2   | 5 | <a href="#">51006.191.114</a> |
| 5/16X3.IN. | 50  | <a href="#">51006.079.076</a> | 1/2X3.IN.  | 10 | <a href="#">51006.127.076</a> | 3/4X5.IN.   | 5 | <a href="#">51006.191.127</a> |
| 5/16X3.1/2 | 50  | <a href="#">51006.079.088</a> | 1/2X3.1/4  | 10 | <a href="#">51006.127.082</a> | 3/4X6.IN.   | 5 | <a href="#">51006.191.152</a> |
| 5/16X4.IN. | 50  | <a href="#">51006.079.101</a> | 1/2X3.1/2  | 10 | <a href="#">51006.127.088</a> |             |   |                               |
| 5/16X4.1/2 | 50  | <a href="#">51006.079.114</a> | 1/2X3.3/4  | 10 | <a href="#">51006.127.095</a> | 7/8X2.1/2   | 5 | <a href="#">51006.222.063</a> |
| 5/16X5.IN. | 50  | <a href="#">51006.079.127</a> | 1/2X4.IN.  | 10 | <a href="#">51006.127.101</a> | 7/8X3.IN.   | 5 | <a href="#">51006.222.076</a> |
|            |     |                               | 1/2X4.1/2  | 10 | <a href="#">51006.127.114</a> | 7/8X4.IN.   | 5 | <a href="#">51006.222.101</a> |
| 3/8X1.1/4  | 50  | <a href="#">51006.096.031</a> | 1/2X5.IN.  | 10 | <a href="#">51006.127.127</a> |             |   |                               |
| 3/8X1.1/2  | 50  | <a href="#">51006.096.038</a> | 1/2X5.1/2  | 10 | <a href="#">51006.127.139</a> | 1.IN.X2.IN. | 5 | <a href="#">51006.254.050</a> |
| 3/8X1.3/4  | 50  | <a href="#">51006.096.044</a> | 1/2X6.IN.  | 10 | <a href="#">51006.127.152</a> | 1.IN.X2.3/4 | 5 | <a href="#">51006.254.069</a> |
| 3/8X2.IN.  | 50  | <a href="#">51006.096.050</a> |            |    |                               | 1.IN.X3.IN. | 5 | <a href="#">51006.254.076</a> |
| 3/8X2.1/4  | 25  | <a href="#">51006.096.057</a> | 5/8X1.3/4  | 10 | <a href="#">51006.158.044</a> | 1.IN.X4.IN. | 5 | <a href="#">51006.254.101</a> |
| 3/8X2.1/2  | 25  | <a href="#">51006.096.063</a> | 5/8X2.IN.  | 10 | <a href="#">51006.158.050</a> | 1.IN.X5.IN. | 5 | <a href="#">51006.254.127</a> |
| 3/8X2.3/4  | 25  | <a href="#">51006.096.069</a> | 5/8X2.1/4  | 10 | <a href="#">51006.158.057</a> | 1.IN.X5.1/2 | 5 | <a href="#">51006.254.139</a> |
| 3/8X3.IN.  | 25  | <a href="#">51006.096.076</a> | 5/8X2.1/2  | 10 | <a href="#">51006.158.063</a> | 1.IN.X6.IN. | 5 | <a href="#">51006.254.152</a> |
| 3/8X3.1/4  | 25  | <a href="#">51006.096.082</a> | 5/8X2.3/4  | 10 | <a href="#">51006.158.069</a> |             |   |                               |

• Depending on availability the austenitic steel type is comparable to AISI 304 with mechanical properties acc. to ASTM F593.

**55006 Hexagon head bolt UNC** X15A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Stainless steel A4      |
| <b>Packaging</b> | Standard                |



| d x L     | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 1/4X1.1/4 | 100 | <a href="#">55006.063.031</a> | 1/4X2.1/2  | 50  | <a href="#">55006.063.063</a> | 5/16X1.1/4 | 100 | <a href="#">55006.079.031</a> |
| 1/4X1.1/2 | 100 | <a href="#">55006.063.038</a> | 1/4X3.IN.  | 50  | <a href="#">55006.063.076</a> | 5/16X1.1/2 | 100 | <a href="#">55006.079.038</a> |
| 1/4X1.3/4 | 50  | <a href="#">55006.063.044</a> | 1/4X3.1/2  | 50  | <a href="#">55006.063.088</a> | 5/16X1.3/4 | 50  | <a href="#">55006.079.044</a> |
| 1/4X2.IN. | 50  | <a href="#">55006.063.050</a> |            |     |                               | 5/16X2.IN. | 50  | <a href="#">55006.079.050</a> |
| 1/4X2.1/4 | 50  | <a href="#">55006.063.057</a> | 5/16X1.IN. | 100 | <a href="#">55006.079.025</a> | 5/16X2.1/4 | 50  | <a href="#">55006.079.057</a> |

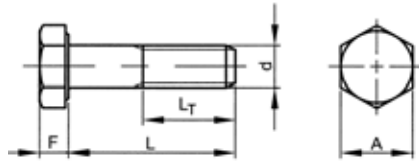
**55006 Hexagon head bolt UNC** ←

| d x L      | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L       | ☒  | Art.number                    |
|------------|----|-------------------------------|-----------|----|-------------------------------|-------------|----|-------------------------------|
| 5/16X2.1/2 | 50 | <a href="#">55006.079.063</a> | 1/2X2.3/4 | 10 | <a href="#">55006.127.069</a> | 3/4X2.1/4   | 5  | <a href="#">55006.191.057</a> |
| 5/16X3.IN. | 50 | <a href="#">55006.079.076</a> | 1/2X3.IN. | 10 | <a href="#">55006.127.076</a> | 3/4X2.1/2   | 5  | <a href="#">55006.191.063</a> |
| 5/16X3.1/2 | 50 | <a href="#">55006.079.088</a> | 1/2X3.1/2 | 10 | <a href="#">55006.127.088</a> | 3/4X2.3/4   | 5  | <a href="#">55006.191.069</a> |
| 5/16X4.IN. | 50 | <a href="#">55006.079.101</a> | 1/2X4.IN. | 10 | <a href="#">55006.127.101</a> | 3/4X3.IN.   | 5  | <a href="#">55006.191.076</a> |
|            |    |                               | 1/2X4.1/2 | 10 | <a href="#">55006.127.114</a> | 3/4X3.1/2   | 5  | <a href="#">55006.191.088</a> |
| 3/8X1.1/4  | 50 | <a href="#">55006.096.031</a> | 1/2X5.IN. | 10 | <a href="#">55006.127.127</a> | 3/4X4.IN.   | 5  | <a href="#">55006.191.101</a> |
| 3/8X1.1/2  | 50 | <a href="#">55006.096.038</a> |           |    |                               | 3/4X4.1/2   | 5  | <a href="#">55006.191.114</a> |
| 3/8X1.3/4  | 50 | <a href="#">55006.096.044</a> | 5/8X1.3/4 | 10 | <a href="#">55006.158.044</a> | 3/4X5.IN.   | 5  | <a href="#">55006.191.127</a> |
| 3/8X2.IN.  | 50 | <a href="#">55006.096.050</a> | 5/8X2.IN. | 10 | <a href="#">55006.158.050</a> | 3/4X6.IN.   | 5  | <a href="#">55006.191.152</a> |
| 3/8X2.1/2  | 25 | <a href="#">55006.096.063</a> | 5/8X2.1/4 | 10 | <a href="#">55006.158.057</a> |             |    |                               |
| 3/8X2.3/4  | 25 | <a href="#">55006.096.069</a> | 5/8X2.1/2 | 10 | <a href="#">55006.158.063</a> | 7/8X2.1/2   | 20 | <a href="#">55006.222.063</a> |
| 3/8X3.IN.  | 25 | <a href="#">55006.096.076</a> | 5/8X2.3/4 | 10 | <a href="#">55006.158.069</a> | 7/8X3.IN.   | 5  | <a href="#">55006.222.076</a> |
| 3/8X3.1/2  | 25 | <a href="#">55006.096.088</a> | 5/8X3.IN. | 5  | <a href="#">55006.158.076</a> | 7/8X3.1/2   | 20 | <a href="#">55006.222.088</a> |
| 3/8X4.IN.  | 25 | <a href="#">55006.096.101</a> | 5/8X3.1/4 | 5  | <a href="#">55006.158.082</a> | 7/8X4.IN.   | 10 | <a href="#">55006.222.101</a> |
| 3/8X4.1/2  | 10 | <a href="#">55006.096.114</a> | 5/8X3.1/2 | 5  | <a href="#">55006.158.088</a> | 7/8X4.1/2   | 5  | <a href="#">55006.222.114</a> |
| 3/8X5.IN.  | 10 | <a href="#">55006.096.127</a> | 5/8X3.3/4 | 5  | <a href="#">55006.158.095</a> | 7/8X5.IN.   | 5  | <a href="#">55006.222.127</a> |
| 3/8X6.IN.  | 10 | <a href="#">55006.096.152</a> | 5/8X4.IN. | 5  | <a href="#">55006.158.101</a> |             |    |                               |
|            |    |                               | 5/8X5.IN. | 5  | <a href="#">55006.158.127</a> | 1.IN.X2.IN. | 1  | <a href="#">55006.254.050</a> |
| 1/2X1.1/2  | 10 | <a href="#">55006.127.038</a> | 5/8X6.IN. | 5  | <a href="#">55006.158.152</a> | 1.IN.X3.IN. | 1  | <a href="#">55006.254.076</a> |
| 1/2X1.3/4  | 25 | <a href="#">55006.127.044</a> | 5/8X7.IN. | 10 | <a href="#">55006.158.177</a> | 1.IN.X4.IN. | 1  | <a href="#">55006.254.101</a> |
| 1/2X2.IN.  | 25 | <a href="#">55006.127.050</a> |           |    |                               |             |    |                               |
| 1/2X2.1/2  | 25 | <a href="#">55006.127.063</a> | 3/4X2.IN. | 5  | <a href="#">55006.191.050</a> |             |    |                               |

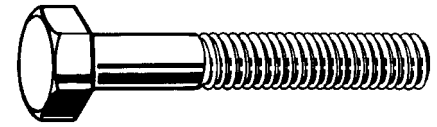
• Depending on availability the austenitic steel type is comparable to AISI 316 with mechanical properties acc. to ASTM F593.

## Hexagon head bolt UNF

1



ANSI ≈ B18.2.1  
BS ≈ 1768



### Technical data

| d         | Threads per inch | L <sub>T</sub> (min.): L ≤ 6.IN. | L <sub>T</sub> (min.): L > 6.IN. | F    | A      |
|-----------|------------------|----------------------------------|----------------------------------|------|--------|
| No.10     | 32               | -                                | -                                | 3    | 5/16   |
| 1/4       | 28               | 19                               | 25                               | 4    | 7/16   |
| 5/16      | 24               | 22                               | 29                               | 5,2  | 1/2    |
| 3/8       | 24               | 25                               | 32                               | 6    | 9/16   |
| 7/16      | 20               | 29                               | 35                               | 7,1  | 5/8    |
| 1/2       | 20               | 32                               | 38                               | 7,9  | 3/4    |
| 9/16      | 18               | 35                               | 41                               | 9,1  | 13/16  |
| 5/8       | 18               | 38                               | 44                               | 9,9  | 15/16  |
| 3/4       | 16               | 44                               | 51                               | 11,9 | 1.1/8  |
| 7/8       | 14               | 51                               | 57                               | 13,9 | 1.5/16 |
| 1.IN.-12G | 12               | 57                               | 64                               | 15,5 | 1.1/2  |
| 1.IN.-14G | 14               | 57                               | 64                               | 15,5 | 1.1/2  |
| 1.1/4     | 12               | 70                               | 76                               | 19,8 | 1.7/8  |
| 1.1/2     | 12               | 83                               | 89                               | 23,8 | 2.1/4  |

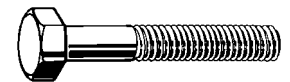
### Article groups


| Thread | Driving features | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|---------|-------------------|-----------|-------|------|
| UNF    | hexagon          | St        | Grade 5 |                   | Standard  | 02000 | 1-42 |
| UNF    | hexagon          | St        | Grade 5 | Zipl              | Standard  | 02120 | 1-43 |
| UNF    | hexagon          | St.St. A2 |         |                   | Standard  | 51007 | 1-43 |

#### 02000 Hexagon head bolt UNF

X01A

**Thread** Unified National Fine  
**Material** Steel  
**Class** Grade 5  
**Packaging** Standard



- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

| d x L      | ☒   | Art.number                    | d x L      | ☒  | Art.number                    | d x L       | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|----|-------------------------------|-------------|----|-------------------------------|
| 1/4X1.1/2  | 200 | <a href="#">02000.063.038</a> | 1/2X2.1/4  | 50 | <a href="#">02000.127.057</a> | 3/4X3.IN.   | 25 | <a href="#">02000.191.076</a> |
| 5/16X1.1/4 | 200 | <a href="#">02000.079.031</a> | 1/2X2.1/2  | 50 | <a href="#">02000.127.063</a> | 3/4X3.1/4   | 25 | <a href="#">02000.191.082</a> |
| 5/16X1.1/2 | 200 | <a href="#">02000.079.038</a> | 1/2X3.IN.  | 50 | <a href="#">02000.127.076</a> | 3/4X3.1/2   | 25 | <a href="#">02000.191.088</a> |
| 5/16X2.IN. | 100 | <a href="#">02000.079.050</a> | 1/2X3.1/2  | 50 | <a href="#">02000.127.088</a> | 3/4X4.IN.   | 25 | <a href="#">02000.191.101</a> |
| 5/16X2.1/4 | 100 | <a href="#">02000.079.057</a> | 1/2X4.IN.  | 50 | <a href="#">02000.127.101</a> | 3/4X4.1/2   | 10 | <a href="#">02000.191.114</a> |
| 5/16X2.1/2 | 100 | <a href="#">02000.079.063</a> | 1/2X4.1/2  | 50 | <a href="#">02000.127.114</a> | 3/4X5.IN.   | 25 | <a href="#">02000.191.127</a> |
|            |     |                               | 1/2X7.IN.  | 25 | <a href="#">02000.127.177</a> | 3/4X5.1/2   | 10 | <a href="#">02000.191.139</a> |
|            |     |                               | 1/2X8.IN.  | 25 | <a href="#">02000.127.203</a> | 3/4X6.IN.   | 25 | <a href="#">02000.191.152</a> |
| 3/8X1.1/2  | 100 | <a href="#">02000.096.038</a> |            |    |                               | 3/4X7.IN.   | 25 | <a href="#">02000.191.177</a> |
| 3/8X1.3/4  | 100 | <a href="#">02000.096.044</a> |            |    |                               |             |    |                               |
| 3/8X2.IN.  | 100 | <a href="#">02000.096.050</a> | 9/16X2.1/2 | 25 | <a href="#">02000.142.063</a> |             |    |                               |
| 3/8X2.1/4  | 100 | <a href="#">02000.096.057</a> | 5/8X2.1/4  | 25 | <a href="#">02000.158.057</a> | 7/8X2.1/2   | 25 | <a href="#">02000.222.063</a> |
| 3/8X2.1/2  | 100 | <a href="#">02000.096.063</a> | 5/8X2.1/2  | 25 | <a href="#">02000.158.063</a> | 7/8X3.IN.   | 25 | <a href="#">02000.222.076</a> |
| 3/8X2.3/4  | 100 | <a href="#">02000.096.069</a> | 5/8X2.3/4  | 25 | <a href="#">02000.158.069</a> | 7/8X3.1/2   | 10 | <a href="#">02000.222.088</a> |
| 3/8X3.IN.  | 100 | <a href="#">02000.096.076</a> | 5/8X3.IN.  | 25 | <a href="#">02000.158.076</a> | 7/8X4.IN.   | 25 | <a href="#">02000.222.101</a> |
|            |     |                               | 5/8X3.1/4  | 25 | <a href="#">02000.158.082</a> | 7/8X4.1/2   | 10 | <a href="#">02000.222.114</a> |
|            |     |                               | 5/8X3.1/2  | 25 | <a href="#">02000.158.088</a> | 7/8X5.IN.   | 10 | <a href="#">02000.222.127</a> |
| 7/16X1.1/2 | 100 | <a href="#">02000.111.038</a> | 5/8X3.3/4  | 10 | <a href="#">02000.158.095</a> | 7/8X5.1/2   | 10 | <a href="#">02000.222.139</a> |
| 7/16X1.3/4 | 100 | <a href="#">02000.111.044</a> | 5/8X4.IN.  | 25 | <a href="#">02000.158.101</a> | 7/8X6.IN.   | 10 | <a href="#">02000.222.152</a> |
| 7/16X2.IN. | 100 | <a href="#">02000.111.050</a> | 5/8X4.1/2  | 25 | <a href="#">02000.158.114</a> | 7/8X7.IN.   | 10 | <a href="#">02000.222.177</a> |
| 7/16X2.1/4 | 50  | <a href="#">02000.111.057</a> | 5/8X5.IN.  | 25 | <a href="#">02000.158.127</a> | 7/8X8.IN.   | 5  | <a href="#">02000.222.203</a> |
| 7/16X2.1/2 | 50  | <a href="#">02000.111.063</a> | 5/8X5.1/2  | 25 | <a href="#">02000.158.139</a> | 7/8X10.IN.  | 5  | <a href="#">02000.222.254</a> |
| 7/16X3.IN. | 50  | <a href="#">02000.111.076</a> | 5/8X6.IN.  | 25 | <a href="#">02000.158.152</a> |             |    |                               |
| 7/16X3.1/2 | 50  | <a href="#">02000.111.088</a> | 5/8X7.IN.  | 25 | <a href="#">02000.158.177</a> |             |    |                               |
|            |     |                               |            |    |                               | 1-12GX3.1/2 | 25 | <a href="#">02000.255.088</a> |
| 1/2X1.3/4  | 50  | <a href="#">02000.127.044</a> |            |    |                               | 1-12GX4.IN. | 25 | <a href="#">02000.255.101</a> |
| 1/2X2.IN.  | 50  | <a href="#">02000.127.050</a> | 3/4X2.1/4  | 25 | <a href="#">02000.191.057</a> | 1-12GX4.1/2 | 10 | <a href="#">02000.255.114</a> |
|            |     |                               | 3/4X2.1/2  | 25 | <a href="#">02000.191.063</a> | 1-12GX5.IN. | 10 | <a href="#">02000.255.127</a> |

**02000 Hexagon head bolt UNF** ➡

| d x L       | ☒  | Art.number                    | d x L       | ☒  | Art.number                    | d x L        | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|--------------|----|-------------------------------|
| 1-12GX6.IN. | 10 | <a href="#">02000.255.152</a> | 1-14GX3.1/2 | 25 | <a href="#">02000.256.088</a> | 1-14GX7.IN.  | 10 | <a href="#">02000.256.177</a> |
| 1-12GX7.IN. | 10 | <a href="#">02000.255.177</a> | 1-14GX4.IN. | 10 | <a href="#">02000.256.101</a> | 1-14GX8.IN.  | 10 | <a href="#">02000.256.203</a> |
| 1-12GX8.IN. | 10 | <a href="#">02000.255.203</a> | 1-14GX5.IN. | 10 | <a href="#">02000.256.127</a> | 1-14GX10.IN. | 5  | <a href="#">02000.256.254</a> |
| 1-14GX3.IN. | 25 | <a href="#">02000.256.076</a> | 1-14GX5.1/2 | 5  | <a href="#">02000.256.139</a> |              |    |                               |
|             |    |                               | 1-14GX6.IN. | 10 | <a href="#">02000.256.152</a> |              |    |                               |

**02120 Hexagon head bolt UNF** X01A

|                          |                       |  |
|--------------------------|-----------------------|--|
| <b>Thread</b>            | Unified National Fine |  |
| <b>Material</b>          | Steel                 |  |
| <b>Class</b>             | Grade 5               |  |
| <b>Surface treatment</b> | Zinc plated           |  |
| <b>Packaging</b>         | Standard              |  |

- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L        | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|--------------|----|-------------------------------|
| 1/4X1.IN.  | 200 | <a href="#">02120.063.025</a> | 7/16X1.3/4 | 100 | <a href="#">02120.111.044</a> | 5/8X3.1/2    | 25 | <a href="#">02120.158.088</a> |
| 1/4X1.1/4  | 200 | <a href="#">02120.063.031</a> | 7/16X2.IN. | 100 | <a href="#">02120.111.050</a> | 5/8X3.3/4    | 25 | <a href="#">02120.158.095</a> |
| 1/4X1.1/2  | 200 | <a href="#">02120.063.038</a> | 7/16X2.1/4 | 100 | <a href="#">02120.111.057</a> | 5/8X4.IN.    | 25 | <a href="#">02120.158.101</a> |
| 1/4X1.3/4  | 200 | <a href="#">02120.063.044</a> | 7/16X2.1/2 | 100 | <a href="#">02120.111.063</a> | 5/8X4.1/2    | 25 | <a href="#">02120.158.114</a> |
| 1/4X2.IN.  | 200 | <a href="#">02120.063.050</a> | 7/16X2.3/4 | 100 | <a href="#">02120.111.069</a> | 5/8X5.IN.    | 25 | <a href="#">02120.158.127</a> |
| 1/4X2.1/4  | 200 | <a href="#">02120.063.057</a> | 7/16X3.IN. | 100 | <a href="#">02120.111.076</a> | 5/8X5.1/2    | 25 | <a href="#">02120.158.139</a> |
| 1/4X2.1/2  | 200 | <a href="#">02120.063.063</a> | 7/16X3.1/4 | 50  | <a href="#">02120.111.082</a> | 5/8X6.IN.    | 25 | <a href="#">02120.158.152</a> |
| 1/4X2.3/4  | 200 | <a href="#">02120.063.069</a> | 7/16X3.1/2 | 50  | <a href="#">02120.111.088</a> | 5/8X7.IN.    | 25 | <a href="#">02120.158.177</a> |
| 1/4X3.IN.  | 200 | <a href="#">02120.063.076</a> | 7/16X4.IN. | 50  | <a href="#">02120.111.101</a> | 5/8X8.IN.    | 25 | <a href="#">02120.158.203</a> |
| 1/4X3.1/2  | 100 | <a href="#">02120.063.088</a> | 7/16X4.1/2 | 50  | <a href="#">02120.111.114</a> |              |    |                               |
| 1/4X4.IN.  | 100 | <a href="#">02120.063.101</a> | 7/16X5.IN. | 50  | <a href="#">02120.111.127</a> | 3/4X2.1/4    | 50 | <a href="#">02120.191.057</a> |
| 1/4X5.IN.  | 100 | <a href="#">02120.063.127</a> | 7/16X5.1/2 | 50  | <a href="#">02120.111.139</a> | 3/4X2.1/2    | 50 | <a href="#">02120.191.063</a> |
| 1/4X6.IN.  | 100 | <a href="#">02120.063.152</a> | 7/16X6.IN. | 50  | <a href="#">02120.111.152</a> | 3/4X2.3/4    | 25 | <a href="#">02120.191.069</a> |
|            |     |                               |            |     |                               | 3/4X3.IN.    | 25 | <a href="#">02120.191.076</a> |
| 5/16X1.1/4 | 200 | <a href="#">02120.079.031</a> | 1/2X1.3/4  | 100 | <a href="#">02120.127.044</a> | 3/4X3.1/4    | 25 | <a href="#">02120.191.082</a> |
| 5/16X1.1/2 | 200 | <a href="#">02120.079.038</a> | 1/2X2.IN.  | 100 | <a href="#">02120.127.050</a> | 3/4X3.1/2    | 25 | <a href="#">02120.191.088</a> |
| 5/16X1.3/4 | 200 | <a href="#">02120.079.044</a> | 1/2X2.1/4  | 100 | <a href="#">02120.127.057</a> | 3/4X3.3/4    | 25 | <a href="#">02120.191.095</a> |
| 5/16X2.IN. | 200 | <a href="#">02120.079.050</a> | 1/2X2.1/2  | 100 | <a href="#">02120.127.063</a> | 3/4X4.IN.    | 25 | <a href="#">02120.191.101</a> |
| 5/16X2.1/4 | 200 | <a href="#">02120.079.057</a> | 1/2X2.3/4  | 100 | <a href="#">02120.127.069</a> | 3/4X4.1/2    | 25 | <a href="#">02120.191.114</a> |
| 5/16X2.1/2 | 100 | <a href="#">02120.079.063</a> | 1/2X3.IN.  | 50  | <a href="#">02120.127.076</a> | 3/4X5.IN.    | 25 | <a href="#">02120.191.127</a> |
| 5/16X2.3/4 | 100 | <a href="#">02120.079.069</a> | 1/2X3.1/4  | 50  | <a href="#">02120.127.082</a> | 3/4X5.1/2    | 25 | <a href="#">02120.191.139</a> |
| 5/16X3.IN. | 100 | <a href="#">02120.079.076</a> | 1/2X3.1/2  | 50  | <a href="#">02120.127.088</a> | 3/4X6.IN.    | 25 | <a href="#">02120.191.152</a> |
| 5/16X3.1/4 | 200 | <a href="#">02120.079.082</a> | 1/2X3.3/4  | 50  | <a href="#">02120.127.095</a> | 3/4X7.IN.    | 25 | <a href="#">02120.191.177</a> |
| 5/16X3.1/2 | 100 | <a href="#">02120.079.088</a> | 1/2X4.IN.  | 50  | <a href="#">02120.127.101</a> | 3/4X8.IN.    | 10 | <a href="#">02120.191.203</a> |
| 5/16X4.IN. | 100 | <a href="#">02120.079.101</a> | 1/2X4.1/2  | 50  | <a href="#">02120.127.114</a> |              |    |                               |
| 5/16X5.IN. | 50  | <a href="#">02120.079.127</a> | 1/2X5.IN.  | 50  | <a href="#">02120.127.127</a> | 7/8X2.1/2    | 25 | <a href="#">02120.222.063</a> |
| 5/16X5.1/2 | 50  | <a href="#">02120.079.139</a> | 1/2X5.1/2  | 50  | <a href="#">02120.127.139</a> | 7/8X3.IN.    | 25 | <a href="#">02120.222.076</a> |
| 5/16X6.IN. | 50  | <a href="#">02120.079.152</a> | 1/2X6.IN.  | 50  | <a href="#">02120.127.152</a> | 7/8X3.1/2    | 25 | <a href="#">02120.222.088</a> |
|            |     |                               | 1/2X7.IN.  | 50  | <a href="#">02120.127.177</a> | 7/8X4.IN.    | 25 | <a href="#">02120.222.101</a> |
| 3/8X1.1/2  | 200 | <a href="#">02120.096.038</a> | 1/2X8.IN.  | 50  | <a href="#">02120.127.203</a> | 7/8X5.IN.    | 25 | <a href="#">02120.222.127</a> |
| 3/8X1.3/4  | 200 | <a href="#">02120.096.044</a> |            |     |                               | 7/8X6.IN.    | 25 | <a href="#">02120.222.152</a> |
| 3/8X2.IN.  | 200 | <a href="#">02120.096.050</a> | 9/16X1.3/4 | 50  | <a href="#">02120.142.044</a> | 7/8X7.IN.    | 10 | <a href="#">02120.222.177</a> |
| 3/8X2.1/4  | 100 | <a href="#">02120.096.057</a> | 9/16X2.IN. | 50  | <a href="#">02120.142.050</a> | 7/8X8.IN.    | 10 | <a href="#">02120.222.203</a> |
| 3/8X2.1/2  | 100 | <a href="#">02120.096.063</a> | 9/16X2.1/4 | 50  | <a href="#">02120.142.057</a> | 7/8X10.IN.   | 10 | <a href="#">02120.222.254</a> |
| 3/8X2.3/4  | 100 | <a href="#">02120.096.069</a> | 9/16X2.1/2 | 50  | <a href="#">02120.142.063</a> |              |    |                               |
| 3/8X3.IN.  | 100 | <a href="#">02120.096.076</a> | 9/16X3.IN. | 50  | <a href="#">02120.142.076</a> | 1-14GX3.IN.  | 25 | <a href="#">02120.256.076</a> |
| 3/8X3.1/4  | 100 | <a href="#">02120.096.082</a> | 9/16X3.1/4 | 50  | <a href="#">02120.142.082</a> | 1-14GX3.1/2  | 25 | <a href="#">02120.256.088</a> |
| 3/8X3.1/2  | 100 | <a href="#">02120.096.088</a> | 9/16X3.1/2 | 50  | <a href="#">02120.142.088</a> | 1-14GX4.IN.  | 10 | <a href="#">02120.256.101</a> |
| 3/8X3.3/4  | 100 | <a href="#">02120.096.095</a> | 9/16X4.IN. | 50  | <a href="#">02120.142.101</a> | 1-14GX5.IN.  | 10 | <a href="#">02120.256.127</a> |
| 3/8X4.IN.  | 100 | <a href="#">02120.096.101</a> | 9/16X5.IN. | 50  | <a href="#">02120.142.127</a> | 1-14GX6.IN.  | 10 | <a href="#">02120.256.152</a> |
| 3/8X4.1/2  | 50  | <a href="#">02120.096.114</a> |            |     |                               | 1-14GX7.IN.  | 10 | <a href="#">02120.256.177</a> |
| 3/8X5.IN.  | 100 | <a href="#">02120.096.127</a> | 5/8X2.1/4  | 50  | <a href="#">02120.158.057</a> | 1-14GX8.IN.  | 10 | <a href="#">02120.256.203</a> |
| 3/8X6.IN.  | 50  | <a href="#">02120.096.152</a> | 5/8X2.1/2  | 50  | <a href="#">02120.158.063</a> |              |    |                               |
| 3/8X7.IN.  | 50  | <a href="#">02120.096.177</a> | 5/8X2.3/4  | 50  | <a href="#">02120.158.069</a> | 1-14GX10.IN. | 10 | <a href="#">02120.256.254</a> |
|            |     |                               | 5/8X3.IN.  | 50  | <a href="#">02120.158.076</a> |              |    |                               |
| 7/16X1.1/2 | 100 | <a href="#">02120.111.038</a> | 5/8X3.1/4  | 50  | <a href="#">02120.158.082</a> |              |    |                               |

**51007 Hexagon head bolt UNF** X15A

|                  |                       |  |
|------------------|-----------------------|--|
| <b>Thread</b>    | Unified National Fine |  |
| <b>Material</b>  | Stainless steel A2    |  |
| <b>Class</b>     | Grade 5               |  |
| <b>Packaging</b> | Standard              |  |

| d x L     | ☒   | Art.number                    | d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    |
|-----------|-----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 1/4X1.1/4 | 100 | <a href="#">51007.063.031</a> | 1/4X2.1/2  | 50 | <a href="#">51007.063.063</a> | 5/16X2.1/2 | 50 | <a href="#">51007.079.063</a> |
| 1/4X1.1/2 | 100 | <a href="#">51007.063.038</a> |            |    |                               | 5/16X3.IN. | 50 | <a href="#">51007.079.076</a> |
| 1/4X1.3/4 | 50  | <a href="#">51007.063.044</a> | 5/16X1.1/2 | 50 | <a href="#">51007.079.038</a> |            |    |                               |
| 1/4X2.IN. | 50  | <a href="#">51007.063.050</a> | 5/16X1.3/4 | 50 | <a href="#">51007.079.044</a> | 3/8X1.1/2  | 25 | <a href="#">51007.096.038</a> |
| 1/4X2.1/4 | 50  | <a href="#">51007.063.057</a> | 5/16X2.IN. | 50 | <a href="#">51007.079.050</a> | 3/8X1.3/4  | 50 | <a href="#">51007.096.044</a> |

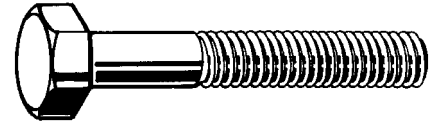
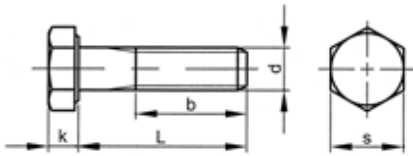
1

| 51007 Hexagon head bolt UNF |    |                               |           |    |                               |           |   |                               |
|-----------------------------|----|-------------------------------|-----------|----|-------------------------------|-----------|---|-------------------------------|
| d x L                       | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒ | Art.number                    |
| 3/8X2.IN.                   | 50 | <a href="#">51007.096.050</a> | 1/2X2.IN. | 25 | <a href="#">51007.127.050</a> | 5/8X3.1/2 | 5 | <a href="#">51007.158.088</a> |
| 3/8X2.1/2                   | 25 | <a href="#">51007.096.063</a> | 1/2X2.1/2 | 25 | <a href="#">51007.127.063</a> | 5/8X4.IN. | 5 | <a href="#">51007.158.101</a> |
| 3/8X3.IN.                   | 25 | <a href="#">51007.096.076</a> | 1/2X3.IN. | 10 | <a href="#">51007.127.076</a> |           |   |                               |
|                             |    |                               | 1/2X3.1/2 | 10 | <a href="#">51007.127.088</a> | 3/4X2.1/2 | 5 | <a href="#">51007.191.063</a> |
| 7/16X2.IN.                  | 25 | <a href="#">51007.111.050</a> | 1/2X4.IN. | 10 | <a href="#">51007.127.101</a> | 3/4X3.IN. | 5 | <a href="#">51007.191.076</a> |
| 7/16X2.1/2                  | 25 | <a href="#">51007.111.063</a> |           |    |                               | 3/4X3.1/2 | 5 | <a href="#">51007.191.088</a> |
| 7/16X3.IN.                  | 25 | <a href="#">51007.111.076</a> | 5/8X2.IN. | 10 | <a href="#">51007.158.050</a> | 3/4X4.IN. | 5 | <a href="#">51007.191.101</a> |
|                             |    |                               | 5/8X2.1/2 | 10 | <a href="#">51007.158.063</a> |           |   |                               |
| 1/2X1.3/4                   | 25 | <a href="#">51007.127.044</a> | 5/8X3.IN. | 5  | <a href="#">51007.158.076</a> |           |   |                               |

- Depending on availability the austenitic steel type is comparable to AISI 304 with mechanical properties acc. to ASTM F593.

## Hexagon head bolt BSW

DIN ≈931 (1954)  
NEN ≈2336 (1961)



### Technical data

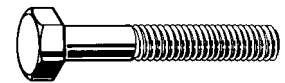
| d     | Threads per inch | k  | s  |
|-------|------------------|----|----|
| 1/4   | 20               | 5  | 11 |
| 5/16  | 18               | 6  | 14 |
| 3/8   | 16               | 7  | 17 |
| 7/16  | 14               | 8  | 19 |
| 1/2   | 12               | 9  | 22 |
| 5/8   | 11               | 11 | 27 |
| 3/4   | 10               | 13 | 32 |
| 7/8   | 9                | 16 | 36 |
| 1.IN. | 8                | 18 | 41 |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Depending on availability the dimensions may deviate.

### 03400 Hexagon head bolt BSW

X03A

**Thread** British Standard Whitworth  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard

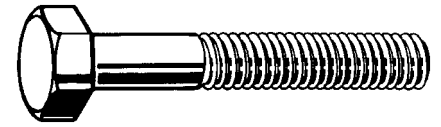
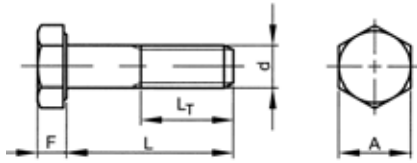


| d x L/b    | ☒  | Art.number                    | d x L/b    | ☒  | Art.number                    | d x L/b      | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|--------------|----|-------------------------------|
| 1/2X35/25  | 50 | <a href="#">03400.127.035</a> | 5/8X60/28  | 25 | <a href="#">03400.158.060</a> | 7/8X70/38    | 10 | <a href="#">03400.222.070</a> |
| 1/2X50/25  | 50 | <a href="#">03400.127.050</a> | 3/4X50/32  | 10 | <a href="#">03400.191.050</a> | 1.IN.X70/40  | 10 | <a href="#">03400.254.070</a> |
| 1/2X60/25  | 50 | <a href="#">03400.127.060</a> | 3/4X60/32  | 10 | <a href="#">03400.191.060</a> | 1.IN.X80/40  | 10 | <a href="#">03400.254.080</a> |
| 1/2X70/25  | 50 | <a href="#">03400.127.070</a> | 3/4X70/32  | 10 | <a href="#">03400.191.070</a> | 1.IN.X100/55 | 10 | <a href="#">03400.254.100</a> |
| 1/2X75/30  | 50 | <a href="#">03400.127.075</a> | 3/4X80/32  | 10 | <a href="#">03400.191.080</a> |              |    |                               |
| 1/2X80/30  | 50 | <a href="#">03400.127.080</a> | 3/4X80/32  | 10 | <a href="#">03400.191.080</a> |              |    |                               |
| 1/2X100/30 | 50 | <a href="#">03400.127.100</a> | 3/4X100/40 | 10 | <a href="#">03400.191.100</a> |              |    |                               |
| 5/8X50/28  | 25 | <a href="#">03400.158.050</a> | 7/8X60/38  | 10 | <a href="#">03400.222.060</a> |              |    |                               |

## Hexagon head bolt BSF

1

BS ≈1083 (1965)



### Technical data

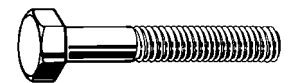
| d    | Threads per inch | L <sub>T</sub> (min.) | F    | A (Inch dec.) |
|------|------------------|-----------------------|------|---------------|
| 1/4  | 26               | 13                    | 4,6  | 0,445         |
| 5/16 | 22               | 16                    | 5,5  | 0,525         |
| 3/8  | 20               | 19                    | 6,6  | 0,6           |
| 7/16 | 18               | 22                    | 7,7  | 0,71          |
| 1/2  | 16               | 25,5                  | 8,7  | 0,82          |
| 9/16 | 16               | 28,5                  | 9,5  | 0,92          |
| 5/8  | 14               | 32                    | 10,6 | 1,01          |
| 3/4  | 12               | 38                    | 12,7 | 1,2           |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Minimum Grade R acc. to ≈ BS 1083 (1965) corresponds much the same with property class 6.8 acc. to DIN ISO 898-1. The bolthead is marked with the symbol of property class R.

### 03000 Hexagon head bolt BSF

X90A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | British Standard Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | ≥Grade R              |
| <b>Packaging</b> | Standard              |

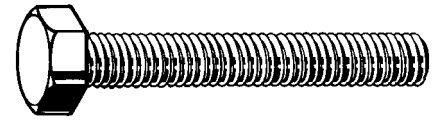
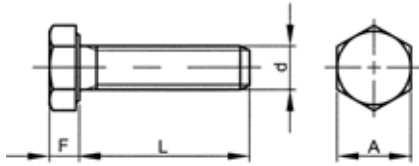


| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-----------|----|-------------------------------|
| 1/4X1.IN.  | 200 | <a href="#">03000.063.025</a> | 3/8X1.1/4  | 100 | <a href="#">03000.096.031</a> | 1/2X3.IN. | 50 | <a href="#">03000.127.076</a> |
| 1/4X2.IN.  | 100 | <a href="#">03000.063.050</a> | 3/8X1.1/2  | 100 | <a href="#">03000.096.038</a> | 5/8X2.IN. | 25 | <a href="#">03000.158.050</a> |
| 1/4X2.1/2  | 100 | <a href="#">03000.063.063</a> | 3/8X1.3/4  | 100 | <a href="#">03000.096.044</a> | 3/4X2.IN. | 25 | <a href="#">03000.191.050</a> |
| 1/4X3.IN.  | 100 | <a href="#">03000.063.076</a> | 3/8X2.IN.  | 100 | <a href="#">03000.096.050</a> | 3/4X2.1/2 | 25 | <a href="#">03000.191.063</a> |
| 5/16X1.1/2 | 200 | <a href="#">03000.079.038</a> | 3/8X3.IN.  | 100 | <a href="#">03000.096.076</a> | 3/4X3.IN. | 25 | <a href="#">03000.191.076</a> |
| 5/16X1.3/4 | 100 | <a href="#">03000.079.044</a> | 7/16X1.1/2 | 100 | <a href="#">03000.111.038</a> |           |    |                               |
| 5/16X2.IN. | 100 | <a href="#">03000.079.050</a> | 1/2X1.1/2  | 50  | <a href="#">03000.127.038</a> |           |    |                               |
| 5/16X2.1/4 | 100 | <a href="#">03000.079.057</a> | 1/2X1.3/4  | 50  | <a href="#">03000.127.044</a> |           |    |                               |
| 5/16X3.IN. | 100 | <a href="#">03000.079.076</a> | 1/2X2.IN.  | 50  | <a href="#">03000.127.050</a> |           |    |                               |
|            |     |                               | 1/2X2.1/2  | 50  | <a href="#">03000.127.063</a> |           |    |                               |



## Hexagon head screw UNC

ANSI =B18.2.1  
BS ≈1768



1

### Technical data

| d     | Threads per inch | F    | A       |
|-------|------------------|------|---------|
| 1/4   | 20               | 4    | 7/16    |
| 5/16  | 18               | 5,2  | 1/2     |
| 3/8   | 16               | 6    | 9/16    |
| 7/16  | 14               | 7,1  | 5/8     |
| 1/2   | 13               | 7,9  | 3/4     |
| 9/16  | 12               | 9,1  | 13/16   |
| 5/8   | 11               | 9,9  | 15/16   |
| 3/4   | 10               | 11,9 | 1.1/8   |
| 7/8   | 9                | 13,9 | 1.5/16  |
| 1.IN. | 8                | 15,5 | 1.1/2   |
| 1.1/8 | 7                | 17,5 | 1.11/16 |
| 1.1/4 | 7                | 19,8 | 1.7/8   |
| 1.1/2 | 6                | 23,8 | 2.1/4   |

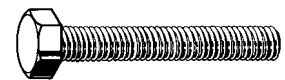
### Article groups


| Thread | Driving features | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|---------|-------------------|-----------|-------|------|
| UNC    | hexagon          | St        | Grade 5 |                   | Standard  | 02410 | 1-47 |
| UNC    | hexagon          | St        | Grade 5 | Zipl              | Standard  | 02430 | 1-48 |
| UNC    | hexagon          | St.St. A2 |         |                   | Standard  | 51016 | 1-48 |
| UNC    | hexagon          | St.St. A4 |         |                   | Standard  | 55016 | 1-48 |

#### 02410 Hexagon head screw UNC

X01A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Steel                   |
| <b>Class</b>     | Grade 5                 |
| <b>Packaging</b> | Standard                |



- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L       | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-------------|----|-------------------------------|
| 1/4X1/2    | 200 | <a href="#">02410.063.012</a> | 3/8X1.3/4  | 100 | <a href="#">02410.096.044</a> | 5/8X2.1/2   | 25 | <a href="#">02410.158.063</a> |
| 1/4X5/8    | 200 | <a href="#">02410.063.015</a> | 3/8X2.IN.  | 100 | <a href="#">02410.096.050</a> | 5/8X3.IN.   | 25 | <a href="#">02410.158.076</a> |
| 1/4X3/4    | 200 | <a href="#">02410.063.019</a> | 3/8X2.1/2  | 100 | <a href="#">02410.096.063</a> |             |    |                               |
| 1/4X7/8    | 200 | <a href="#">02410.063.022</a> |            |     |                               | 3/4X1.1/2   | 25 | <a href="#">02410.191.038</a> |
| 1/4X1.IN.  | 200 | <a href="#">02410.063.025</a> | 7/16X3/4   | 100 | <a href="#">02410.111.019</a> | 3/4X1.3/4   | 25 | <a href="#">02410.191.044</a> |
| 1/4X1.1/2  | 200 | <a href="#">02410.063.038</a> | 7/16X1.IN. | 100 | <a href="#">02410.111.025</a> | 3/4X2.IN.   | 10 | <a href="#">02410.191.050</a> |
|            |     |                               | 7/16X1.1/4 | 100 | <a href="#">02410.111.031</a> |             |    |                               |
|            |     |                               | 7/16X1.1/2 | 100 | <a href="#">02410.111.038</a> | 7/8X2.IN.   | 10 | <a href="#">02410.222.050</a> |
|            |     |                               | 7/16X2.IN. | 100 | <a href="#">02410.111.050</a> | 7/8X2.1/4   | 10 | <a href="#">02410.222.057</a> |
| 5/16X1/2   | 200 | <a href="#">02410.079.012</a> |            |     |                               | 7/8X2.1/2   | 10 | <a href="#">02410.222.063</a> |
| 5/16X5/8   | 200 | <a href="#">02410.079.015</a> | 1/2X3/4    | 100 | <a href="#">02410.127.019</a> |             |    |                               |
| 5/16X3/4   | 200 | <a href="#">02410.079.019</a> | 1/2X1.IN.  | 100 | <a href="#">02410.127.025</a> | 1.IN.X2.IN. | 10 | <a href="#">02410.254.050</a> |
| 5/16X7/8   | 200 | <a href="#">02410.079.022</a> | 1/2X1.1/4  | 50  | <a href="#">02410.127.031</a> | 1.IN.X2.1/2 | 10 | <a href="#">02410.254.063</a> |
| 5/16X1.IN. | 200 | <a href="#">02410.079.025</a> | 1/2X1.1/2  | 50  | <a href="#">02410.127.038</a> | 1.IN.X2.3/4 | 10 | <a href="#">02410.254.069</a> |
| 5/16X1.1/4 | 200 | <a href="#">02410.079.031</a> | 1/2X2.IN.  | 50  | <a href="#">02410.127.050</a> |             |    |                               |
| 5/16X1.1/2 | 200 | <a href="#">02410.079.038</a> | 1/2X2.1/2  | 50  | <a href="#">02410.127.063</a> | 1.1/8X2.3/4 | 4  | <a href="#">02410.285.069</a> |
| 5/16X2.IN. | 100 | <a href="#">02410.079.050</a> | 1/2X3.IN.  | 50  | <a href="#">02410.127.076</a> | 1.1/4X2.1/2 | 2  | <a href="#">02410.317.063</a> |
|            |     |                               |            |     |                               | 1.1/4X3.IN. | 2  | <a href="#">02410.317.076</a> |
| 3/8X5/8    | 100 | <a href="#">02410.096.015</a> | 5/8X1.IN.  | 50  | <a href="#">02410.158.025</a> |             |    |                               |
| 3/8X3/4    | 100 | <a href="#">02410.096.019</a> | 5/8X1.1/4  | 50  | <a href="#">02410.158.031</a> | 1.1/2X3.1/4 | 2  | <a href="#">02410.381.082</a> |
| 3/8X7/8    | 100 | <a href="#">02410.096.022</a> | 5/8X1.1/2  | 50  | <a href="#">02410.158.038</a> | 1.1/2X3.1/2 | 2  | <a href="#">02410.381.088</a> |
| 3/8X1.IN.  | 100 | <a href="#">02410.096.025</a> | 5/8X1.3/4  | 50  | <a href="#">02410.158.044</a> |             |    |                               |
| 3/8X1.1/8  | 100 | <a href="#">02410.096.028</a> | 5/8X2.IN.  | 50  | <a href="#">02410.158.050</a> |             |    |                               |
| 3/8X1.1/4  | 100 | <a href="#">02410.096.031</a> |            |     |                               |             |    |                               |
| 3/8X1.1/2  | 100 | <a href="#">02410.096.038</a> |            |     |                               |             |    |                               |

1

| 02430 Hexagon head screw UNC |                         | X01A |
|------------------------------|-------------------------|------|
| <b>Thread</b>                | Unified National Coarse |      |
| <b>Material</b>              | Steel                   |      |
| <b>Class</b>                 | Grade 5                 |      |
| <b>Surface treatment</b>     | Zinc plated             |      |
| <b>Packaging</b>             | Standard                |      |

- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L       | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-------------|----|-------------------------------|
| 1/4X1/2    | 200 | <a href="#">02430.063.012</a> | 3/8X2.IN.  | 200 | <a href="#">02430.096.050</a> | 5/8X1.IN.   | 50 | <a href="#">02430.158.025</a> |
| 1/4X5/8    | 200 | <a href="#">02430.063.015</a> | 3/8X2.1/2  | 200 | <a href="#">02430.096.063</a> | 5/8X1.1/4   | 50 | <a href="#">02430.158.031</a> |
| 1/4X3/4    | 200 | <a href="#">02430.063.019</a> | 3/8X3.IN.  | 200 | <a href="#">02430.096.076</a> | 5/8X1.1/2   | 50 | <a href="#">02430.158.038</a> |
| 1/4X7/8    | 200 | <a href="#">02430.063.022</a> |            |     |                               | 5/8X1.3/4   | 50 | <a href="#">02430.158.044</a> |
| 1/4X1.IN.  | 200 | <a href="#">02430.063.025</a> | 7/16X3/4   | 100 | <a href="#">02430.111.019</a> | 5/8X2.IN.   | 50 | <a href="#">02430.158.050</a> |
| 1/4X1.1/2  | 200 | <a href="#">02430.063.038</a> | 7/16X7/8   | 100 | <a href="#">02430.111.022</a> | 5/8X2.1/2   | 50 | <a href="#">02430.158.063</a> |
|            |     |                               | 7/16X1.IN. | 100 | <a href="#">02430.111.025</a> | 5/8X3.IN.   | 50 | <a href="#">02430.158.076</a> |
| 5/16X1/2   | 200 | <a href="#">02430.079.012</a> | 7/16X1.1/4 | 100 | <a href="#">02430.111.031</a> |             |    |                               |
| 5/16X5/8   | 200 | <a href="#">02430.079.015</a> | 7/16X1.1/2 | 100 | <a href="#">02430.111.038</a> |             |    |                               |
| 5/16X3/4   | 200 | <a href="#">02430.079.019</a> |            |     |                               | 3/4X1.IN.   | 50 | <a href="#">02430.191.025</a> |
| 5/16X7/8   | 200 | <a href="#">02430.079.022</a> | 1/2X3/4    | 100 | <a href="#">02430.127.019</a> | 3/4X1.1/2   | 50 | <a href="#">02430.191.038</a> |
| 5/16X1.IN. | 200 | <a href="#">02430.079.025</a> | 1/2X7/8    | 100 | <a href="#">02430.127.022</a> | 3/4X1.3/4   | 50 | <a href="#">02430.191.044</a> |
| 5/16X1.1/2 | 200 | <a href="#">02430.079.038</a> | 1/2X1.IN.  | 100 | <a href="#">02430.127.025</a> | 3/4X2.IN.   | 10 | <a href="#">02430.191.050</a> |
| 5/16X2.IN. | 200 | <a href="#">02430.079.050</a> | 1/2X1.1/4  | 100 | <a href="#">02430.127.031</a> |             |    |                               |
| 5/16X2.1/2 | 200 | <a href="#">02430.079.063</a> | 1/2X1.1/2  | 100 | <a href="#">02430.127.038</a> | 7/8X2.IN.   | 25 | <a href="#">02430.222.050</a> |
|            |     |                               | 1/2X2.IN.  | 100 | <a href="#">02430.127.050</a> | 7/8X2.1/2   | 25 | <a href="#">02430.222.063</a> |
| 3/8X1/2    | 200 | <a href="#">02430.096.012</a> | 1/2X2.1/2  | 100 | <a href="#">02430.127.063</a> |             |    |                               |
| 3/8X5/8    | 200 | <a href="#">02430.096.015</a> | 1/2X3.IN.  | 100 | <a href="#">02430.127.076</a> |             |    |                               |
| 3/8X3/4    | 200 | <a href="#">02430.096.019</a> |            |     |                               | 1.IN.X2.IN. | 25 | <a href="#">02430.254.050</a> |
| 3/8X7/8    | 200 | <a href="#">02430.096.022</a> | 9/16X1.IN. | 50  | <a href="#">02430.142.025</a> | 1.IN.X2.1/4 | 25 | <a href="#">02430.254.057</a> |
| 3/8X1.IN.  | 200 | <a href="#">02430.096.025</a> | 9/16X1.1/4 | 50  | <a href="#">02430.142.031</a> | 1.IN.X2.1/2 | 25 | <a href="#">02430.254.063</a> |
| 3/8X1.1/4  | 200 | <a href="#">02430.096.031</a> | 9/16X1.1/2 | 50  | <a href="#">02430.142.038</a> | 1.IN.X2.3/4 | 25 | <a href="#">02430.254.069</a> |
| 3/8X1.1/2  | 200 | <a href="#">02430.096.038</a> | 9/16X1.3/4 | 50  | <a href="#">02430.142.044</a> |             |    |                               |

| 51016 Hexagon head screw UNC |                         | X15A |
|------------------------------|-------------------------|------|
| <b>Thread</b>                | Unified National Coarse |      |
| <b>Material</b>              | Stainless steel A2      |      |
| <b>Packaging</b>             | Standard                |      |
|                              |                         |      |

| d x L      | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| 1/4X1/2    | 100 | <a href="#">51016.063.012</a> | 3/8X7/8   | 50  | <a href="#">51016.096.022</a> | 5/8X1.IN. | 25 | <a href="#">51016.158.025</a> |
| 1/4X5/8    | 100 | <a href="#">51016.063.015</a> | 3/8X1.IN. | 50  | <a href="#">51016.096.025</a> | 5/8X1.1/4 | 25 | <a href="#">51016.158.031</a> |
| 1/4X3/4    | 100 | <a href="#">51016.063.019</a> | 3/8X1.1/4 | 50  | <a href="#">51016.096.031</a> | 5/8X1.1/2 | 25 | <a href="#">51016.158.038</a> |
|            |     |                               | 3/8X1.1/2 | 100 | <a href="#">51016.096.038</a> | 5/8X1.3/4 | 25 | <a href="#">51016.158.044</a> |
| 5/16X1/2   | 100 | <a href="#">51016.079.012</a> | 3/8X2.IN. | 50  | <a href="#">51016.096.050</a> |           |    |                               |
| 5/16X5/8   | 100 | <a href="#">51016.079.015</a> |           |     |                               | 3/4X1.1/2 | 5  | <a href="#">51016.191.038</a> |
| 5/16X3/4   | 100 | <a href="#">51016.079.019</a> | 1/2X3/4   | 25  | <a href="#">51016.127.019</a> | 3/4X1.3/4 | 5  | <a href="#">51016.191.044</a> |
| 5/16X1.IN. | 100 | <a href="#">51016.079.025</a> | 1/2X1.IN. | 25  | <a href="#">51016.127.025</a> | 3/4X2.IN. | 5  | <a href="#">51016.191.050</a> |
| 5/16X1.1/2 | 100 | <a href="#">51016.079.038</a> | 1/2X1.1/4 | 25  | <a href="#">51016.127.031</a> |           |    |                               |
|            |     |                               | 1/2X1.1/2 | 25  | <a href="#">51016.127.038</a> |           |    |                               |
| 3/8X3/4    | 50  | <a href="#">51016.096.019</a> |           |     |                               |           |    |                               |

- Depending on availability the austenitic steel type is comparable to AISI 304 with mechanical properties acc. to ASTM F593.

| 55016 Hexagon head screw UNC |                         | X15A |
|------------------------------|-------------------------|------|
| <b>Thread</b>                | Unified National Coarse |      |
| <b>Material</b>              | Stainless steel A4      |      |
| <b>Packaging</b>             | Standard                |      |
|                              |                         |      |

| d x L    | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|----------|-----|-------------------------------|------------|-----|-------------------------------|-----------|----|-------------------------------|
| 1/4X1/2  | 100 | <a href="#">55016.063.012</a> | 5/16X3/4   | 100 | <a href="#">55016.079.019</a> | 3/8X1.1/4 | 50 | <a href="#">55016.096.031</a> |
| 1/4X5/8  | 100 | <a href="#">55016.063.015</a> | 5/16X1IN   | 100 | <a href="#">55016.079.025</a> | 3/8X1.1/2 | 50 | <a href="#">55016.096.038</a> |
| 1/4X3/4  | 100 | <a href="#">55016.063.019</a> | 5/16X1.1/4 | 100 | <a href="#">55016.079.031</a> |           |    |                               |
| 1/4X1IN  | 100 | <a href="#">55016.063.025</a> | 5/16X1.1/2 | 100 | <a href="#">55016.079.038</a> | 1/2X3/4   | 25 | <a href="#">55016.127.019</a> |
|          |     |                               |            |     |                               | 1/2X1IN   | 25 | <a href="#">55016.127.025</a> |
| 5/16X1/2 | 100 | <a href="#">55016.079.012</a> | 3/8X3/4    | 50  | <a href="#">55016.096.019</a> | 1/2X1.1/4 | 25 | <a href="#">55016.127.031</a> |
| 5/16X5/8 | 100 | <a href="#">55016.079.015</a> | 3/8X1IN    | 50  | <a href="#">55016.096.025</a> | 1/2X1.1/2 | 25 | <a href="#">55016.127.038</a> |

**55016 Hexagon head screw UNC**

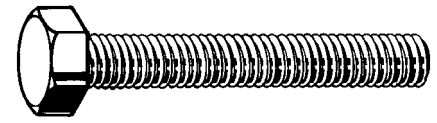
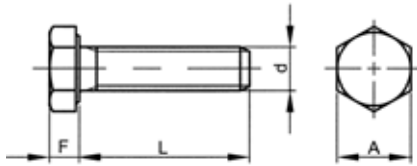
| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒ | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|---|-------------------------------|
| 1/2X1.3/4 | 25 | <a href="#">55016.127.044</a> | 5/8X1.1/2 | 25 | <a href="#">55016.158.038</a> | 3/4X1.1/2 | 5 | <a href="#">55016.191.038</a> |
| 1/2X2IN   | 25 | <a href="#">55016.127.050</a> | 5/8X1.3/4 | 25 | <a href="#">55016.158.044</a> | 3/4X2IN   | 5 | <a href="#">55016.191.050</a> |
| 5/8X1IN   | 25 | <a href="#">55016.158.025</a> | 5/8X2IN   | 10 | <a href="#">55016.158.050</a> |           |   |                               |
| 5/8X1.1/4 | 25 | <a href="#">55016.158.031</a> | 5/8X2.1/2 | 10 | <a href="#">55016.158.063</a> |           |   |                               |

• Depending on availability the austenitic steel type is comparable to AISI 316 with mechanical properties acc. to ASTM F593.

1

**1**

## Hexagon head screw UNF

 ANSI ≈B18.2.1  
 BS ≈1768


### Technical data

| d         | Threads per inch | F    | A      |
|-----------|------------------|------|--------|
| No.10     | 32               | 3    | 5/16   |
| 1/4       | 28               | 4    | 7/16   |
| 5/16      | 24               | 5,2  | 1/2    |
| 3/8       | 24               | 6    | 9/16   |
| 7/16      | 20               | 7,1  | 5/8    |
| 1/2       | 20               | 7,9  | 3/4    |
| 9/16      | 18               | 9,1  | 13/16  |
| 5/8       | 18               | 9,9  | 15/16  |
| 3/4       | 16               | 11,9 | 1.1./8 |
| 7/8       | 14               | 13,9 | 1.5/16 |
| 1.IN.-12G | 12               | 15,5 | 1.1/2  |
| 1.IN.-14G | 14               | 15,5 | 1.1/2  |

### Article groups


| Thread | Driving features | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|---------|-------------------|-----------|-------|------|
| UNF    | hexagon          | St        | Grade 5 |                   | Standard  | 02010 | 1-50 |
| UNF    | hexagon          | St        | Grade 5 | Zipl              | Standard  | 02130 | 1-51 |
| UNF    | hexagon          | St.St. A2 |         |                   | Standard  | 51017 | 1-51 |

#### 02010 Hexagon head screw UNF

X01A


|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | Grade 5               |
| <b>Packaging</b> | Standard              |



- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L       | ☒  | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|-------------|----|-------------------------------|
| NO.10X1/2   | 200 | <a href="#">02010.048.012</a> | 3/8X7/8    | 100 | <a href="#">02010.096.022</a> | 9/16X1.IN.  | 50 | <a href="#">02010.142.025</a> |
| NO.10X5/8   | 200 | <a href="#">02010.048.015</a> | 3/8X1.IN.  | 100 | <a href="#">02010.096.025</a> | 9/16X1.1/2  | 50 | <a href="#">02010.142.038</a> |
| NO.10X3/4   | 200 | <a href="#">02010.048.019</a> | 3/8X1.1/4  | 100 | <a href="#">02010.096.031</a> |             |    |                               |
| NO.10X1.IN. | 200 | <a href="#">02010.048.025</a> | 3/8X1.1/2  | 100 | <a href="#">02010.096.038</a> |             |    |                               |
| NO.10X1.1/4 | 200 | <a href="#">02010.048.031</a> | 3/8X1.3/4  | 100 | <a href="#">02010.096.044</a> | 5/8X1.1/4   | 50 | <a href="#">02010.158.031</a> |
| 1/4X1/2     | 200 | <a href="#">02010.063.012</a> | 3/8X2.IN.  | 100 | <a href="#">02010.096.050</a> | 5/8X1.1/2   | 50 | <a href="#">02010.158.038</a> |
| 1/4X5/8     | 200 | <a href="#">02010.063.015</a> | 3/8X2.1/4  | 100 | <a href="#">02010.096.057</a> | 5/8X1.3/4   | 50 | <a href="#">02010.158.044</a> |
| 1/4X3/4     | 200 | <a href="#">02010.063.019</a> |            |     |                               | 5/8X2.IN.   | 50 | <a href="#">02010.158.050</a> |
| 1/4X7/8     | 200 | <a href="#">02010.063.022</a> | 7/16X3/4   | 100 | <a href="#">02010.111.019</a> |             |    |                               |
| 1/4X1.IN.   | 200 | <a href="#">02010.063.025</a> | 7/16X1.IN. | 100 | <a href="#">02010.111.025</a> | 3/4X1.1/2   | 25 | <a href="#">02010.191.038</a> |
|             |     |                               | 7/16X1.1/4 | 100 | <a href="#">02010.111.031</a> | 3/4X2.IN.   | 25 | <a href="#">02010.191.050</a> |
|             |     |                               | 7/16X1.1/2 | 100 | <a href="#">02010.111.038</a> |             |    |                               |
| 5/16X5/8    | 200 | <a href="#">02010.079.015</a> |            |     |                               | 7/8X2.IN.   | 25 | <a href="#">02010.222.050</a> |
| 5/16X3/4    | 200 | <a href="#">02010.079.019</a> | 1/2X3/4    | 100 | <a href="#">02010.127.019</a> | 1-12GX2.IN. | 25 | <a href="#">02010.255.050</a> |
| 5/16X7/8    | 200 | <a href="#">02010.079.022</a> | 1/2X1.IN.  | 100 | <a href="#">02010.127.025</a> | 1-14GX2.IN. | 25 | <a href="#">02010.256.050</a> |
| 5/16X1.IN.  | 200 | <a href="#">02010.079.025</a> | 1/2X1.1/4  | 100 | <a href="#">02010.127.031</a> |             |    |                               |
| 5/16X1.1/4  | 200 | <a href="#">02010.079.031</a> | 1/2X1.1/2  | 50  | <a href="#">02010.127.038</a> |             |    |                               |
| 5/16X2.IN.  | 100 | <a href="#">02010.079.050</a> | 1/2X2.IN.  | 50  | <a href="#">02010.127.050</a> |             |    |                               |

|                                     |                       |             |
|-------------------------------------|-----------------------|-------------|
| <b>02130 Hexagon head screw UNF</b> |                       | <b>X01A</b> |
| <b>Thread</b>                       | Unified National Fine |             |
| <b>Material</b>                     | Steel                 |             |
| <b>Class</b>                        | Grade 5               |             |
| <b>Surface treatment</b>            | Zinc plated           |             |
| <b>Packaging</b>                    | Standard              |             |

- Grade 5 acc. to the American standards SAE J429/ASTM A449 (marking sign ) corresponds much the same with property class 8.8 acc. to ISO 898-1. When the bolts are also marked with 8.8, then they meet the properties of property class 8.8. Depending on availability also the equal class S acc. to BS 1768 (marking sign S) can be supplied.
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 1/4X1/2    | 200 | <a href="#">02130.063.012</a> | 3/8X1.IN.  | 200 | <a href="#">02130.096.025</a> | 9/16X1.IN. | 100 | <a href="#">02130.142.025</a> |
| 1/4X5/8    | 200 | <a href="#">02130.063.015</a> | 3/8X1.1/4  | 200 | <a href="#">02130.096.031</a> | 9/16X1.1/4 | 100 | <a href="#">02130.142.031</a> |
| 1/4X3/4    | 200 | <a href="#">02130.063.019</a> | 3/8X1.1/2  | 200 | <a href="#">02130.096.038</a> | 9/16X1.1/2 | 100 | <a href="#">02130.142.038</a> |
| 1/4X7/8    | 200 | <a href="#">02130.063.022</a> | 3/8X1.3/4  | 200 | <a href="#">02130.096.044</a> |            |     |                               |
| 1/4X1.IN.  | 200 | <a href="#">02130.063.025</a> | 3/8X2.IN.  | 200 | <a href="#">02130.096.050</a> |            |     |                               |
| 1/4X1.1/4  | 200 | <a href="#">02130.063.031</a> | 3/8X2.1/4  | 200 | <a href="#">02130.096.057</a> | 5/8X1.IN.  | 50  | <a href="#">02130.158.025</a> |
| 1/4X1.1/2  | 200 | <a href="#">02130.063.038</a> |            |     |                               | 5/8X1.1/4  | 50  | <a href="#">02130.158.031</a> |
|            |     |                               | 7/16X3/4   | 100 | <a href="#">02130.111.019</a> | 5/8X1.1/2  | 50  | <a href="#">02130.158.038</a> |
| 5/16X1/2   | 200 | <a href="#">02130.079.012</a> | 7/16X7/8   | 100 | <a href="#">02130.111.022</a> | 5/8X1.3/4  | 50  | <a href="#">02130.158.044</a> |
| 5/16X5/8   | 200 | <a href="#">02130.079.015</a> | 7/16X1.IN. | 100 | <a href="#">02130.111.025</a> | 5/8X2.IN.  | 50  | <a href="#">02130.158.050</a> |
| 5/16X3/4   | 200 | <a href="#">02130.079.019</a> | 7/16X1.1/4 | 100 | <a href="#">02130.111.031</a> | 5/8X2.1/2  | 50  | <a href="#">02130.158.063</a> |
| 5/16X7/8   | 200 | <a href="#">02130.079.022</a> | 7/16X1.1/2 | 100 | <a href="#">02130.111.038</a> |            |     |                               |
| 5/16X1.IN. | 200 | <a href="#">02130.079.025</a> | 7/16X2.IN. | 100 | <a href="#">02130.111.050</a> | 3/4X1.IN.  | 50  | <a href="#">02130.191.025</a> |
| 5/16X1.1/4 | 200 | <a href="#">02130.079.031</a> |            |     |                               | 3/4X1.1/4  | 50  | <a href="#">02130.191.031</a> |
| 5/16X1.1/2 | 200 | <a href="#">02130.079.038</a> | 1/2X3/4    | 100 | <a href="#">02130.127.019</a> | 3/4X1.1/2  | 50  | <a href="#">02130.191.038</a> |
| 5/16X2.IN. | 200 | <a href="#">02130.079.050</a> | 1/2X7/8    | 100 | <a href="#">02130.127.022</a> | 3/4X1.3/4  | 50  | <a href="#">02130.191.044</a> |
|            |     |                               | 1/2X1.IN.  | 100 | <a href="#">02130.127.025</a> | 3/4X2.IN.  | 50  | <a href="#">02130.191.050</a> |
| 3/8X1/2    | 200 | <a href="#">02130.096.012</a> | 1/2X1.1/4  | 100 | <a href="#">02130.127.031</a> |            |     |                               |
| 3/8X5/8    | 200 | <a href="#">02130.096.015</a> | 1/2X1.1/2  | 100 | <a href="#">02130.127.038</a> | 7/8X2.IN.  | 25  | <a href="#">02130.222.050</a> |
| 3/8X3/4    | 200 | <a href="#">02130.096.019</a> | 1/2X1.3/4  | 100 | <a href="#">02130.127.044</a> |            |     |                               |
| 3/8X7/8    | 200 | <a href="#">02130.096.022</a> | 1/2X2.IN.  | 100 | <a href="#">02130.127.050</a> |            |     |                               |

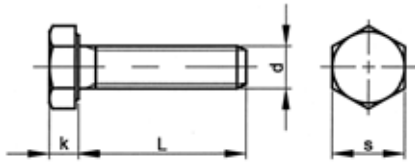
|                                     |                       |             |
|-------------------------------------|-----------------------|-------------|
| <b>51017 Hexagon head screw UNF</b> |                       | <b>X15A</b> |
| <b>Thread</b>                       | Unified National Fine |             |
| <b>Material</b>                     | Stainless steel A2    |             |
| <b>Packaging</b>                    | Standard              |             |
|                                     |                       |             |

| d x L      | ☒   | Art.number                    | d x L      | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|----|-------------------------------|-----------|----|-------------------------------|
| 1/4X1/2    | 100 | <a href="#">51017.063.012</a> | 3/8X3/4    | 50 | <a href="#">51017.096.019</a> | 1/2X1.1/2 | 25 | <a href="#">51017.127.038</a> |
| 1/4X5/8    | 100 | <a href="#">51017.063.015</a> | 3/8X1IN    | 50 | <a href="#">51017.096.025</a> | 5/8X1IN   | 25 | <a href="#">51017.158.025</a> |
| 1/4X3/4    | 100 | <a href="#">51017.063.019</a> | 3/8X1.1/2  | 50 | <a href="#">51017.096.038</a> | 5/8X1.1/4 | 25 | <a href="#">51017.158.031</a> |
| 1/4X1.IN.  | 100 | <a href="#">51017.063.025</a> |            |    |                               | 5/8X1.1/2 | 25 | <a href="#">51017.158.038</a> |
| 1/4X1.1/2  | 100 | <a href="#">51017.063.038</a> | 7/16X1IN   | 25 | <a href="#">51017.111.025</a> | 5/8X1.3/4 | 25 | <a href="#">51017.158.044</a> |
| 5/16X1/2   | 100 | <a href="#">51017.079.012</a> | 7/16X1.1/2 | 25 | <a href="#">51017.111.038</a> |           |    |                               |
| 5/16X5/8   | 100 | <a href="#">51017.079.015</a> | 7/16X2IN   | 25 | <a href="#">51017.111.050</a> | 3/4X1.1/2 | 25 | <a href="#">51017.191.038</a> |
| 5/16X3/4   | 100 | <a href="#">51017.079.019</a> |            |    |                               | 3/4X2IN   | 25 | <a href="#">51017.191.050</a> |
| 5/16X1.IN. | 100 | <a href="#">51017.079.025</a> | 1/2X1.1/4  | 25 | <a href="#">51017.127.031</a> |           |    |                               |
| 5/16X1.1/2 | 100 | <a href="#">51017.079.038</a> |            |    |                               |           |    |                               |

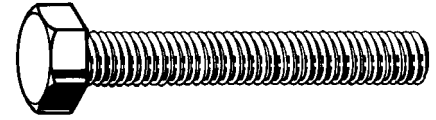
- Depending on availability the austenitic steel type is comparable to AISI 304 with mechanical properties acc. to ASTM F593.

## Hexagon head screw BSW

1



DIN ≈933 (1954)  
 NEN ≈2337 (1961)



### Technical data

| d    | Threads per inch | k  | s  |
|------|------------------|----|----|
| 1/4  | 20               | 5  | 11 |
| 5/16 | 18               | 6  | 14 |
| 3/8  | 16               | 7  | 17 |
| 1/2  | 12               | 9  | 22 |
| 5/8  | 11               | 11 | 27 |
| 3/4  | 10               | 13 | 32 |
| 7/8  | 9                | 16 | 36 |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Depending on availability the dimensions may deviate.

### Article groups

| Thread | Driving features | Material | Class | Packaging | Code  | Page |
|--------|------------------|----------|-------|-----------|-------|------|
| BSW    | hexagon          | St       | 8.8   | Standard  | 03410 | 1-52 |
| BSW    | hexagon          | Br Cu2   |       | Standard  | 46210 | 1-52 |

#### 03410 Hexagon head screw BSW

X03A

|                  |                            |
|------------------|----------------------------|
| <b>Thread</b>    | British Standard Whitworth |
| <b>Material</b>  | Steel                      |
| <b>Class</b>     | 8.8                        |
| <b>Packaging</b> | Standard                   |



| d x L     | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒  | Art.number                    |
|-----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| 1/4X10MM  | 100 | <a href="#">03410.063.010</a> | 3/8X15MM | 100 | <a href="#">03410.096.015</a> | 1/2X50MM | 50 | <a href="#">03410.127.050</a> |
| 1/4X15MM  | 100 | <a href="#">03410.063.015</a> | 3/8X20MM | 100 | <a href="#">03410.096.020</a> | 1/2X55MM | 50 | <a href="#">03410.127.055</a> |
| 1/4X20MM  | 100 | <a href="#">03410.063.020</a> | 3/8X25MM | 100 | <a href="#">03410.096.025</a> | 1/2X60MM | 50 | <a href="#">03410.127.060</a> |
| 1/4X25MM  | 100 | <a href="#">03410.063.025</a> | 3/8X30MM | 100 | <a href="#">03410.096.030</a> | 1/2X70MM | 50 | <a href="#">03410.127.070</a> |
| 1/4X30MM  | 100 | <a href="#">03410.063.030</a> | 3/8X35MM | 100 | <a href="#">03410.096.035</a> |          |    |                               |
| 1/4X40MM  | 100 | <a href="#">03410.063.040</a> | 3/8X40MM | 100 | <a href="#">03410.096.040</a> | 5/8X30MM | 50 | <a href="#">03410.158.030</a> |
| 1/4X50MM  | 100 | <a href="#">03410.063.050</a> | 3/8X50MM | 100 | <a href="#">03410.096.050</a> | 5/8X40MM | 25 | <a href="#">03410.158.040</a> |
|           |     |                               | 3/8X60MM | 100 | <a href="#">03410.096.060</a> | 5/8X50MM | 25 | <a href="#">03410.158.050</a> |
| 5/16X20MM | 100 | <a href="#">03410.079.020</a> | 3/8X70MM | 100 | <a href="#">03410.096.070</a> | 5/8X60MM | 25 | <a href="#">03410.158.060</a> |
| 5/16X25MM | 100 | <a href="#">03410.079.025</a> |          |     |                               |          |    |                               |
| 5/16X30MM | 100 | <a href="#">03410.079.030</a> | 1/2X20MM | 100 | <a href="#">03410.127.020</a> | 3/4X50MM | 10 | <a href="#">03410.191.050</a> |
| 5/16X40MM | 100 | <a href="#">03410.079.040</a> | 1/2X25MM | 100 | <a href="#">03410.127.025</a> | 3/4X60MM | 10 | <a href="#">03410.191.060</a> |
| 5/16X50MM | 100 | <a href="#">03410.079.050</a> | 1/2X30MM | 100 | <a href="#">03410.127.030</a> | 3/4X70MM | 10 | <a href="#">03410.191.070</a> |
| 5/16X60MM | 100 | <a href="#">03410.079.060</a> | 1/2X35MM | 100 | <a href="#">03410.127.035</a> |          |    |                               |
|           |     |                               | 1/2X40MM | 50  | <a href="#">03410.127.040</a> |          |    |                               |

#### 46210 Hexagon head screw BSW

X08A

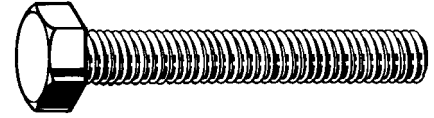
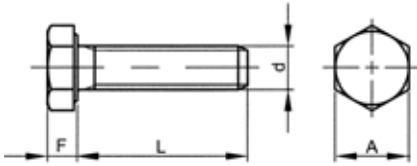
|                  |                            |
|------------------|----------------------------|
| <b>Thread</b>    | British Standard Whitworth |
| <b>Material</b>  | Brass Cu2                  |
| <b>Packaging</b> | Standard                   |



| d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L    | ☒  | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|----------|----|-------------------------------|
| 1/4X10MM  | 100 | <a href="#">46210.063.010</a> | 5/16X25MM | 100 | <a href="#">46210.079.025</a> | 1/2X25MM | 25 | <a href="#">46210.127.025</a> |
| 1/4X12MM  | 100 | <a href="#">46210.063.012</a> | 5/16X30MM | 50  | <a href="#">46210.079.030</a> | 1/2X30MM | 25 | <a href="#">46210.127.030</a> |
| 1/4X15MM  | 100 | <a href="#">46210.063.015</a> | 5/16X40MM | 50  | <a href="#">46210.079.040</a> | 1/2X40MM | 25 | <a href="#">46210.127.040</a> |
| 1/4X20MM  | 100 | <a href="#">46210.063.020</a> | 5/16X50MM | 50  | <a href="#">46210.079.050</a> | 1/2X50MM | 25 | <a href="#">46210.127.050</a> |
| 1/4X25MM  | 100 | <a href="#">46210.063.025</a> |           |     |                               |          |    |                               |
| 1/4X30MM  | 100 | <a href="#">46210.063.030</a> | 3/8X20MM  | 50  | <a href="#">46210.096.020</a> | 5/8X16MM | 25 | <a href="#">46210.158.016</a> |
| 1/4X40MM  | 50  | <a href="#">46210.063.040</a> | 3/8X25MM  | 50  | <a href="#">46210.096.025</a> | 5/8X40MM | 10 | <a href="#">46210.158.040</a> |
| 1/4X50MM  | 50  | <a href="#">46210.063.050</a> | 3/8X30MM  | 25  | <a href="#">46210.096.030</a> | 5/8X50MM | 10 | <a href="#">46210.158.050</a> |
|           |     |                               | 3/8X40MM  | 25  | <a href="#">46210.096.040</a> |          |    |                               |
| 5/16X16MM | 100 | <a href="#">46210.079.016</a> | 3/8X50MM  | 25  | <a href="#">46210.096.050</a> |          |    |                               |
| 5/16X20MM | 100 | <a href="#">46210.079.020</a> |           |     |                               |          |    |                               |

## Hexagon head screw BSF

BS ≈1083 (1965)



### Technical data

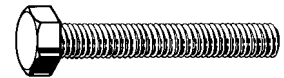
| d    | Threads per inch | F   | A     |
|------|------------------|-----|-------|
| 1/4  | 26               | 4,6 | 0.445 |
| 5/16 | 22               | 5,5 | 0.525 |
| 3/8  | 20               | 6,6 | 0.6   |
| 1/2  | 16               | 8,7 | 0.82  |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Minimum Grade R acc. to ≈ BS 1083 (1965) corresponds much the same with property class 6.8 acc. to DIN ISO 898-1. The bolthead is marked with the symbol of property class R.

### 03010 Hexagon head screw BSF

X90A

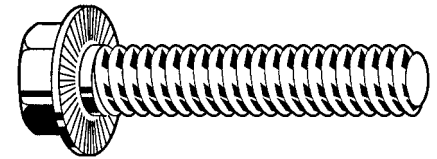
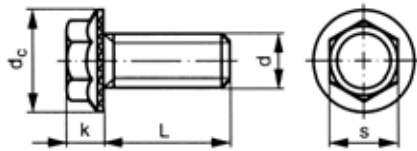
|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | British Standard Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | ≥Grade R              |
| <b>Packaging</b> | Standard              |



| d x L     | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|-----------|-----|-------------------------------|
| 1/4X5/8   | 200 | <a href="#">03010.063.015</a> | 5/16X3/4   | 200 | <a href="#">03010.079.019</a> | 3/8X3/4   | 100 | <a href="#">03010.096.019</a> |
| 1/4X3/4   | 200 | <a href="#">03010.063.019</a> | 5/16X1.IN. | 200 | <a href="#">03010.079.025</a> | 3/8X1.IN. | 100 | <a href="#">03010.096.025</a> |
| 1/4X1.IN. | 200 | <a href="#">03010.063.025</a> | 5/16X1.1/4 | 200 | <a href="#">03010.079.031</a> |           |     |                               |
| 1/4X1.1/4 | 200 | <a href="#">03010.063.031</a> | 5/16X1.1/2 | 200 | <a href="#">03010.079.038</a> | 1/2X1.IN. | 100 | <a href="#">03010.127.025</a> |
| 1/4X1.1/2 | 200 | <a href="#">03010.063.038</a> |            |     |                               | 1/2X1.1/4 | 50  | <a href="#">03010.127.031</a> |
| 5/16X5/8  | 200 | <a href="#">03010.079.015</a> | 3/8X1/2    | 100 | <a href="#">03010.096.012</a> |           |     |                               |
|           |     |                               | 3/8X5/8    | 100 | <a href="#">03010.096.015</a> |           |     |                               |

## Self-locking hexagon bolt with flange

1



### Technical data

| d   | P    | k   | s  | d <sub>c</sub> |
|-----|------|-----|----|----------------|
| M5  | 0,8  | 4,3 | 8  | 11,2           |
| M6  | 1    | 5,5 | 10 | 14,2           |
| M8  | 1,25 | 7   | 13 | 18,2           |
| M10 | 1,5  | 8,5 | 15 | 21             |
| M12 | 1,75 | 10  | 17 | 24             |
| M16 | 2    | 14  | 22 | 31             |

Special features of RIPP self-locking hexagon bolts with flange:

- the serrated flange eliminates surface damage during assembly, prevents self-loosening and reduces relaxation
- the flange enables built up forces under the bolt head to be spread over a larger area, consequently resulting in lower surface pressure
- large holes (oversized) and/or tooling holes can be covered by the flange
- a washer and/or a locking element is not necessary

ASSEMBLY PRE-LOAD  $F_M$  in kN and TIGHTENING TORQUE  $M_A$  in Nm

| Class | Mating material                         | M5    |       | M6    |       | M8    |       | M10   |       | M12   |       | M16   |       |
|-------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       |   | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ |
| 100   | Steel ( $R_m < 800 \text{ N/mm}^2$ )    | 9     | 11    | 12,6  | 19    | 23,2  | 42    | 37    | 85    | 54    | 130   | 102   | 330   |
|       | Steel ( $R_m \geq 800 \text{ N/mm}^2$ ) | 9     | 10    | 12,6  | 18    | 23,2  | 37    | 37    | 80    | 54    | 120   | 102   | 310   |
|       | Malleable iron                          | 9     | 9     | 12,6  | 16    | 23,2  | 35    | 37    | 75    | 54    | 115   | 102   | 300   |

### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 100   |                   | Standard  | 04400 | 1-54 |
| M      | hexagon          | St       | 100   | Zipl              | Standard  | 04410 | 1-55 |
| M      | hexagon          | St       | 100   | FLZNNC-NC6        | Standard  | 04405 | 1-55 |

#### 04400 RIPP Self-locking hexagon bolt with flange

A92A

**Thread** Metric thread  
**Material** Steel  
**Class** 100  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X10 | 500 | <a href="#">04400.050.010</a> | M8X25  | 200 | <a href="#">04400.080.025</a> | M12X35 | 100 | <a href="#">04400.120.035</a> |
| M5X12 | 500 | <a href="#">04400.050.012</a> | M8X30  | 200 | <a href="#">04400.080.030</a> | M12X40 | 100 | <a href="#">04400.120.040</a> |
| M5X16 | 500 | <a href="#">04400.050.016</a> | M8X35  | 200 | <a href="#">04400.080.035</a> | M12X45 | 100 | <a href="#">04400.120.045</a> |
| M5X20 | 500 | <a href="#">04400.050.020</a> | M8X40  | 200 | <a href="#">04400.080.040</a> | M12X50 | 100 | <a href="#">04400.120.050</a> |
| M6X10 | 500 | <a href="#">04400.060.010</a> | M10X16 | 200 | <a href="#">04400.100.016</a> | M16X25 | 50  | <a href="#">04400.160.025</a> |
| M6X12 | 500 | <a href="#">04400.060.012</a> | M10X20 | 200 | <a href="#">04400.100.020</a> | M16X30 | 50  | <a href="#">04400.160.030</a> |
| M6X16 | 500 | <a href="#">04400.060.016</a> | M10X25 | 200 | <a href="#">04400.100.025</a> | M16X35 | 50  | <a href="#">04400.160.035</a> |
| M6X20 | 500 | <a href="#">04400.060.020</a> | M10X30 | 200 | <a href="#">04400.100.030</a> | M16X40 | 50  | <a href="#">04400.160.040</a> |
| M6X25 | 500 | <a href="#">04400.060.025</a> | M10X35 | 100 | <a href="#">04400.100.035</a> | M16X45 | 50  | <a href="#">04400.160.045</a> |
| M6X30 | 500 | <a href="#">04400.060.030</a> | M10X40 | 100 | <a href="#">04400.100.040</a> | M16X50 | 50  | <a href="#">04400.160.050</a> |
| M8X12 | 200 | <a href="#">04400.080.012</a> | M12X20 | 100 | <a href="#">04400.120.020</a> | M16X55 | 50  | <a href="#">04400.160.055</a> |
| M8X16 | 200 | <a href="#">04400.080.016</a> | M12X25 | 100 | <a href="#">04400.120.025</a> | M16X60 | 50  | <a href="#">04400.160.060</a> |
| M8X20 | 200 | <a href="#">04400.080.020</a> | M12X30 | 100 | <a href="#">04400.120.030</a> | M16X70 | 25  | <a href="#">04400.160.070</a> |

- RIPP self-locking hexagon bolts with flange are designated with the property class 100 with a min. tensile strength of  $1040 \text{ N/mm}^2$ , they are case hardened and therefore cannot be classified in the usual class 10.9.
- WARNING: electro-galvanizing of these products may cause hydrogen embrittlement.



| 04410 RIPP Self-locking hexagon bolt with flange |               | A92A |
|--|---------------|------|
| <b>Thread</b>                                    | Metric thread |      |
| <b>Material</b>                                  | Steel         |      |
| <b>Class</b>                                     | 100           |      |
| <b>Surface treatment</b>                         | Zinc plated   |      |
| <b>Packaging</b>                                 | Standard      |      |

| d x L | ✉   | Art.number                    | d x L  | ✉   | Art.number                    | d x L  | ✉   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X10 | 500 | <a href="#">04410.050.010</a> | M8X25  | 200 | <a href="#">04410.080.025</a> | M12X30 | 100 | <a href="#">04410.120.030</a> |
| M5X12 | 500 | <a href="#">04410.050.012</a> | M8X30  | 200 | <a href="#">04410.080.030</a> | M12X35 | 100 | <a href="#">04410.120.035</a> |
| M5X16 | 500 | <a href="#">04410.050.016</a> | M8X35  | 200 | <a href="#">04410.080.035</a> | M12X40 | 100 | <a href="#">04410.120.040</a> |
|       |     |                               | M8X40  | 200 | <a href="#">04410.080.040</a> | M12X45 | 100 | <a href="#">04410.120.045</a> |
| M6X10 | 500 | <a href="#">04410.060.010</a> |        |     |                               | M12X50 | 100 | <a href="#">04410.120.050</a> |
| M6X12 | 500 | <a href="#">04410.060.012</a> | M10X16 | 200 | <a href="#">04410.100.016</a> | M16X30 | 50  | <a href="#">04410.160.030</a> |
| M6X14 | 500 | <a href="#">04410.060.014</a> | M10X20 | 200 | <a href="#">04410.100.020</a> | M16X35 | 50  | <a href="#">04410.160.035</a> |
| M6X16 | 500 | <a href="#">04410.060.016</a> | M10X22 | 200 | <a href="#">04410.100.022</a> | M16X40 | 50  | <a href="#">04410.160.040</a> |
| M6X20 | 500 | <a href="#">04410.060.020</a> | M10X25 | 200 | <a href="#">04410.100.025</a> | M16X45 | 50  | <a href="#">04410.160.045</a> |
| M6X25 | 500 | <a href="#">04410.060.025</a> | M10X30 | 200 | <a href="#">04410.100.030</a> | M16X50 | 50  | <a href="#">04410.160.050</a> |
|       |     |                               | M10X35 | 100 | <a href="#">04410.100.035</a> | M16X60 | 50  | <a href="#">04410.160.060</a> |
| M8X12 | 200 | <a href="#">04410.080.012</a> | M10X40 | 100 | <a href="#">04410.100.040</a> | M16X70 | 25  | <a href="#">04410.160.070</a> |
| M8X14 | 200 | <a href="#">04410.080.014</a> |        |     |                               |        |     |                               |
| M8X16 | 200 | <a href="#">04410.080.016</a> | M12X20 | 100 | <a href="#">04410.120.020</a> |        |     |                               |
| M8X20 | 200 | <a href="#">04410.080.020</a> | M12X25 | 100 | <a href="#">04410.120.025</a> |        |     |                               |

- RIPP self-locking hexagon bolts with flange are designated with the property class 100 with a min. tensile strength of 1040 N/mm<sup>2</sup>, they are case hardened and therefore cannot be classified in the usual class 10.9.
- WARNING: electro-galvanizing of these products may cause hydrogen embrittlement.

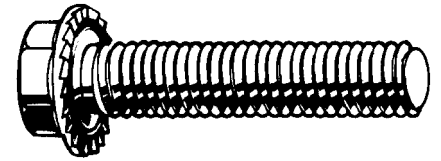
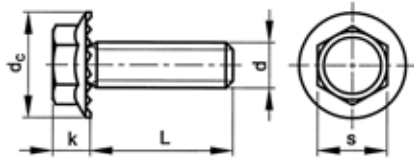
| 04405 RIPP Self-locking hexagon bolt with flange |   | A95A |
|--|---|------|
| <b>Thread</b>                                    | Metric thread                           |      |
| <b>Material</b>                                  | Steel                                   |      |
| <b>Class</b>                                     | 100                                     |      |
| <b>Surface treatment</b>                         | Zinc flake Cr6+ free - ISO 10683 flZnnc |      |
| <b>Packaging</b>                                 | Standard                                |      |

| d x L | ✉   | Art.number                    | d x L  | ✉   | Art.number                    | d x L  | ✉   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X10 | 200 | <a href="#">04405.050.010</a> | M8X20  | 200 | <a href="#">04405.080.020</a> | M12X35 | 100 | <a href="#">04405.120.035</a> |
| M5X12 | 200 | <a href="#">04405.050.012</a> | M8X25  | 200 | <a href="#">04405.080.025</a> | M12X40 | 100 | <a href="#">04405.120.040</a> |
| M5X16 | 200 | <a href="#">04405.050.016</a> | M8X30  | 200 | <a href="#">04405.080.030</a> | M12X50 | 100 | <a href="#">04405.120.050</a> |
| M5X20 | 200 | <a href="#">04405.050.020</a> | M8X35  | 200 | <a href="#">04405.080.035</a> |        |     |                               |
| M6X10 | 200 | <a href="#">04405.060.010</a> |        |     |                               | M16X30 | 50  | <a href="#">04405.160.030</a> |
| M6X12 | 200 | <a href="#">04405.060.012</a> | M10X20 | 200 | <a href="#">04405.100.020</a> | M16X35 | 50  | <a href="#">04405.160.035</a> |
| M6X16 | 200 | <a href="#">04405.060.016</a> | M10X25 | 200 | <a href="#">04405.100.025</a> | M16X40 | 50  | <a href="#">04405.160.040</a> |
| M6X20 | 200 | <a href="#">04405.060.020</a> | M10X30 | 200 | <a href="#">04405.100.030</a> | M16X45 | 50  | <a href="#">04405.160.045</a> |
| M6X25 | 200 | <a href="#">04405.060.025</a> | M10X35 | 100 | <a href="#">04405.100.035</a> | M16X50 | 50  | <a href="#">04405.160.050</a> |
|       |     |                               | M10X40 | 100 | <a href="#">04405.100.040</a> | M16X60 | 50  | <a href="#">04405.160.060</a> |
| M8X16 | 200 | <a href="#">04405.080.016</a> |        |     |                               | M16X70 | 50  | <a href="#">04405.160.070</a> |
|       |     |                               | M12X30 | 100 | <a href="#">04405.120.030</a> |        |     |                               |

- Technical brochure available on request.

## Self-locking hexagon bolt with flange

1



### Technical data

| d   | P    | k    | s  | d <sub>c</sub> |
|-----|------|------|----|----------------|
| M5  | 0,8  | 4,3  | 8  | 11,2           |
| M6  | 1    | 5,5  | 10 | 14,2           |
| M8  | 1,25 | 7    | 13 | 18,2           |
| M10 | 1,5  | 7,9  | 15 | 21             |
| M12 | 1,75 | 8,7  | 17 | 24             |
| M16 | 2    | 11,2 | 22 | 31             |

Special features of TENSILOCK self-locking hexagon nuts:

- the resilient serrated flange gives excellent self-locking properties
- inside of the resilient flange serration there is an optimal preloading of the construction with minimal settlement
- a washer and/or locking element is not necessary and is even not advisable

ASSEMBLY PRE-LOAD  $F_M$  in KN and TIGHTENING TORQUE  $M_A$  in Nm

| Class | Mating material | M5    |       | M6    |       | M8    |       | M10   |       | M12   |       | M16   |       |
|-------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       |                 | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ |
| 90    | Steel           | 6,35  | 9     | 9     | 16    | 16,5  | 34    | 26,2  | 58    | --    | --    | --    | --    |
|       | Malleable iron  | 6,35  | 7     | 9     | 13    | 16,5  | 28    | 26,2  | 49    | --    | --    | --    | --    |
| 100   | Steel           | --    | --    | --    | --    | --    | --    | --    | --    | 54    | 120   | 102   | 280   |
|       | Malleable iron  | --    | --    | --    | --    | --    | --    | --    | --    | 54    | 105   | 102   | 260   |

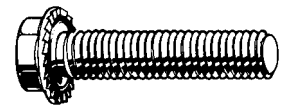
### Article groups

| Thread | Driving features | Material | Class  | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|--------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 90/100 |                   | Standard  | 01050 | 1-56 |
| M      | hexagon          | St       | 90/100 | Zipl              | Standard  | 01049 | 1-57 |
| M      | hexagon          | St       | 90/100 | FLZNNC-NC6        | Standard  | 01055 | 1-57 |

#### 01050 TENSILOCK Self-locking hexagon bolt with flange

A92A

**Thread** Metric thread  
**Material** Steel  
**Class** 90/100  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X10 | 500 | <a href="#">01050.050.010</a> | M8X25  | 200 | <a href="#">01050.080.025</a> | M12X35 | 100 | <a href="#">01050.120.035</a> |
| M5X12 | 500 | <a href="#">01050.050.012</a> | M8X30  | 200 | <a href="#">01050.080.030</a> | M12X40 | 100 | <a href="#">01050.120.040</a> |
| M5X16 | 500 | <a href="#">01050.050.016</a> | M8X35  | 200 | <a href="#">01050.080.035</a> | M12X45 | 100 | <a href="#">01050.120.045</a> |
| M5X20 | 500 | <a href="#">01050.050.020</a> | M8X40  | 200 | <a href="#">01050.080.040</a> | M12X50 | 100 | <a href="#">01050.120.050</a> |
| M6X10 | 500 | <a href="#">01050.060.010</a> | M10X16 | 200 | <a href="#">01050.100.016</a> | M16X25 | 50  | <a href="#">01050.160.025</a> |
| M6X12 | 500 | <a href="#">01050.060.012</a> | M10X20 | 200 | <a href="#">01050.100.020</a> | M16X30 | 50  | <a href="#">01050.160.030</a> |
| M6X16 | 500 | <a href="#">01050.060.016</a> | M10X25 | 200 | <a href="#">01050.100.025</a> | M16X35 | 50  | <a href="#">01050.160.035</a> |
| M6X20 | 500 | <a href="#">01050.060.020</a> | M10X30 | 200 | <a href="#">01050.100.030</a> | M16X40 | 50  | <a href="#">01050.160.040</a> |
| M6X25 | 500 | <a href="#">01050.060.025</a> | M10X35 | 100 | <a href="#">01050.100.035</a> | M16X45 | 50  | <a href="#">01050.160.045</a> |
| M6X30 | 500 | <a href="#">01050.060.030</a> | M10X40 | 100 | <a href="#">01050.100.040</a> | M16X50 | 50  | <a href="#">01050.160.050</a> |
| M8X12 | 200 | <a href="#">01050.080.012</a> | M12X20 | 100 | <a href="#">01050.120.020</a> | M16X55 | 50  | <a href="#">01050.160.055</a> |
| M8X16 | 200 | <a href="#">01050.080.016</a> | M12X25 | 100 | <a href="#">01050.120.025</a> | M16X60 | 50  | <a href="#">01050.160.060</a> |
| M8X20 | 200 | <a href="#">01050.080.020</a> | M12X30 | 100 | <a href="#">01050.120.030</a> | M16X70 | 25  | <a href="#">01050.160.070</a> |

|  |               |             |
|--|---------------|-------------|
| <b>01049 TENSILOCK Self-locking hexagon bolt with flange</b> |               | <b>A92A</b> |
| <b>Thread</b>  | Metric thread |             |
| <b>Material</b>  | Steel         |             |
| <b>Class</b>   | 90/100        |             |
| <b>Surface treatment</b>                                     | Zinc plated   |             |
| <b>Packaging</b>   | Standard      |             |

| d x L | ✉   | Art.number                    | d x L  | ✉   | Art.number                    | d x L  | ✉   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X8  | 500 | <a href="#">01049.050.008</a> | M8X12  | 200 | <a href="#">01049.080.012</a> | M12X20 | 100 | <a href="#">01049.120.020</a> |
| M5X10 | 500 | <a href="#">01049.050.010</a> | M8X14  | 200 | <a href="#">01049.080.014</a> | M12X25 | 100 | <a href="#">01049.120.025</a> |
| M5X12 | 500 | <a href="#">01049.050.012</a> | M8X16  | 200 | <a href="#">01049.080.016</a> | M12X30 | 100 | <a href="#">01049.120.030</a> |
| M5X14 | 500 | <a href="#">01049.050.014</a> | M8X18  | 200 | <a href="#">01049.080.018</a> | M12X35 | 100 | <a href="#">01049.120.035</a> |
| M5X16 | 500 | <a href="#">01049.050.016</a> | M8X22  | 200 | <a href="#">01049.080.022</a> | M12X40 | 100 | <a href="#">01049.120.040</a> |
| M5X20 | 500 | <a href="#">01049.050.020</a> | M8X25  | 200 | <a href="#">01049.080.025</a> |        |     |                               |
| M6X10 | 500 | <a href="#">01049.060.010</a> | M8X30  | 200 | <a href="#">01049.080.030</a> | M16X25 | 50  | <a href="#">01049.160.025</a> |
| M6X12 | 500 | <a href="#">01049.060.012</a> | M8X35  | 200 | <a href="#">01049.080.035</a> | M16X35 | 50  | <a href="#">01049.160.035</a> |
| M6X14 | 500 | <a href="#">01049.060.014</a> |        |     |                               | M16X40 | 50  | <a href="#">01049.160.040</a> |
| M6X16 | 500 | <a href="#">01049.060.016</a> | M10X18 | 200 | <a href="#">01049.100.018</a> | M16X50 | 50  | <a href="#">01049.160.050</a> |
| M6X20 | 500 | <a href="#">01049.060.020</a> | M10X20 | 200 | <a href="#">01049.100.020</a> |        |     |                               |
| M6X25 | 500 | <a href="#">01049.060.025</a> | M10X25 | 200 | <a href="#">01049.100.025</a> |        |     |                               |
| M6X30 | 500 | <a href="#">01049.060.030</a> | M10X30 | 200 | <a href="#">01049.100.030</a> |        |     |                               |

|  |   |             |
|--|---|-------------|
| <b>01055 TENSILOCK Self-locking hexagon bolt with flange</b> |   | <b>A94A</b> |
| <b>Thread</b>  | Metric thread                           |             |
| <b>Material</b>  | Steel                                   |             |
| <b>Class</b>   | 90/100                                  |             |
| <b>Surface treatment</b>                                     | Zinc flake Cr6+ free - ISO 10683 flZnnc |             |
| <b>Packaging</b>   | Standard                                |             |

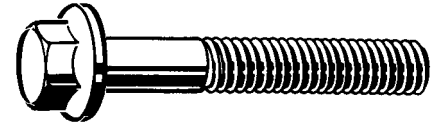
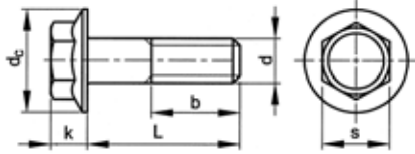
| d x L | ✉   | Art.number                    | d x L  | ✉   | Art.number                    | d x L  | ✉   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X10 | 500 | <a href="#">01055.060.010</a> | M8X20  | 200 | <a href="#">01055.080.020</a> | M12X30 | 100 | <a href="#">01055.120.030</a> |
| M6X12 | 500 | <a href="#">01055.060.012</a> | M8X25  | 200 | <a href="#">01055.080.025</a> | M12X40 | 100 | <a href="#">01055.120.040</a> |
| M6X16 | 500 | <a href="#">01055.060.016</a> | M8X30  | 200 | <a href="#">01055.080.030</a> | M12X50 | 100 | <a href="#">01055.120.050</a> |
| M6X20 | 500 | <a href="#">01055.060.020</a> |        |     |                               | M16X40 | 50  | <a href="#">01055.160.040</a> |
| M6X25 | 500 | <a href="#">01055.060.025</a> | M10X25 | 200 | <a href="#">01055.100.025</a> | M16X50 | 50  | <a href="#">01055.160.050</a> |
|       |     |                               | M10X30 | 200 | <a href="#">01055.100.030</a> |        |     |                               |
| M8X12 | 200 | <a href="#">01055.080.012</a> | M10X40 | 200 | <a href="#">01055.100.040</a> |        |     |                               |
| M8X16 | 200 | <a href="#">01055.080.016</a> |        |     |                               |        |     |                               |

- A ISO 10683 Zinc Flake surface coating eliminates the possibilities of damage which can arise due to hydrogen embrittlement.

## Hexagon bolt with flange

1

DIN 6921  
ANSI B18.2.3.4M



### Technical data

| d   | P    | b (min.) | k (max.) | s  | d <sub>c</sub> (max.) |
|-----|------|----------|----------|----|-----------------------|
| M5  | 0,8  | 16       | 5,4      | 8  | 11,8                  |
| M6  | 1    | 18       | 6,6      | 10 | 14,2                  |
| M8  | 1,25 | 22       | 8,1      | 13 | 18                    |
| M10 | 1,5  | 26       | 9,2      | 15 | 22,3                  |
| M12 | 1,75 | 30       | 11,5     | 16 | 26,6                  |
| M14 | 2    | 34       | 12,8     | 18 | 30,5                  |
| M16 | 2    | 38       | 14,4     | 21 | 35                    |
| M20 | 2,5  | 46       | 17,1     | 27 | 43                    |

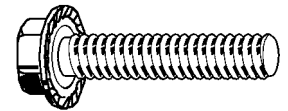
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 8.8   | Zipl              | Standard  | 01258 | 1-58 |
| M      | hexagon          | St       | 8.8   | Zipl yell.p.      | Standard  | 01256 | 1-58 |
| M      | hexagon          | St       | 10.9  |                   | Standard  | 04132 | 1-59 |

#### 01258 Hexagon bolt with toothed flange

A94A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 8.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |
|                          | DIN ≈6921     |



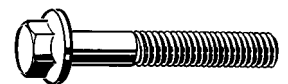
| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X12 | 200 | <a href="#">01258.060.012</a> | M8X25  | 200 | <a href="#">01258.080.025</a> | M12X20 | 100 | <a href="#">01258.120.020</a> |
| M6X16 | 200 | <a href="#">01258.060.016</a> | M8X30  | 200 | <a href="#">01258.080.030</a> | M12X25 | 100 | <a href="#">01258.120.025</a> |
| M6X20 | 200 | <a href="#">01258.060.020</a> |        |     |                               | M12X30 | 100 | <a href="#">01258.120.030</a> |
| M6X25 | 200 | <a href="#">01258.060.025</a> | M10X20 | 200 | <a href="#">01258.100.020</a> | M12X35 | 100 | <a href="#">01258.120.035</a> |
| M6X30 | 200 | <a href="#">01258.060.030</a> | M10X25 | 200 | <a href="#">01258.100.025</a> | M12X40 | 100 | <a href="#">01258.120.040</a> |
|       |     |                               | M10X30 | 200 | <a href="#">01258.100.030</a> |        |     |                               |
| M8X16 | 200 | <a href="#">01258.080.016</a> | M10X35 | 100 | <a href="#">01258.100.035</a> |        |     |                               |
| M8X20 | 200 | <a href="#">01258.080.020</a> | M10X40 | 100 | <a href="#">01258.100.040</a> |        |     |                               |

- Special features of hexagon bolts with toothed flange:
- The flange enables built up forces to be spread over a larger area, consequently resulting in lower surface pressure
- Large holes (oversized) and/or tooling holes can be covered by the flange
- A washer is not necessary
- Toothened flangebrim gives excellent self-locking properties

#### 01256 Hexagon bolt with flange

A94A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 8.8                           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M6X12 | 200 | <a href="#">01256.060.012</a> | M8X25  | 200 | <a href="#">01256.080.025</a> | M10X25  | 200 | <a href="#">01256.100.025</a> |
| M6X16 | 200 | <a href="#">01256.060.016</a> | M8X30  | 200 | <a href="#">01256.080.030</a> | M10X30  | 200 | <a href="#">01256.100.030</a> |
| M6X20 | 200 | <a href="#">01256.060.020</a> | M8X35  | 200 | <a href="#">01256.080.035</a> | M10X35  | 200 | <a href="#">01256.100.035</a> |
| M6X25 | 200 | <a href="#">01256.060.025</a> | M8X40  | 200 | <a href="#">01256.080.040</a> | M10X40  | 100 | <a href="#">01256.100.040</a> |
| M6X30 | 200 | <a href="#">01256.060.030</a> | M8X45  | 200 | <a href="#">01256.080.045</a> | M10X45  | 100 | <a href="#">01256.100.045</a> |
| M6X40 | 200 | <a href="#">01256.060.040</a> | M8X50  | 200 | <a href="#">01256.080.050</a> | M10X50  | 100 | <a href="#">01256.100.050</a> |
| M6X45 | 200 | <a href="#">01256.060.045</a> | M8X60  | 200 | <a href="#">01256.080.060</a> | M10X60  | 100 | <a href="#">01256.100.060</a> |
| M6X50 | 200 | <a href="#">01256.060.050</a> | M8X70  | 200 | <a href="#">01256.080.070</a> | M10X70  | 100 | <a href="#">01256.100.070</a> |
|       |     |                               | M8X80  | 100 | <a href="#">01256.080.080</a> | M10X80  | 100 | <a href="#">01256.100.080</a> |
| M8X12 | 200 | <a href="#">01256.080.012</a> | M8X100 | 100 | <a href="#">01256.080.100</a> | M10X100 | 100 | <a href="#">01256.100.100</a> |
| M8X16 | 200 | <a href="#">01256.080.016</a> |        |     |                               |         |     |                               |
| M8X20 | 200 | <a href="#">01256.080.020</a> | M10X20 | 200 | <a href="#">01256.100.020</a> | M12X25  | 100 | <a href="#">01256.120.025</a> |

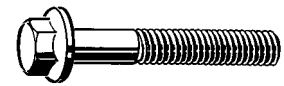
**01256 Hexagon bolt with flange** ←

| d x L   | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| M12X30  | 100 | <a href="#">01256.120.030</a> | M14X35 | 100 | <a href="#">01256.140.035</a> | M16X70  | 25 | <a href="#">01256.160.070</a> |
| M12X35  | 100 | <a href="#">01256.120.035</a> | M14X40 | 100 | <a href="#">01256.140.040</a> | M16X80  | 25 | <a href="#">01256.160.080</a> |
| M12X40  | 100 | <a href="#">01256.120.040</a> | M14X45 | 50  | <a href="#">01256.140.045</a> | M16X100 | 25 | <a href="#">01256.160.100</a> |
| M12X45  | 100 | <a href="#">01256.120.045</a> | M14X50 | 50  | <a href="#">01256.140.050</a> |         |    |                               |
| M12X50  | 100 | <a href="#">01256.120.050</a> | M14X60 | 50  | <a href="#">01256.140.060</a> | M20X50  | 25 | <a href="#">01256.200.050</a> |
| M12X60  | 100 | <a href="#">01256.120.060</a> | M14X80 | 50  | <a href="#">01256.140.080</a> | M20X60  | 25 | <a href="#">01256.200.060</a> |
| M12X70  | 50  | <a href="#">01256.120.070</a> |        |     |                               | M20X70  | 25 | <a href="#">01256.200.070</a> |
| M12X80  | 50  | <a href="#">01256.120.080</a> | M16X35 | 50  | <a href="#">01256.160.035</a> | M20X80  | 10 | <a href="#">01256.200.080</a> |
| M12X90  | 50  | <a href="#">01256.120.090</a> | M16X40 | 50  | <a href="#">01256.160.040</a> | M20X90  | 10 | <a href="#">01256.200.090</a> |
| M12X100 | 50  | <a href="#">01256.120.100</a> | M16X45 | 50  | <a href="#">01256.160.045</a> | M20X100 | 10 | <a href="#">01256.200.100</a> |
| M12X120 | 50  | <a href="#">01256.120.120</a> | M16X50 | 50  | <a href="#">01256.160.050</a> | M20X120 | 10 | <a href="#">01256.200.120</a> |
|         |     |                               | M16X60 | 50  | <a href="#">01256.160.060</a> |         |    |                               |

- Special features of hexagon bolts with flange:
- The flange enables built up forces to be spread over a larger area, consequently resulting in lower surface pressure.
- Large holes (oversized) and/or tooling holes can be covered by the flange.
- A washer is not necessary.

**04132 Hexagon bolt with flange** A92A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 10.9          |
| <b>Packaging</b> | Standard      |



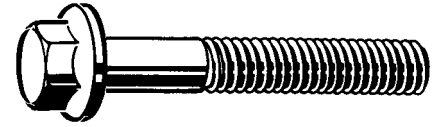
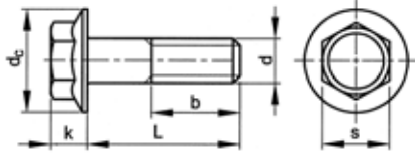
| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒  | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| M6X20  | 200 | <a href="#">04132.060.020</a> | M10X40 | 100 | <a href="#">04132.100.040</a> | M14X35 | 50 | <a href="#">04132.140.035</a> |
| M6X25  | 200 | <a href="#">04132.060.025</a> | M10X50 | 100 | <a href="#">04132.100.050</a> | M14X40 | 50 | <a href="#">04132.140.040</a> |
| M6X30  | 200 | <a href="#">04132.060.030</a> | M10X60 | 100 | <a href="#">04132.100.060</a> | M14X45 | 50 | <a href="#">04132.140.045</a> |
| M6X40  | 200 | <a href="#">04132.060.040</a> | M10X70 | 100 | <a href="#">04132.100.070</a> | M14X50 | 50 | <a href="#">04132.140.050</a> |
| M6X50  | 200 | <a href="#">04132.060.050</a> |        |     |                               |        |    |                               |
|        |     |                               | M12X25 | 100 | <a href="#">04132.120.025</a> | M16X35 | 50 | <a href="#">04132.160.035</a> |
| M8X20  | 200 | <a href="#">04132.080.020</a> | M12X30 | 100 | <a href="#">04132.120.030</a> | M16X40 | 50 | <a href="#">04132.160.040</a> |
| M8X25  | 200 | <a href="#">04132.080.025</a> | M12X35 | 100 | <a href="#">04132.120.035</a> | M16X45 | 50 | <a href="#">04132.160.045</a> |
| M8X30  | 200 | <a href="#">04132.080.030</a> | M12X40 | 100 | <a href="#">04132.120.040</a> | M16X50 | 50 | <a href="#">04132.160.050</a> |
| M8X40  | 200 | <a href="#">04132.080.040</a> | M12X45 | 100 | <a href="#">04132.120.045</a> | M16X60 | 50 | <a href="#">04132.160.060</a> |
| M8X50  | 200 | <a href="#">04132.080.050</a> | M12X50 | 100 | <a href="#">04132.120.050</a> | M16X70 | 25 | <a href="#">04132.160.070</a> |
|        |     |                               | M12X60 | 100 | <a href="#">04132.120.060</a> | M16X80 | 25 | <a href="#">04132.160.080</a> |
| M10X20 | 200 | <a href="#">04132.100.020</a> | M12X70 | 50  | <a href="#">04132.120.070</a> |        |    |                               |
| M10X25 | 200 | <a href="#">04132.100.025</a> | M12X80 | 50  | <a href="#">04132.120.080</a> |        |    |                               |
| M10X30 | 200 | <a href="#">04132.100.030</a> | M12X90 | 50  | <a href="#">04132.120.090</a> |        |    |                               |

- Special features of hexagon bolts with flange:
- The flange enables built up forces to be spread over a larger area, consequently resulting in lower surface pressure.
- Large holes (oversized) and/or tooling holes can be covered by the flange.
- A washer is not necessary.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

1

## Hexagon bolt with flange MF

DIN 6921  
ANSI B18.2.3.4M



### Technical data

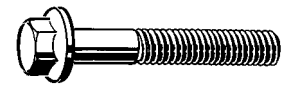
| d   | b (min.) | k (max.) | s  | d <sub>c</sub> (max.) |
|-----|----------|----------|----|-----------------------|
| M8  | 22       | 8,1      | 13 | 18                    |
| M10 | 26       | 9,2      | 15 | 22,3                  |
| M12 | 30       | 11,5     | 16 | 26,6                  |
| M14 | 34       | 12,8     | 18 | 30,5                  |
| M16 | 38       | 14,4     | 21 | 35                    |

- Special features of hexagon bolts with flange:
- The flange enables built up forces to be spread over a larger area, consequently resulting in lower surface pressure.
- Large holes (oversized) and/or tooling holes can be covered by the flange.
- A washer is not necessary.

### 04135 Hexagon bolt with flange MF

A92A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 10.9  
**Packaging** Standard



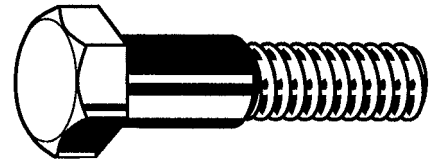
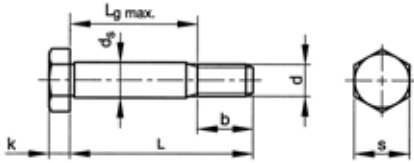
| d x P x L   | ☒   | Art.number                    | d x P x L   | ☒   | Art.number                    | d x P x L   | ☒  | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|----|-------------------------------|
| M8X1,00X25  | 200 | <a href="#">04135.080.025</a> | M12X1,50X25 | 100 | <a href="#">04135.120.025</a> | M16X1,50X35 | 50 | <a href="#">04135.160.035</a> |
| M8X1,00X30  | 200 | <a href="#">04135.080.030</a> | M12X1,50X30 | 100 | <a href="#">04135.120.030</a> | M16X1,50X40 | 50 | <a href="#">04135.160.040</a> |
| M10X1,25X20 | 200 | <a href="#">04135.100.020</a> | M12X1,50X40 | 100 | <a href="#">04135.120.040</a> | M16X1,50X45 | 50 | <a href="#">04135.160.045</a> |
| M10X1,25X30 | 200 | <a href="#">04135.100.030</a> | M12X1,50X45 | 100 | <a href="#">04135.120.045</a> | M16X1,50X50 | 50 | <a href="#">04135.160.050</a> |
| M10X1,25X40 | 100 | <a href="#">04135.100.040</a> | M12X1,50X50 | 100 | <a href="#">04135.120.050</a> | M16X1,50X60 | 50 | <a href="#">04135.160.060</a> |
| M10X1,25X50 | 100 | <a href="#">04135.100.050</a> | M14X1,50X35 | 50  | <a href="#">04135.140.035</a> |             |    |                               |
| M10X1,25X60 | 100 | <a href="#">04135.100.060</a> | M14X1,50X40 | 50  | <a href="#">04135.140.040</a> |             |    |                               |
| M10X1,25X70 | 100 | <a href="#">04135.100.070</a> | M14X1,50X50 | 50  | <a href="#">04135.140.050</a> |             |    |                               |
|             |     |                               | M14X1,50X60 | 50  | <a href="#">04135.140.060</a> |             |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon fit bolt with long thread

DIN 609

1



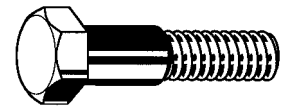
### Technical data

| d                   | M10  | M12  | M16 | M20  | M24  |
|---------------------|------|------|-----|------|------|
| P                   | 1,5  | 1,75 | 2   | 2,5  | 3    |
| b:L≤50mm            | 17,5 | 20,5 | 25  | 28,5 | -    |
| b:50mm<L≤150mm      | 19,5 | 22,5 | 27  | 30,5 | 36,5 |
| d <sub>s</sub> (k6) | 11   | 13   | 17  | 21   | 25   |
| Tolerance drill ø   | H7   | H7   | H7  | H7   | H7   |
| k                   | 6,4  | 7,5  | 10  | 12,5 | 15   |
| s                   | 16   | 18   | 24  | 30   | 36   |

### 01040 Hexagon fit bolt with long thread

A90A

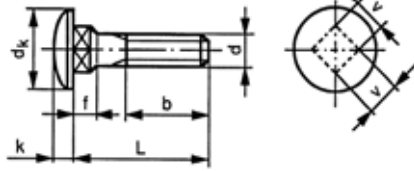
Thread: Metric thread  
Material: Steel  
Class: 8.8  
Packaging: Standard



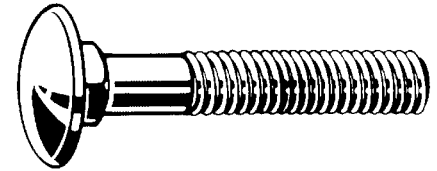
| d x L  | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒ | Art.number                    |
|--------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M10X30 | 25 | <a href="#">01040.100.030</a> | M12X70  | 25 | <a href="#">01040.120.070</a> | M20X60  | 5 | <a href="#">01040.200.060</a> |
| M10X35 | 25 | <a href="#">01040.100.035</a> |         |    |                               | M20X70  | 5 | <a href="#">01040.200.070</a> |
| M10X40 | 25 | <a href="#">01040.100.040</a> | M16X40  | 10 | <a href="#">01040.160.040</a> | M20X80  | 5 | <a href="#">01040.200.080</a> |
| M10X45 | 25 | <a href="#">01040.100.045</a> | M16X45  | 10 | <a href="#">01040.160.045</a> | M20X90  | 5 | <a href="#">01040.200.090</a> |
| M10X50 | 25 | <a href="#">01040.100.050</a> | M16X50  | 10 | <a href="#">01040.160.050</a> | M20X100 | 5 | <a href="#">01040.200.100</a> |
| M10X55 | 25 | <a href="#">01040.100.055</a> | M16X55  | 10 | <a href="#">01040.160.055</a> | M20X120 | 5 | <a href="#">01040.200.120</a> |
| M10X60 | 25 | <a href="#">01040.100.060</a> | M16X60  | 10 | <a href="#">01040.160.060</a> |         |   |                               |
|        |    |                               | M16X70  | 10 | <a href="#">01040.160.070</a> | M24X55  | 3 | <a href="#">01040.240.055</a> |
| M12X30 | 25 | <a href="#">01040.120.030</a> | M16X80  | 10 | <a href="#">01040.160.080</a> | M24X60  | 3 | <a href="#">01040.240.060</a> |
| M12X35 | 25 | <a href="#">01040.120.035</a> | M16X90  | 10 | <a href="#">01040.160.090</a> | M24X70  | 3 | <a href="#">01040.240.070</a> |
| M12X40 | 25 | <a href="#">01040.120.040</a> | M16X100 | 10 | <a href="#">01040.160.100</a> | M24X80  | 3 | <a href="#">01040.240.080</a> |
| M12X45 | 25 | <a href="#">01040.120.045</a> |         |    |                               | M24X90  | 3 | <a href="#">01040.240.090</a> |
| M12X50 | 25 | <a href="#">01040.120.050</a> | M20X45  | 5  | <a href="#">01040.200.045</a> | M24X100 | 3 | <a href="#">01040.240.100</a> |
| M12X55 | 25 | <a href="#">01040.120.055</a> | M20X50  | 5  | <a href="#">01040.200.050</a> | M24X120 | 3 | <a href="#">01040.240.120</a> |
| M12X60 | 25 | <a href="#">01040.120.060</a> | M20X55  | 5  | <a href="#">01040.200.055</a> |         |   |                               |

## Mushroom head square neck bolt

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ISO 8677  
**DIN 603**  
 NEN 303  
 ANSI B18.5.2.3M  
 BS 4933



### Technical data

|                                   | M5    | M6    | M8    | M10   | M12   | M16   |
|-----------------------------------|-------|-------|-------|-------|-------|-------|
| <b>d</b>                          | M5    | M6    | M8    | M10   | M12   | M16   |
| <b>P</b>                          | 0,8   | 1     | 1,25  | 1,5   | 1,75  | 2     |
| <b>b (min.): L≤125mm</b>          | 16    | 18    | 22    | 26    | 30    | 38    |
| <b>b (min.): 125mm&lt;L≤200mm</b> | 22    | 24    | 28    | 32    | 36    | 44    |
| <b>b (min.): L&gt;200mm</b>       | -     | -     | 41    | 45    | 49    | 57    |
| <b>d<sub>k</sub> (max.)</b>       | 13,55 | 16,55 | 20,65 | 24,65 | 30,65 | 38,80 |
| <b>f (max.)</b>                   | 4,1   | 4,6   | 5,6   | 6,6   | 8,75  | 12,9  |
| <b>k (max.)</b>                   | 3,3   | 3,88  | 4,88  | 5,38  | 6,95  | 8,95  |
| <b>v (max.)</b>                   | 5,48  | 6,48  | 8,58  | 10,58 | 12,7  | 16,7  |

- Size 'b' is a guide value, it amounts on the minimum length of the threaded part.

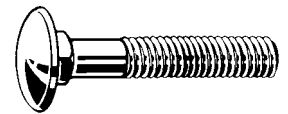
### Article groups

| Thread | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------|-------------------|-----------|-------|------|
| M      | St        | 8.8   |                   | Standard  | 08310 | 1-62 |
| M      | St        | 8.8   | Zipl              | Standard  | 08320 | 1-62 |
| M      | St.St. A2 |       |                   | Standard  | 51500 | 1-63 |
| M      | St.St. A4 |       |                   | Standard  | 55500 | 1-63 |

#### 08310 Mushroom head square neck bolt

A90A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard

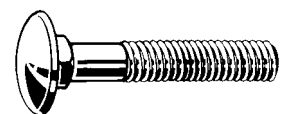


| d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M6X16 | 200 | <a href="#">08310.060.016</a> | M8X60   | 100 | <a href="#">08310.080.060</a> | M12X25  | 100 | <a href="#">08310.120.025</a> |
| M6X20 | 200 | <a href="#">08310.060.020</a> | M8X70   | 100 | <a href="#">08310.080.070</a> | M12X30  | 100 | <a href="#">08310.120.030</a> |
| M6X25 | 200 | <a href="#">08310.060.025</a> | M8X80   | 100 | <a href="#">08310.080.080</a> | M12X35  | 100 | <a href="#">08310.120.035</a> |
| M6X30 | 200 | <a href="#">08310.060.030</a> |         |     |                               | M12X40  | 50  | <a href="#">08310.120.040</a> |
| M6X35 | 200 | <a href="#">08310.060.035</a> | M10X20  | 100 | <a href="#">08310.100.020</a> | M12X45  | 50  | <a href="#">08310.120.045</a> |
| M6X40 | 200 | <a href="#">08310.060.040</a> | M10X25  | 100 | <a href="#">08310.100.025</a> | M12X50  | 50  | <a href="#">08310.120.050</a> |
| M6X45 | 200 | <a href="#">08310.060.045</a> | M10X30  | 100 | <a href="#">08310.100.030</a> | M12X55  | 50  | <a href="#">08310.120.055</a> |
| M6X50 | 200 | <a href="#">08310.060.050</a> | M10X35  | 100 | <a href="#">08310.100.035</a> | M12X60  | 50  | <a href="#">08310.120.060</a> |
|       |     |                               | M10X40  | 100 | <a href="#">08310.100.040</a> | M12X65  | 50  | <a href="#">08310.120.065</a> |
| M8X16 | 200 | <a href="#">08310.080.016</a> | M10X45  | 100 | <a href="#">08310.100.045</a> | M12X70  | 50  | <a href="#">08310.120.070</a> |
| M8X20 | 200 | <a href="#">08310.080.020</a> | M10X50  | 100 | <a href="#">08310.100.050</a> | M12X80  | 50  | <a href="#">08310.120.080</a> |
| M8X25 | 200 | <a href="#">08310.080.025</a> | M10X55  | 100 | <a href="#">08310.100.055</a> | M12X90  | 50  | <a href="#">08310.120.090</a> |
| M8X30 | 200 | <a href="#">08310.080.030</a> | M10X60  | 100 | <a href="#">08310.100.060</a> | M12X100 | 50  | <a href="#">08310.120.100</a> |
| M8X35 | 200 | <a href="#">08310.080.035</a> | M10X70  | 100 | <a href="#">08310.100.070</a> |         |     |                               |
| M8X40 | 200 | <a href="#">08310.080.040</a> | M10X80  | 50  | <a href="#">08310.100.080</a> | M16X90  | 25  | <a href="#">08310.160.090</a> |
| M8X45 | 200 | <a href="#">08310.080.045</a> | M10X90  | 50  | <a href="#">08310.100.090</a> | M16X120 | 25  | <a href="#">08310.160.120</a> |
| M8X50 | 200 | <a href="#">08310.080.050</a> | M10X100 | 50  | <a href="#">08310.100.100</a> |         |     |                               |
| M8X55 | 100 | <a href="#">08310.080.055</a> |         |     |                               |         |     |                               |

#### 08320 Mushroom head square neck bolt

A90A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X16 | 200 | <a href="#">08320.060.016</a> | M8X20 | 200 | <a href="#">08320.080.020</a> | M8X55  | 100 | <a href="#">08320.080.055</a> |
| M6X20 | 200 | <a href="#">08320.060.020</a> | M8X25 | 200 | <a href="#">08320.080.025</a> | M8X60  | 100 | <a href="#">08320.080.060</a> |
| M6X30 | 200 | <a href="#">08320.060.030</a> | M8X30 | 200 | <a href="#">08320.080.030</a> |        |     |                               |
| M6X40 | 200 | <a href="#">08320.060.040</a> | M8X35 | 200 | <a href="#">08320.080.035</a> | M10X20 | 100 | <a href="#">08320.100.020</a> |
| M6X50 | 200 | <a href="#">08320.060.050</a> | M8X40 | 200 | <a href="#">08320.080.040</a> | M10X25 | 100 | <a href="#">08320.100.025</a> |
|       |     |                               | M8X45 | 200 | <a href="#">08320.080.045</a> | M10X30 | 100 | <a href="#">08320.100.030</a> |
| M8X16 | 200 | <a href="#">08320.080.016</a> | M8X50 | 200 | <a href="#">08320.080.050</a> | M10X35 | 100 | <a href="#">08320.100.035</a> |



**08320 Mushroom head square neck bolt** ←

| d x L   | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| M10X40  | 100 | <a href="#">08320.100.040</a> | M12X30 | 100 | <a href="#">08320.120.030</a> | M12X70  | 50 | <a href="#">08320.120.070</a> |
| M10X50  | 100 | <a href="#">08320.100.050</a> | M12X35 | 100 | <a href="#">08320.120.035</a> | M12X80  | 50 | <a href="#">08320.120.080</a> |
| M10X60  | 100 | <a href="#">08320.100.060</a> | M12X40 | 50  | <a href="#">08320.120.040</a> | M12X90  | 50 | <a href="#">08320.120.090</a> |
| M10X70  | 100 | <a href="#">08320.100.070</a> | M12X45 | 50  | <a href="#">08320.120.045</a> | M12X100 | 50 | <a href="#">08320.120.100</a> |
| M10X80  | 50  | <a href="#">08320.100.080</a> | M12X50 | 50  | <a href="#">08320.120.050</a> |         |    |                               |
| M10X90  | 50  | <a href="#">08320.100.090</a> | M12X60 | 50  | <a href="#">08320.120.060</a> |         |    |                               |
| M10X100 | 50  | <a href="#">08320.100.100</a> |        |     |                               |         |    |                               |

**51500 Mushroom head square neck bolt** R03A

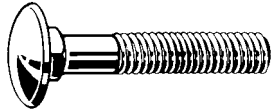
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d x L    | ☒  | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|----------|----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| M5X16    | 50 | <a href="#">51500.050.016</a> | M8X170 *  | 50  | <a href="#">51500.080.170</a> | M12X100   | 10 | <a href="#">51500.120.100</a> |
| M5X20    | 50 | <a href="#">51500.050.020</a> | M8X180 *  | 50  | <a href="#">51500.080.180</a> | M12X110   | 10 | <a href="#">51500.120.110</a> |
| M5X25    | 50 | <a href="#">51500.050.025</a> | M8X190 *  | 50  | <a href="#">51500.080.190</a> | M12X120   | 10 | <a href="#">51500.120.120</a> |
| M5X30    | 50 | <a href="#">51500.050.030</a> |           |     |                               | M12X160 * | 50 | <a href="#">51500.120.160</a> |
| M5X40    | 50 | <a href="#">51500.050.040</a> | M10X16 *  | 100 | <a href="#">51500.100.016</a> | M12X180 * | 50 | <a href="#">51500.120.180</a> |
| M5X50    | 50 | <a href="#">51500.050.050</a> | M10X20    | 25  | <a href="#">51500.100.020</a> | M12X200 * | 50 | <a href="#">51500.120.200</a> |
| M5X60    | 50 | <a href="#">51500.050.060</a> | M10X25    | 25  | <a href="#">51500.100.025</a> | M12X220 * | 50 | <a href="#">51500.120.220</a> |
|          |    |                               | M10X30    | 25  | <a href="#">51500.100.030</a> | M12X240 * | 50 | <a href="#">51500.120.240</a> |
| M6X16    | 50 | <a href="#">51500.060.016</a> | M10X35    | 25  | <a href="#">51500.100.035</a> | M12X260 * | 50 | <a href="#">51500.120.260</a> |
| M6X20    | 50 | <a href="#">51500.060.020</a> | M10X40    | 25  | <a href="#">51500.100.040</a> | M12X280 * | 50 | <a href="#">51500.120.280</a> |
| M6X25    | 50 | <a href="#">51500.060.025</a> | M10X45    | 25  | <a href="#">51500.100.045</a> | M12X300 * | 50 | <a href="#">51500.120.300</a> |
| M6X30    | 50 | <a href="#">51500.060.030</a> | M10X50    | 25  | <a href="#">51500.100.050</a> |           |    |                               |
| M6X35    | 50 | <a href="#">51500.060.035</a> | M10X55    | 25  | <a href="#">51500.100.055</a> | M16X40 *  | 25 | <a href="#">51500.160.040</a> |
| M6X40    | 50 | <a href="#">51500.060.040</a> | M10X60    | 10  | <a href="#">51500.100.060</a> | M16X45    | 10 | <a href="#">51500.160.045</a> |
| M6X45    | 50 | <a href="#">51500.060.045</a> | M10X70    | 10  | <a href="#">51500.100.070</a> | M16X50 *  | 25 | <a href="#">51500.160.050</a> |
| M6X50    | 50 | <a href="#">51500.060.050</a> | M10X80    | 10  | <a href="#">51500.100.080</a> | M16X55 *  | 25 | <a href="#">51500.160.055</a> |
| M6X60    | 50 | <a href="#">51500.060.060</a> | M10X90    | 10  | <a href="#">51500.100.090</a> | M16X60    | 10 | <a href="#">51500.160.060</a> |
| M6X70    | 50 | <a href="#">51500.060.070</a> | M10X100   | 10  | <a href="#">51500.100.100</a> | M16X65    | 10 | <a href="#">51500.160.065</a> |
| M6X80    | 50 | <a href="#">51500.060.080</a> | M10X120   | 10  | <a href="#">51500.100.120</a> | M16X70 *  | 25 | <a href="#">51500.160.070</a> |
| M6X90    | 50 | <a href="#">51500.060.090</a> | M10X160 * | 50  | <a href="#">51500.100.160</a> | M16X80 *  | 25 | <a href="#">51500.160.080</a> |
| M6X100   | 50 | <a href="#">51500.060.100</a> | M10X180 * | 50  | <a href="#">51500.100.180</a> | M16X90 *  | 25 | <a href="#">51500.160.090</a> |
|          |    |                               | M10X200 * | 50  | <a href="#">51500.100.200</a> | M16X100 * | 25 | <a href="#">51500.160.100</a> |
| M8X16    | 50 | <a href="#">51500.080.016</a> | M10X220 * | 50  | <a href="#">51500.100.220</a> | M16X110 * | 25 | <a href="#">51500.160.110</a> |
| M8X20    | 50 | <a href="#">51500.080.020</a> | M10X240 * | 50  | <a href="#">51500.100.240</a> | M16X120 * | 25 | <a href="#">51500.160.120</a> |
| M8X25    | 50 | <a href="#">51500.080.025</a> | M10X260 * | 50  | <a href="#">51500.100.260</a> | M16X130 * | 25 | <a href="#">51500.160.130</a> |
| M8X30    | 50 | <a href="#">51500.080.030</a> | M10X280 * | 50  | <a href="#">51500.100.280</a> | M16X140 * | 25 | <a href="#">51500.160.140</a> |
| M8X35    | 50 | <a href="#">51500.080.035</a> | M10X300 * | 50  | <a href="#">51500.100.300</a> | M16X150 * | 25 | <a href="#">51500.160.150</a> |
| M8X40    | 25 | <a href="#">51500.080.040</a> |           |     |                               | M16X160 * | 25 | <a href="#">51500.160.160</a> |
| M8X50    | 25 | <a href="#">51500.080.050</a> | M12X25    | 10  | <a href="#">51500.120.025</a> | M16X180 * | 25 | <a href="#">51500.160.180</a> |
| M8X60    | 25 | <a href="#">51500.080.060</a> | M12X30    | 10  | <a href="#">51500.120.030</a> | M16X200 * | 25 | <a href="#">51500.160.200</a> |
| M8X70    | 25 | <a href="#">51500.080.070</a> | M12X40    | 10  | <a href="#">51500.120.040</a> | M16X220 * | 25 | <a href="#">51500.160.220</a> |
| M8X80    | 25 | <a href="#">51500.080.080</a> | M12X50    | 10  | <a href="#">51500.120.050</a> | M16X240 * | 25 | <a href="#">51500.160.240</a> |
| M8X100   | 25 | <a href="#">51500.080.100</a> | M12X60    | 10  | <a href="#">51500.120.060</a> | M16X260 * | 25 | <a href="#">51500.160.260</a> |
| M8X110   | 25 | <a href="#">51500.080.110</a> | M12X70    | 10  | <a href="#">51500.120.070</a> | M16X280 * | 25 | <a href="#">51500.160.280</a> |
| M8X120 * | 50 | <a href="#">51500.080.120</a> | M12X80    | 10  | <a href="#">51500.120.080</a> | M16X300 * | 25 | <a href="#">51500.160.300</a> |
| M8X160 * | 50 | <a href="#">51500.080.160</a> | M12X90    | 10  | <a href="#">51500.120.090</a> |           |    |                               |

**55500 Mushroom head square neck bolt** R43A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |

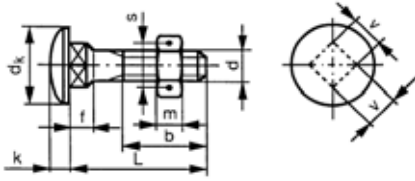


| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|-----------|----|-------------------------------|
| M5X16 | 50 | <a href="#">55500.050.016</a> | M6X90  | 50 | <a href="#">55500.060.090</a> | M8X140    | 10 | <a href="#">55500.080.140</a> |
| M5X20 | 50 | <a href="#">55500.050.020</a> | M6X100 | 50 | <a href="#">55500.060.100</a> | M8X150    | 10 | <a href="#">55500.080.150</a> |
| M5X30 | 50 | <a href="#">55500.050.030</a> | M6X110 | 25 | <a href="#">55500.060.110</a> |           |    |                               |
| M5X35 | 50 | <a href="#">55500.050.035</a> | M6X120 | 25 | <a href="#">55500.060.120</a> | M10X20    | 25 | <a href="#">55500.100.020</a> |
| M5X40 | 50 | <a href="#">55500.050.040</a> |        |    |                               | M10X30    | 25 | <a href="#">55500.100.030</a> |
| M5X50 | 50 | <a href="#">55500.050.050</a> | M8X16  | 50 | <a href="#">55500.080.016</a> | M10X40    | 25 | <a href="#">55500.100.040</a> |
| M5X60 | 50 | <a href="#">55500.050.060</a> | M8X20  | 50 | <a href="#">55500.080.020</a> | M10X50    | 25 | <a href="#">55500.100.050</a> |
| M5X70 | 50 | <a href="#">55500.050.070</a> | M8X25  | 50 | <a href="#">55500.080.025</a> | M10X60    | 10 | <a href="#">55500.100.060</a> |
|       |    |                               | M8X30  | 50 | <a href="#">55500.080.030</a> | M10X70    | 10 | <a href="#">55500.100.070</a> |
| M6X16 | 50 | <a href="#">55500.060.016</a> | M8X35  | 50 | <a href="#">55500.080.035</a> | M10X80    | 10 | <a href="#">55500.100.080</a> |
| M6X20 | 50 | <a href="#">55500.060.020</a> | M8X40  | 25 | <a href="#">55500.080.040</a> | M10X100   | 10 | <a href="#">55500.100.100</a> |
| M6X25 | 50 | <a href="#">55500.060.025</a> | M8X50  | 25 | <a href="#">55500.080.050</a> | M10X110   | 10 | <a href="#">55500.100.110</a> |
| M6X30 | 50 | <a href="#">55500.060.030</a> | M8X60  | 25 | <a href="#">55500.080.060</a> | M10X120   | 10 | <a href="#">55500.100.120</a> |
| M6X35 | 50 | <a href="#">55500.060.035</a> | M8X70  | 25 | <a href="#">55500.080.070</a> | M10X130   | 10 | <a href="#">55500.100.130</a> |
| M6X40 | 50 | <a href="#">55500.060.040</a> | M8X80  | 25 | <a href="#">55500.080.080</a> | M10X140   | 10 | <a href="#">55500.100.140</a> |
| M6X45 | 50 | <a href="#">55500.060.045</a> | M8X90  | 25 | <a href="#">55500.080.090</a> | M10X150   | 10 | <a href="#">55500.100.150</a> |
| M6X50 | 50 | <a href="#">55500.060.050</a> | M8X100 | 25 | <a href="#">55500.080.100</a> | M10X160 * | 50 | <a href="#">55500.100.160</a> |
| M6X60 | 50 | <a href="#">55500.060.060</a> | M8X110 | 10 | <a href="#">55500.080.110</a> | M10X200 * | 50 | <a href="#">55500.100.200</a> |
| M6X70 | 50 | <a href="#">55500.060.070</a> | M8X120 | 10 | <a href="#">55500.080.120</a> |           |    |                               |
| M6X80 | 50 | <a href="#">55500.060.080</a> | M8X130 | 10 | <a href="#">55500.080.130</a> | M12X30    | 10 | <a href="#">55500.120.030</a> |

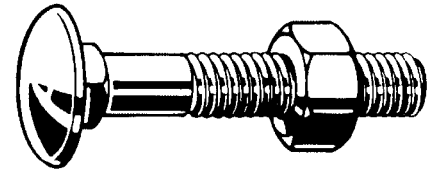
**1**

| 55500 Mushroom head square neck bolt |    |                               |          |    |                               |         |   |                               |  |
|--------------------------------------|----|-------------------------------|----------|----|-------------------------------|---------|---|-------------------------------|--|
| d x L                                | ☒  | Art.number                    | d x L    | ☒  | Art.number                    | d x L   | ☒ | Art.number                    |  |
| M12X40                               | 10 | <a href="#">55500.120.040</a> | M12X130  | 10 | <a href="#">55500.120.130</a> | M16X80  | 5 | <a href="#">55500.160.080</a> |  |
| M12X50                               | 10 | <a href="#">55500.120.050</a> | M12X140  | 10 | <a href="#">55500.120.140</a> | M16X90  | 5 | <a href="#">55500.160.090</a> |  |
| M12X60                               | 10 | <a href="#">55500.120.060</a> | M12X150  | 10 | <a href="#">55500.120.150</a> | M16X100 | 5 | <a href="#">55500.160.100</a> |  |
| M12X70                               | 10 | <a href="#">55500.120.070</a> |          |    |                               | M16X120 | 5 | <a href="#">55500.160.120</a> |  |
| M12X80                               | 10 | <a href="#">55500.120.080</a> | M16X40   | 10 | <a href="#">55500.160.040</a> | M16X130 | 5 | <a href="#">55500.160.130</a> |  |
| M12X90                               | 10 | <a href="#">55500.120.090</a> | M16X50   | 10 | <a href="#">55500.160.050</a> | M16X140 | 5 | <a href="#">55500.160.140</a> |  |
| M12X100                              | 10 | <a href="#">55500.120.100</a> | M16X55 * | 25 | <a href="#">55500.160.055</a> | M16X150 | 5 | <a href="#">55500.160.150</a> |  |
| M12X110                              | 10 | <a href="#">55500.120.110</a> | M16X60   | 10 | <a href="#">55500.160.060</a> |         |   |                               |  |
| M12X120                              | 10 | <a href="#">55500.120.120</a> | M16X70   | 10 | <a href="#">55500.160.070</a> |         |   |                               |  |

## Mushroom head square neck bolt with hexagon nut



ISO 8677/-  
DIN 603/555 (1987)  
NEN 303/697  
ANSI B18.5.2.3M/-  
NF - / E25-402  
BS 4933/-



1

### Technical data

|                                   | M5    | M6    | M8    | M10   | M12   | M16  |
|-----------------------------------|-------|-------|-------|-------|-------|------|
| <b>d</b>                          | M5    | M6    | M8    | M10   | M12   | M16  |
| <b>P</b>                          | 0,8   | 1     | 1,25  | 1,5   | 1,75  | 2    |
| <b>b (min.): L≤125mm</b>          | 16    | 18    | 22    | 26    | 30    | 38   |
| <b>b (min.): 125mm&lt;L≤200mm</b> | 22    | 24    | 28    | 32    | 36    | 44   |
| <b>b (min.): L&gt;200mm</b>       | -     | -     | 41    | 45    | 49    | 57   |
| <b>dk (max.)</b>                  | 13,55 | 16,55 | 20,65 | 24,65 | 30,65 | 38,8 |
| <b>f (max.)</b>                   | 4,1   | 4,6   | 5,6   | 6,6   | 8,75  | 12,9 |
| <b>k (max.)</b>                   | 3,3   | 3,88  | 4,88  | 5,38  | 6,95  | 8,95 |
| <b>v (max.)</b>                   | 5,48  | 6,48  | 8,58  | 10,58 | 12,7  | 16,7 |
| <b>m</b>                          | 4     | 5     | 6,5   | 8     | 10    | 13   |
| <b>s</b>                          | 8     | 10    | 13    | 17    | 19    | 24   |

- Size 'b' is a guide value, it amounts on the minimum length of the threaded part.

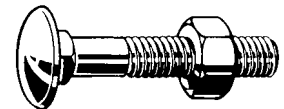
### Article groups

| Thread | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|----------|-------|-------------------|-----------|-------|------|
| M      | St       | ≥4.6  | Zipl              | Standard  | 08250 | 1-65 |
| M      | St       | ≥4.6  | Hot d.g.          | Standard  | 08420 | 1-66 |

### 08250 Mushroom head square neck bolt with hexagon nut

E05A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥4.6  
**Surface treatment** Zinc plated  
**Packaging** Standard



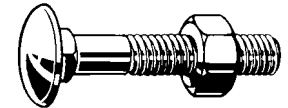
| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M5X16  | 500 | <a href="#">08250.050.016</a> | M8X40   | 200 | <a href="#">08250.080.040</a> | M10X130 | 50  | <a href="#">08250.100.130</a> |
| M5X20  | 500 | <a href="#">08250.050.020</a> | M8X45   | 200 | <a href="#">08250.080.045</a> | M10X140 | 50  | <a href="#">08250.100.140</a> |
| M5X25  | 500 | <a href="#">08250.050.025</a> | M8X50   | 200 | <a href="#">08250.080.050</a> | M10X150 | 50  | <a href="#">08250.100.150</a> |
| M5X30  | 500 | <a href="#">08250.050.030</a> | M8X55   | 200 | <a href="#">08250.080.055</a> | M10X160 | 50  | <a href="#">08250.100.160</a> |
| M5X35  | 200 | <a href="#">08250.050.035</a> | M8X60   | 200 | <a href="#">08250.080.060</a> | M10X170 | 50  | <a href="#">08250.100.170</a> |
| M5X40  | 200 | <a href="#">08250.050.040</a> | M8X65   | 200 | <a href="#">08250.080.065</a> | M10X180 | 50  | <a href="#">08250.100.180</a> |
| M5X45  | 200 | <a href="#">08250.050.045</a> | M8X70   | 200 | <a href="#">08250.080.070</a> | M10X190 | 50  | <a href="#">08250.100.190</a> |
| M5X50  | 200 | <a href="#">08250.050.050</a> | M8X75   | 200 | <a href="#">08250.080.075</a> | M10X200 | 50  | <a href="#">08250.100.200</a> |
| M5X60  | 200 | <a href="#">08250.050.060</a> | M8X80   | 200 | <a href="#">08250.080.080</a> | M10X220 | 25  | <a href="#">08250.100.220</a> |
| M5X65  | 200 | <a href="#">08250.050.065</a> | M8X90   | 100 | <a href="#">08250.080.090</a> | M10X240 | 25  | <a href="#">08250.100.240</a> |
| M5X70  | 200 | <a href="#">08250.050.070</a> | M8X100  | 100 | <a href="#">08250.080.100</a> | M10X260 | 25  | <a href="#">08250.100.260</a> |
| M5X80  | 200 | <a href="#">08250.050.080</a> | M8X110  | 100 | <a href="#">08250.080.110</a> | M10X280 | 25  | <a href="#">08250.100.280</a> |
|        |     |                               | M8X120  | 100 | <a href="#">08250.080.120</a> | M10X300 | 25  | <a href="#">08250.100.300</a> |
|        |     |                               | M8X130  | 100 | <a href="#">08250.080.130</a> |         |     |                               |
| M6X16  | 200 | <a href="#">08250.060.016</a> | M8X140  | 50  | <a href="#">08250.080.140</a> | M12X30  | 100 | <a href="#">08250.120.030</a> |
| M6X20  | 200 | <a href="#">08250.060.020</a> | M8X150  | 50  | <a href="#">08250.080.150</a> | M12X35  | 100 | <a href="#">08250.120.035</a> |
| M6X25  | 200 | <a href="#">08250.060.025</a> | M8X160  | 50  | <a href="#">08250.080.160</a> | M12X40  | 100 | <a href="#">08250.120.040</a> |
| M6X30  | 200 | <a href="#">08250.060.030</a> | M8X170  | 50  | <a href="#">08250.080.170</a> | M12X45  | 100 | <a href="#">08250.120.045</a> |
| M6X35  | 200 | <a href="#">08250.060.035</a> | M8X180  | 50  | <a href="#">08250.080.180</a> | M12X50  | 100 | <a href="#">08250.120.050</a> |
| M6X40  | 200 | <a href="#">08250.060.040</a> | M8X200  | 50  | <a href="#">08250.080.200</a> | M12X55  | 100 | <a href="#">08250.120.055</a> |
| M6X45  | 200 | <a href="#">08250.060.045</a> |         |     |                               | M12X60  | 100 | <a href="#">08250.120.060</a> |
| M6X50  | 200 | <a href="#">08250.060.050</a> |         |     |                               | M12X65  | 50  | <a href="#">08250.120.065</a> |
| M6X55  | 200 | <a href="#">08250.060.055</a> | M10X20  | 200 | <a href="#">08250.100.020</a> | M12X70  | 50  | <a href="#">08250.120.070</a> |
| M6X60  | 200 | <a href="#">08250.060.060</a> | M10X25  | 200 | <a href="#">08250.100.025</a> | M12X75  | 50  | <a href="#">08250.120.075</a> |
| M6X65  | 200 | <a href="#">08250.060.065</a> | M10X30  | 200 | <a href="#">08250.100.030</a> | M12X80  | 50  | <a href="#">08250.120.080</a> |
| M6X70  | 200 | <a href="#">08250.060.070</a> | M10X35  | 100 | <a href="#">08250.100.035</a> | M12X85  | 50  | <a href="#">08250.120.085</a> |
| M6X75  | 200 | <a href="#">08250.060.075</a> | M10X40  | 100 | <a href="#">08250.100.040</a> | M12X90  | 50  | <a href="#">08250.120.090</a> |
| M6X80  | 200 | <a href="#">08250.060.080</a> | M10X45  | 100 | <a href="#">08250.100.045</a> | M12X95  | 50  | <a href="#">08250.120.095</a> |
| M6X90  | 100 | <a href="#">08250.060.090</a> | M10X50  | 100 | <a href="#">08250.100.050</a> | M12X100 | 50  | <a href="#">08250.120.100</a> |
| M6X100 | 100 | <a href="#">08250.060.100</a> | M10X55  | 100 | <a href="#">08250.100.055</a> | M12X110 | 50  | <a href="#">08250.120.110</a> |
| M6X110 | 100 | <a href="#">08250.060.110</a> | M10X60  | 100 | <a href="#">08250.100.060</a> | M12X120 | 50  | <a href="#">08250.120.120</a> |
| M6X120 | 100 | <a href="#">08250.060.120</a> | M10X65  | 100 | <a href="#">08250.100.065</a> | M12X130 | 50  | <a href="#">08250.120.130</a> |
| M6X140 | 100 | <a href="#">08250.060.140</a> | M10X70  | 100 | <a href="#">08250.100.070</a> | M12X140 | 50  | <a href="#">08250.120.140</a> |
|        |     |                               | M10X75  | 100 | <a href="#">08250.100.075</a> | M12X150 | 50  | <a href="#">08250.120.150</a> |
|        |     |                               | M10X80  | 100 | <a href="#">08250.100.080</a> | M12X160 | 25  | <a href="#">08250.120.160</a> |
| M8X16  | 200 | <a href="#">08250.080.016</a> | M10X85  | 100 | <a href="#">08250.100.085</a> | M12X170 | 25  | <a href="#">08250.120.170</a> |
| M8X20  | 200 | <a href="#">08250.080.020</a> | M10X90  | 100 | <a href="#">08250.100.090</a> | M12X180 | 25  | <a href="#">08250.120.180</a> |
| M8X25  | 200 | <a href="#">08250.080.025</a> | M10X95  | 100 | <a href="#">08250.100.095</a> | M12X190 | 25  | <a href="#">08250.120.190</a> |
| M8X30  | 200 | <a href="#">08250.080.030</a> | M10X100 | 100 | <a href="#">08250.100.100</a> | M12X200 | 25  | <a href="#">08250.120.200</a> |
| M8X35  | 200 | <a href="#">08250.080.035</a> | M10X110 | 50  | <a href="#">08250.100.110</a> | M12X220 | 25  | <a href="#">08250.120.220</a> |
|        |     |                               | M10X120 | 50  | <a href="#">08250.100.120</a> |         |     |                               |

**1**
**08250 Mushroom head square neck bolt with hexagon nut**

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M12X240 | 25 | <a href="#">08250.120.240</a> | M16X70  | 25 | <a href="#">08250.160.070</a> | M16X240 | 10 | <a href="#">08250.160.240</a> |
| M12X250 | 25 | <a href="#">08250.120.250</a> | M16X80  | 25 | <a href="#">08250.160.080</a> | M16X260 | 10 | <a href="#">08250.160.260</a> |
| M12X260 | 25 | <a href="#">08250.120.260</a> | M16X100 | 25 | <a href="#">08250.160.100</a> | M16X280 | 10 | <a href="#">08250.160.280</a> |
| M12X280 | 25 | <a href="#">08250.120.280</a> | M16X110 | 25 | <a href="#">08250.160.110</a> | M16X300 | 10 | <a href="#">08250.160.300</a> |
| M12X300 | 25 | <a href="#">08250.120.300</a> | M16X120 | 25 | <a href="#">08250.160.120</a> | M16X320 | 10 | <a href="#">08250.160.320</a> |
| M12X320 | 10 | <a href="#">08250.120.320</a> | M16X130 | 25 | <a href="#">08250.160.130</a> | M16X340 | 10 | <a href="#">08250.160.340</a> |
| M12X340 | 10 | <a href="#">08250.120.340</a> | M16X140 | 25 | <a href="#">08250.160.140</a> | M16X360 | 10 | <a href="#">08250.160.360</a> |
| M12X360 | 10 | <a href="#">08250.120.360</a> | M16X160 | 25 | <a href="#">08250.160.160</a> | M16X380 | 10 | <a href="#">08250.160.380</a> |
| M12X380 | 10 | <a href="#">08250.120.380</a> | M16X170 | 25 | <a href="#">08250.160.170</a> | M16X400 | 10 | <a href="#">08250.160.400</a> |
| M12X400 | 10 | <a href="#">08250.120.400</a> | M16X180 | 25 | <a href="#">08250.160.180</a> |         |    |                               |
|         |    |                               | M16X200 | 10 | <a href="#">08250.160.200</a> |         |    |                               |
| M16X60  | 50 | <a href="#">08250.160.060</a> | M16X220 | 10 | <a href="#">08250.160.220</a> |         |    |                               |

**08420 Mushroom head square neck bolt with hexagon nut oversized thread**
E09A

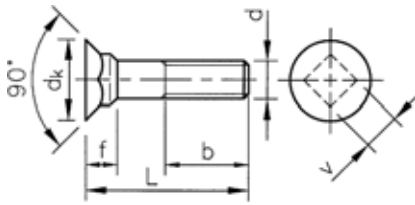
**Thread** Metric thread  
**Material** Steel  
**Class** ≥4.6  
**Surface treatment** Hot dip galvanized  
**Packaging** Standard



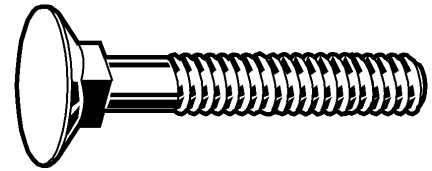
| d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M8X50   | 200 | <a href="#">08420.080.050</a> | M10X150 | 50 | <a href="#">08420.100.150</a> | M12X260 | 25 | <a href="#">08420.120.260</a> |
| M8X60   | 200 | <a href="#">08420.080.060</a> | M10X160 | 50 | <a href="#">08420.100.160</a> | M12X280 | 25 | <a href="#">08420.120.280</a> |
| M8X70   | 200 | <a href="#">08420.080.070</a> | M10X180 | 50 | <a href="#">08420.100.180</a> | M12X300 | 25 | <a href="#">08420.120.300</a> |
| M8X80   | 100 | <a href="#">08420.080.080</a> | M10X200 | 50 | <a href="#">08420.100.200</a> | M12X320 | 10 | <a href="#">08420.120.320</a> |
| M8X90   | 100 | <a href="#">08420.080.090</a> | M10X220 | 25 | <a href="#">08420.100.220</a> | M12X340 | 10 | <a href="#">08420.120.340</a> |
| M8X100  | 100 | <a href="#">08420.080.100</a> | M10X240 | 25 | <a href="#">08420.100.240</a> | M12X360 | 10 | <a href="#">08420.120.360</a> |
| M8X110  | 100 | <a href="#">08420.080.110</a> |         |    |                               | M12X380 | 10 | <a href="#">08420.120.380</a> |
| M8X120  | 100 | <a href="#">08420.080.120</a> | M12X60  | 50 | <a href="#">08420.120.060</a> | M12X400 | 10 | <a href="#">08420.120.400</a> |
| M8X130  | 100 | <a href="#">08420.080.130</a> | M12X70  | 50 | <a href="#">08420.120.070</a> |         |    |                               |
| M8X140  | 50  | <a href="#">08420.080.140</a> | M12X80  | 50 | <a href="#">08420.120.080</a> | M16X100 | 25 | <a href="#">08420.160.100</a> |
| M8X160  | 50  | <a href="#">08420.080.160</a> | M12X90  | 50 | <a href="#">08420.120.090</a> | M16X120 | 25 | <a href="#">08420.160.120</a> |
| M8X180  | 50  | <a href="#">08420.080.180</a> | M12X100 | 50 | <a href="#">08420.120.100</a> | M16X130 | 25 | <a href="#">08420.160.130</a> |
|         |     |                               | M12X110 | 50 | <a href="#">08420.120.110</a> | M16X140 | 25 | <a href="#">08420.160.140</a> |
| M10X50  | 100 | <a href="#">08420.100.050</a> | M12X120 | 50 | <a href="#">08420.120.120</a> | M16X150 | 25 | <a href="#">08420.160.150</a> |
| M10X60  | 100 | <a href="#">08420.100.060</a> | M12X130 | 50 | <a href="#">08420.120.130</a> | M16X160 | 25 | <a href="#">08420.160.160</a> |
| M10X70  | 100 | <a href="#">08420.100.070</a> | M12X140 | 50 | <a href="#">08420.120.140</a> | M16X180 | 25 | <a href="#">08420.160.180</a> |
| M10X80  | 100 | <a href="#">08420.100.080</a> | M12X150 | 50 | <a href="#">08420.120.150</a> | M16X200 | 10 | <a href="#">08420.160.200</a> |
| M10X90  | 100 | <a href="#">08420.100.090</a> | M12X160 | 25 | <a href="#">08420.120.160</a> | M16X220 | 10 | <a href="#">08420.160.220</a> |
| M10X100 | 100 | <a href="#">08420.100.100</a> | M12X170 | 25 | <a href="#">08420.120.170</a> | M16X240 | 10 | <a href="#">08420.160.240</a> |
| M10X110 | 50  | <a href="#">08420.100.110</a> | M12X180 | 25 | <a href="#">08420.120.180</a> | M16X260 | 10 | <a href="#">08420.160.260</a> |
| M10X120 | 50  | <a href="#">08420.100.120</a> | M12X200 | 25 | <a href="#">08420.120.200</a> | M16X280 | 10 | <a href="#">08420.160.280</a> |
| M10X130 | 50  | <a href="#">08420.100.130</a> | M12X220 | 25 | <a href="#">08420.120.220</a> |         |    |                               |
| M10X140 | 50  | <a href="#">08420.100.140</a> | M12X240 | 25 | <a href="#">08420.120.240</a> |         |    |                               |

- For hot dip galvanized bolts with OVERSIZED thread the zinc layer is applied ON the normal thread, so AFTER galvanizing these bolts are no longer ISO-metric mating, but thicker: so called OVERSIZED.
- The corresponding OVERSIZED nuts have been tapped about 0,3 mm larger AFTER galvanizing running perfectly onto these bolts.

**Flat countersunk square neck bolt with short square**



DIN ≈608  
BS ≈4933



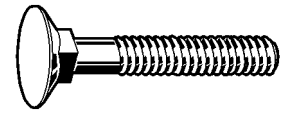
**Technical data**

|                  |            |            |
|------------------|------------|------------|
| <b>d</b>         | <b>M10</b> | <b>M12</b> |
| <b>P</b>         | 1,5        | 1,75       |
| <b>b (min.)</b>  | 26         | 30         |
| <b>dk (max.)</b> | 19,65      | 24,65      |
| <b>f (max.)</b>  | 8,45       | 11,05      |
| <b>v (max.)</b>  | 10,58      | 12,7       |

**01036 Flat countersunk square neck bolt with short square**

A90A

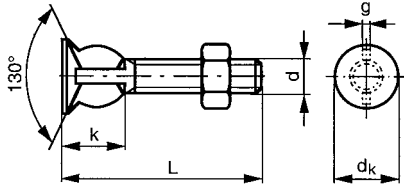
**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



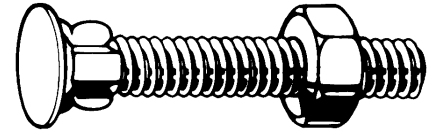
| <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒  | <b>Art.number</b>             | <b>d x L</b> | ☒  | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10X25       | 100 | <a href="#">01036.100.025</a> | M10X50       | 50 | <a href="#">01036.100.050</a> | M12X35       | 50 | <a href="#">01036.120.035</a> |
| M10X30       | 100 | <a href="#">01036.100.030</a> | M10X60       | 50 | <a href="#">01036.100.060</a> | M12X40       | 50 | <a href="#">01036.120.040</a> |
| M10X35       | 100 | <a href="#">01036.100.035</a> |              |    |                               | M12X50       | 50 | <a href="#">01036.120.050</a> |
| M10X40       | 100 | <a href="#">01036.100.040</a> | M12X30       | 50 | <a href="#">01036.120.030</a> |              |    |                               |

1

**Flat countersunk wing neck bolt with hexagon nut**



DIN - / 555 (1987)  
NEN - / 697  
NF - / E25-402



**Technical data**

|    |      |      |
|----|------|------|
| d  | M6   | M8   |
| P  | 1    | 1,25 |
| dk | 11,5 | 15   |
| k  | 8    | 11,5 |
| g  | 1    | 1,2  |
| m  | 5    | 6,5  |
| s  | 10   | 13   |

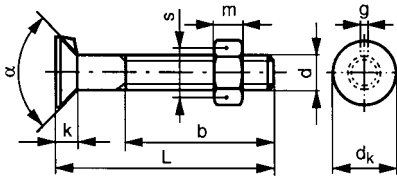
- The corresponding hexagon nuts have a property class  $\geq$  I4I.

|                          |  |             |
|--------------------------|--|-------------|
| <b>08260</b>             | <b>SEHA Flat countersunk wing neck bolt with hexagon nut</b> | <b>E90A</b> |
| <b>Thread</b>            | Metric thread  |             |
| <b>Material</b>          | Steel  |             |
| <b>Surface treatment</b> | Zinc plated  |             |
| <b>Packaging</b>         | Standard   |             |

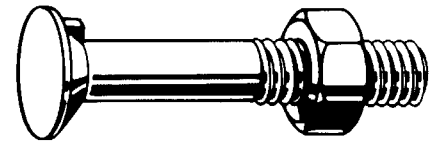


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M6X20 | 200 | <a href="#">08260.060.020</a> | M6X40 | 200 | <a href="#">08260.060.040</a> | M8X50 | 100 | <a href="#">08260.080.050</a> |
| M6X25 | 200 | <a href="#">08260.060.025</a> | M6X50 | 200 | <a href="#">08260.060.050</a> |       |     |                               |
| M6X30 | 200 | <a href="#">08260.060.030</a> |       |     |                               |       |     |                               |
| M6X35 | 200 | <a href="#">08260.060.035</a> | M8X40 | 100 | <a href="#">08260.080.040</a> |       |     |                               |

## Flat countersunk nib bolt with hexagon nut

**1**


DIN 604/555 (1987)  
 NEN 2355/697  
 NF - / E25-402  
 BS 4933/-



### Technical data

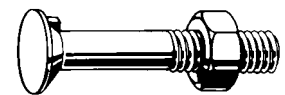
| d                       | M10   | M12   | M16  | M20  | M24  |
|-------------------------|-------|-------|------|------|------|
| P                       | 1,5   | 1,75  | 2    | 2,5  | 3    |
| b (min.): L≤125mm       | 26    | 30    | 38   | 46   | 54   |
| b (min.): 125mm<L≤200mm | 32    | 36    | 44   | 52   | 60   |
| b (min.): L>200mm       | 45    | 49    | 57   | 65   | 73   |
| dk (max.)               | 19,65 | 24,65 | 32,8 | 32,8 | 38,8 |
| k                       | 5,5   | 7     | 9    | 11,5 | 13   |
| g (max.)                | 3,2   | 3,6   | 4,2  | 5,4  | 6,6  |
| alpha (min.)            | 90°   | 90°   | 90°  | 60°  | 60°  |
| m                       | 8     | 10    | 13   | 16   | 19   |
| s                       | 17    | 19    | 24   | 30   | 36   |

- The corresponding hexagon nuts have a property class ≥ I4I.

### 08070 Flat countersunk nib bolt with hexagon nut

**E01B**

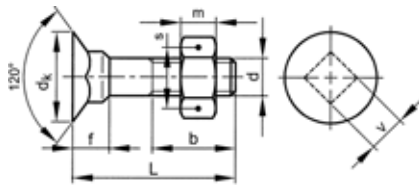
Thread Metric thread  
 Material Steel  
 Class ≥4.6  
 Packaging Standard



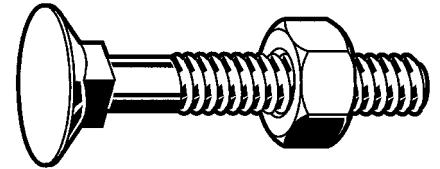
| d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M10X25 | 100 | <a href="#">08070.100.025</a> | M12X60  | 50 | <a href="#">08070.120.060</a> | M20X50  | 25 | <a href="#">08070.200.050</a> |
| M10X30 | 100 | <a href="#">08070.100.030</a> | M12X70  | 50 | <a href="#">08070.120.070</a> | M20X60  | 25 | <a href="#">08070.200.060</a> |
| M10X35 | 100 | <a href="#">08070.100.035</a> | M12X80  | 50 | <a href="#">08070.120.080</a> | M20X70  | 25 | <a href="#">08070.200.070</a> |
| M10X40 | 100 | <a href="#">08070.100.040</a> | M12X90  | 50 | <a href="#">08070.120.090</a> | M20X80  | 25 | <a href="#">08070.200.080</a> |
| M10X45 | 100 | <a href="#">08070.100.045</a> |         |    |                               | M20X90  | 25 | <a href="#">08070.200.090</a> |
| M10X50 | 100 | <a href="#">08070.100.050</a> | M16X35  | 25 | <a href="#">08070.160.035</a> | M20X100 | 25 | <a href="#">08070.200.100</a> |
| M10X55 | 100 | <a href="#">08070.100.055</a> | M16X40  | 25 | <a href="#">08070.160.040</a> | M20X120 | 25 | <a href="#">08070.200.120</a> |
| M10X60 | 100 | <a href="#">08070.100.060</a> | M16X45  | 25 | <a href="#">08070.160.045</a> | M20X130 | 25 | <a href="#">08070.200.130</a> |
| M10X70 | 100 | <a href="#">08070.100.070</a> | M16X50  | 25 | <a href="#">08070.160.050</a> |         |    |                               |
| M10X80 | 50  | <a href="#">08070.100.080</a> | M16X55  | 25 | <a href="#">08070.160.055</a> | M24X60  | 25 | <a href="#">08070.240.060</a> |
| M10X90 | 50  | <a href="#">08070.100.090</a> | M16X60  | 25 | <a href="#">08070.160.060</a> | M24X80  | 25 | <a href="#">08070.240.080</a> |
|        |     |                               | M16X70  | 25 | <a href="#">08070.160.070</a> | M24X90  | 25 | <a href="#">08070.240.090</a> |
| M12X30 | 100 | <a href="#">08070.120.030</a> | M16X80  | 25 | <a href="#">08070.160.080</a> | M24X100 | 25 | <a href="#">08070.240.100</a> |
| M12X35 | 100 | <a href="#">08070.120.035</a> | M16X90  | 25 | <a href="#">08070.160.090</a> | M24X110 | 25 | <a href="#">08070.240.110</a> |
| M12X40 | 100 | <a href="#">08070.120.040</a> | M16X100 | 25 | <a href="#">08070.160.100</a> |         |    |                               |
| M12X45 | 100 | <a href="#">08070.120.045</a> | M16X140 | 25 | <a href="#">08070.160.140</a> |         |    |                               |
| M12X50 | 100 | <a href="#">08070.120.050</a> |         |    |                               |         |    |                               |

1

**Flat countersunk square neck bolt with long square with hexagon nut**



DIN 605/555 (1987)  
NF - / E25-402  
BS 4933/-



**Technical data**

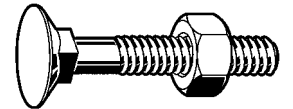
|           | M6    | M8    | M10   |
|-----------|-------|-------|-------|
| d         | M6    | M8    | M10   |
| P         | 1     | 1,25  | 1,5   |
| b (min.)  | 18    | 22    | 26    |
| dk (max.) | 16,55 | 20,65 | 24,65 |
| f (max.)  | 7,45  | 9,45  | 11,55 |
| v (max.)  | 6,48  | 8,58  | 10,58 |
| m         | 5     | 6,5   | 8     |
| s         | 10    | 13    | 17    |

- The corresponding hexagon nuts have a property class  $\geq$  I4I.

**08206 Flat countersunk square neck bolt with long square with hexagon nut**

E03B

**Thread** Metric thread  
**Material** Steel  
**Class** 4.6  
**Surface treatment** Zinc plated  
**Packaging** Standard

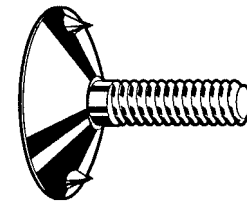
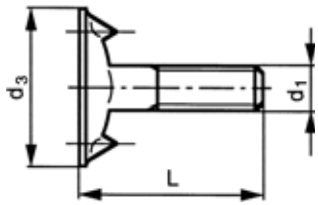


| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X30 | 200 | <a href="#">08206.060.030</a> | M8X35  | 200 | <a href="#">08206.080.035</a> | M10X50 | 100 | <a href="#">08206.100.050</a> |
| M6X35 | 200 | <a href="#">08206.060.035</a> | M8X40  | 200 | <a href="#">08206.080.040</a> | M10X60 | 100 | <a href="#">08206.100.060</a> |
| M6X40 | 200 | <a href="#">08206.060.040</a> | M8X50  | 200 | <a href="#">08206.080.050</a> |        |     |                               |
| M6X50 | 200 | <a href="#">08206.060.050</a> | M8X60  | 200 | <a href="#">08206.080.060</a> |        |     |                               |
| M8X30 | 200 | <a href="#">08206.080.030</a> | M10X40 | 100 | <a href="#">08206.100.040</a> |        |     |                               |



## Seating screw

DIN 15237



1

### Technical data

|    |      |     |
|----|------|-----|
| d1 | M8   | M10 |
| P  | 1,25 | 1,5 |
| d3 | 28   | 35  |

- Applicable for the attachment of conveyor belts to their rollers.
- The cams under the countersunk head fasten the seating screw while the cupped washer under the belt reinforces the connection.

### Article groups

| Thread | Material  | Packaging | Code  | Page |
|--------|-----------|-----------|-------|------|
| M      | St.St. A2 | Standard  | 51505 | 1-71 |
| M      | St.St. A4 | Standard  | 55505 | 1-71 |

| 51505 Seating screw |                    | R03A |
|---------------------|--------------------|------|
| Thread              | Metric thread      |      |
| Material            | Stainless steel A2 |      |
| Packaging           | Standard           |      |

| d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number                    | d1 x L | ☒ | Art.number                    |
|--------|----|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M8X25  | 10 | <a href="#">51505.080.025</a> | M10X30 | 5 | <a href="#">51505.100.030</a> | M10X50 | 5 | <a href="#">51505.100.050</a> |
| M8X30  | 10 | <a href="#">51505.080.030</a> | M10X35 | 5 | <a href="#">51505.100.035</a> |        |   |                               |
| M8X35  | 10 | <a href="#">51505.080.035</a> | M10X40 | 5 | <a href="#">51505.100.040</a> |        |   |                               |

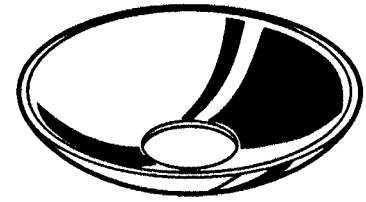
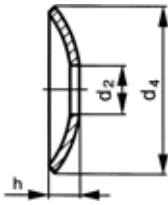
| 55505 Seating screw |                    | R43A |
|---------------------|--------------------|------|
| Thread              | Metric thread      |      |
| Material            | Stainless steel A4 |      |
| Packaging           | Standard           |      |

| d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number | d1 x L | ☒ | Art.number |
|--------|----|-------------------------------|--------|---|------------|--------|---|------------|
| M8X25  | 10 | <a href="#">55505.080.025</a> |        |   |            |        |   |            |
| M10X50 | 5  | <a href="#">55505.100.050</a> |        |   |            |        |   |            |

1

**Cupped washer for seating screw**

DIN 15237



**Technical data**

|                |           |            |
|----------------|-----------|------------|
| For nom.size   | <b>M8</b> | <b>M10</b> |
| d <sub>2</sub> | 9,5       | 11,5       |
| d <sub>4</sub> | 32        | 40         |
| h ≈            | 5,7       | 7          |


- Use these cupped washers together with the seating screws.
- Applicable for the attachment of conveyor belts to their rollers.

**Article groups**

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St.St. A2 | Standard  | 51506 | 1-72 |
| St.St. A4 | Standard  | 55506 | 1-72 |

**51506 Cupped washer for seating screw** R09A

**Material** Stainless steel A2  
**Packaging** Standard



| For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|----|-------------------------------|---------------|---|-------------------------------|---------------|---|------------|
| M8            | 10 | <a href="#">51506.080.001</a> | M10           | 5 | <a href="#">51506.100.001</a> |               |   |            |

**55506 Cupped washer for seating screw** R49A

**Material** Stainless steel A4  
**Packaging** Standard

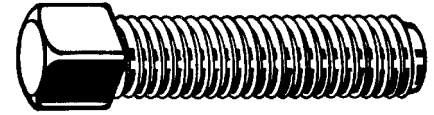
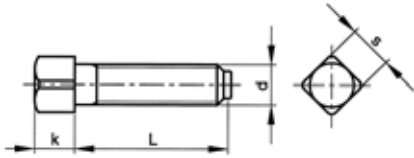


| For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number | For nom. size | ☒ | Art.number |
|---------------|----|-------------------------------|---------------|---|------------|---------------|---|------------|
| M8            | 10 | <a href="#">55506.080.001</a> |               |   |            |               |   |            |

**Square head bolt with short dog point**

DIN 479  
NF E25-134

1



**Technical data**

| d   | P    | k  | s  |
|-----|------|----|----|
| M6  | 1    | 6  | 6  |
| M8  | 1,25 | 8  | 8  |
| M10 | 1,5  | 10 | 10 |
| M12 | 1,75 | 12 | 13 |
| M16 | 2    | 16 | 17 |
| M20 | 2,5  | 20 | 22 |
| M24 | 3    | 22 | 24 |

**01030 Square head bolt with short dog point**

A90A

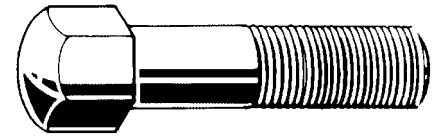
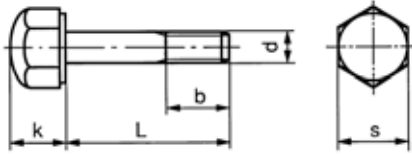
Thread Metric thread  
Material Steel  
Class 8.8  
Packaging Standard



| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M6X16  | 200 | <a href="#">01030.060.016</a> | M10X45  | 100 | <a href="#">01030.100.045</a> | M16X70  | 50 | <a href="#">01030.160.070</a> |
| M6X20  | 200 | <a href="#">01030.060.020</a> | M10X50  | 100 | <a href="#">01030.100.050</a> | M16X80  | 25 | <a href="#">01030.160.080</a> |
| M6X25  | 200 | <a href="#">01030.060.025</a> | M10X60  | 100 | <a href="#">01030.100.060</a> | M16X90  | 25 | <a href="#">01030.160.090</a> |
| M6X30  | 200 | <a href="#">01030.060.030</a> | M10X70  | 100 | <a href="#">01030.100.070</a> | M16X100 | 25 | <a href="#">01030.160.100</a> |
| M6X35  | 200 | <a href="#">01030.060.035</a> | M10X80  | 50  | <a href="#">01030.100.080</a> | M16X120 | 25 | <a href="#">01030.160.120</a> |
| M6X40  | 200 | <a href="#">01030.060.040</a> | M10X100 | 50  | <a href="#">01030.100.100</a> |         |    |                               |
| M6X50  | 200 | <a href="#">01030.060.050</a> |         |     |                               | M20X50  | 25 | <a href="#">01030.200.050</a> |
|        |     |                               | M12X20  | 200 | <a href="#">01030.120.020</a> | M20X60  | 25 | <a href="#">01030.200.060</a> |
| M8X16  | 200 | <a href="#">01030.080.016</a> | M12X25  | 100 | <a href="#">01030.120.025</a> | M20X70  | 25 | <a href="#">01030.200.070</a> |
| M8X20  | 200 | <a href="#">01030.080.020</a> | M12X30  | 100 | <a href="#">01030.120.030</a> | M20X80  | 25 | <a href="#">01030.200.080</a> |
| M8X25  | 200 | <a href="#">01030.080.025</a> | M12X35  | 100 | <a href="#">01030.120.035</a> | M20X90  | 25 | <a href="#">01030.200.090</a> |
| M8X30  | 200 | <a href="#">01030.080.030</a> | M12X40  | 100 | <a href="#">01030.120.040</a> | M20X100 | 25 | <a href="#">01030.200.100</a> |
| M8X35  | 200 | <a href="#">01030.080.035</a> | M12X50  | 50  | <a href="#">01030.120.050</a> | M20X120 | 25 | <a href="#">01030.200.120</a> |
| M8X40  | 200 | <a href="#">01030.080.040</a> | M12X60  | 50  | <a href="#">01030.120.060</a> |         |    |                               |
| M8X50  | 200 | <a href="#">01030.080.050</a> | M12X70  | 50  | <a href="#">01030.120.070</a> | M24X70  | 25 | <a href="#">01030.240.070</a> |
| M8X60  | 100 | <a href="#">01030.080.060</a> | M12X80  | 50  | <a href="#">01030.120.080</a> | M24X80  | 25 | <a href="#">01030.240.080</a> |
|        |     |                               | M12X90  | 50  | <a href="#">01030.120.090</a> | M24X90  | 10 | <a href="#">01030.240.090</a> |
| M10X16 | 200 | <a href="#">01030.100.016</a> | M12X100 | 50  | <a href="#">01030.120.100</a> | M24X100 | 10 | <a href="#">01030.240.100</a> |
| M10X20 | 200 | <a href="#">01030.100.020</a> |         |     |                               | M24X120 | 10 | <a href="#">01030.240.120</a> |
| M10X25 | 200 | <a href="#">01030.100.025</a> | M16X40  | 50  | <a href="#">01030.160.040</a> | M24X140 | 50 | <a href="#">01030.240.140</a> |
| M10X30 | 200 | <a href="#">01030.100.030</a> | M16X45  | 50  | <a href="#">01030.160.045</a> |         |    |                               |
| M10X35 | 200 | <a href="#">01030.100.035</a> | M16X50  | 50  | <a href="#">01030.160.050</a> |         |    |                               |
| M10X40 | 100 | <a href="#">01030.100.040</a> | M16X60  | 50  | <a href="#">01030.160.060</a> |         |    |                               |

1

## Trackshoe bolt type caterpillar



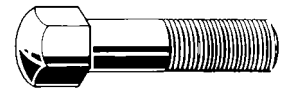
### Technical data

| d         | Threads per inch | k  | s    |
|-----------|------------------|----|------|
| 7/16      | 20               | 11 | 16   |
| 1/2       | 20               | 13 | 19   |
| 9/16      | 18               | 14 | 22   |
| 5/8       | 18               | 16 | 24   |
| 3/4       | 16               | 19 | 28   |
| 7/8       | 14               | 22 | 33,3 |
| 1.IN.-14G | 14               | 24 | 38,1 |

### 06000 Trackshoe bolt type caterpillar

Y90A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | 170                   |
| <b>Packaging</b> | Standard              |

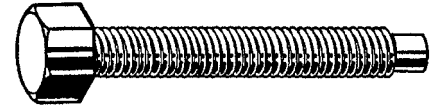
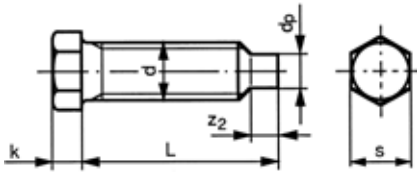


| d x L x b         | ☒  | Art.number                    | d x L x b      | ☒  | Art.number                    | d x L x b        | ☒  | Art.number                    |
|-------------------|----|-------------------------------|----------------|----|-------------------------------|------------------|----|-------------------------------|
| 7/16X1.1/2X22MM   | 50 | <a href="#">06000.111.038</a> | 5/8X2.IN.X28MM | 25 | <a href="#">06000.158.050</a> | 3/4X2.1/2X30MM   | 10 | <a href="#">06000.191.063</a> |
| 1/2X1.1/2X19MM    | 50 | <a href="#">06000.127.038</a> | 5/8X2.1/4X27MM | 25 | <a href="#">06000.158.057</a> | 3/4X2.3/4X38MM   | 10 | <a href="#">06000.191.069</a> |
| 1/2X2.IN.X24MM    | 50 | <a href="#">06000.127.050</a> |                |    |                               | 1-14GX3.IN.X35MM | 10 | <a href="#">06000.256.076</a> |
| 9/16X1.5/8X26MM   | 50 | <a href="#">06000.142.041</a> | 3/4X2.1/4X29MM | 10 | <a href="#">06000.191.057</a> |                  |    |                               |
| 9/16X1.15/16X28MM | 50 | <a href="#">06000.142.049</a> | 3/4X2.3/8X30MM | 10 | <a href="#">06000.191.060</a> |                  |    |                               |

• 170 = minimum tensile strength 170.000 psi = 1200 N/mm<sup>2</sup>.

**Hexagon head set screw with small hexagon and dog point**

DIN 561  
NF E25-133



**Technical data**

| d                     | M6 | M8   | M10 | M12  | M16 |
|-----------------------|----|------|-----|------|-----|
| P                     | 1  | 1,25 | 1,5 | 1,75 | 2   |
| k                     | 5  | 6    | 7   | 9    | 11  |
| s                     | 8  | 10   | 13  | 16   | 18  |
| d <sub>p</sub> (max.) | 4  | 5,5  | 7   | 8,5  | 12  |
| z <sub>2</sub> (min.) | 3  | 4    | 5   | 6    | 8   |

**01098 Hexagon head set screw with small hexagon and dog point**

A90A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X12 | 200 | <a href="#">01098.060.012</a> | M10X20 | 200 | <a href="#">01098.100.020</a> | M12X50 | 100 | <a href="#">01098.120.050</a> |
| M6X16 | 200 | <a href="#">01098.060.016</a> | M10X25 | 200 | <a href="#">01098.100.025</a> | M12X60 | 100 | <a href="#">01098.120.060</a> |
| M6X20 | 200 | <a href="#">01098.060.020</a> | M10X30 | 200 | <a href="#">01098.100.030</a> |        |     |                               |
|       |     |                               | M10X35 | 100 | <a href="#">01098.100.035</a> | M16X50 | 50  | <a href="#">01098.160.050</a> |
| M8X16 | 200 | <a href="#">01098.080.016</a> | M10X40 | 100 | <a href="#">01098.100.040</a> | M16X60 | 50  | <a href="#">01098.160.060</a> |
| M8X20 | 200 | <a href="#">01098.080.020</a> | M10X50 | 100 | <a href="#">01098.100.050</a> | M16X70 | 25  | <a href="#">01098.160.070</a> |
| M8X25 | 200 | <a href="#">01098.080.025</a> | M10X60 | 100 | <a href="#">01098.100.060</a> | M16X80 | 25  | <a href="#">01098.160.080</a> |
| M8X30 | 200 | <a href="#">01098.080.030</a> |        |     |                               |        |     |                               |
| M8X35 | 200 | <a href="#">01098.080.035</a> | M12X25 | 100 | <a href="#">01098.120.025</a> |        |     |                               |
| M8X40 | 200 | <a href="#">01098.080.040</a> | M12X30 | 100 | <a href="#">01098.120.030</a> |        |     |                               |
| M8X50 | 100 | <a href="#">01098.080.050</a> | M12X35 | 100 | <a href="#">01098.120.035</a> |        |     |                               |
|       |     |                               | M12X40 | 100 | <a href="#">01098.120.040</a> |        |     |                               |

## PEINER High strength structural bolts

### General

From September 2007, manufacturers of high strength structural bolts, nuts and washers should produce their products in accordance with the European standard **EN 14399**. Products made based on the old standards DIN 6914, 6915 and 6916 (old 'DIN stocks') can still be used and supplied, but cannot be combined in various assemblies (see 'Assembly') with products that meet the new standard!

The revised standard does not lead to any important dimensional changes (with the exception of the thread length size "b", which now has the maximum value from the old standard and, starting at M24 even somewhat above that). Furthermore, CE marking on the packaging is obliged and the products demand more stringent assembly instructions and traceability. In addition, the impact value has changed from  $K_{V,min}=20J$  to  $K_{V,min}=27J$  at  $-20^{\circ}C$ . PEINER 10.9 HV high strength structural bolts, nuts and washers that are included in this catalogue meet the new standards.

| Product    | Old      | New          | Marking |
|------------|----------|--------------|---------|
| HV bolts   | DIN 6914 | → EN 14399-4 | 10.9 HV |
| HV nuts    | DIN 6915 | → EN 14399-4 | 10 HV   |
| HV washers | DIN 6916 | → EN 14399-6 | H       |

### Quality

PEINER is a CE-certified supplier of class 10.9 HV bolts, class 10 HV nuts and washers (hardness 300-370 HV) in the sizes M12-M36 in accordance with standard EN 14399-4 resp. EN 14399-6. These articles are available in both a black and a hot-dip galvanised version. The bolts meet all of the requirements that are set to prevent hydrogen embrittlement.

### Assembly

The standard prescribes that the bolt, nut and washer must come from the same manufacturer. Standard EN 14399-2 describes the test method that the bolt/nut/washer combination should fulfill. Due to the more stringent assembly instructions and a classification in k-classes, the manufacturer should ensure that the required preloading force can be achieved in a reliable manner and that overloading is avoided, with reference being made to the assembly methods in standard ENV 1090-1.

For hot-dip galvanised combinations, in the friction class K1, the same tightening torque and preloading forces apply as stated in DIN 18800-7 (2002-09) Table 6, columns 3 and 7, resp. EN 1993-1-8. For hot-dip

galvanised products from the same manufacturer, the various separate elements (in accordance with DIN and EN) can be combined. This is because the values for the tightening torque remain the same!

For the non hot-dip galvanised combinations, according to the new EN standard, the same tightening torques apply as for the hot-dip galvanised combinations, there where DIN 18800-7 (2002-09) Table 6, columns 4 and 8, previously prescribed raised tightening torques. Due to this difference in tightening torque, combining DIN-products with EN-products is **not** allowed.

**Peiner high strength structural bolts that meet the new EN standard are supplied in friction class K1.** The k-factor describes the linear relationship between the tightening torque (M) and the preloading force achieved for the diameter concerned.

Expressed using the formula:  $M = k \times F_v \times d$  (M [Nm],  $F_v$  [kN], d [mm])

PEINER preloading products (EN14399-4 and 6) should meet k-class **K1** where  $0.1 \leq k \leq 0.16$ , irrespective of the surface treatment.

The product packaging mentions assembly guidelines and the friction class. The surface treatment applied by the manufacturer ensures that these conditions are achieved! Additional lubrication or degreasing influences the k-value and is not allowed. With respect to the clamping length of a bolt-nut-washer combination, it must be noted that in the new standard the thickness of the washers is included.

### Certificates

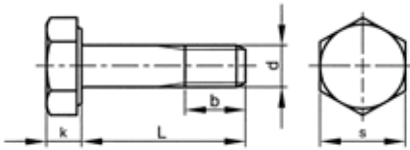
PEINER high strength structural bolts are, on request, available with a 3.1 certificate in accordance with EN 10204.



## High-strength structural bolt

EN 14399-4

1



### Technical data

| d   | P    | b   | k  | s   |
|-----|------|-----|----|-----|
| M12 | 1,75 | 23  | 8  | 22  |
| M16 | 2    | 28  | 10 | 27  |
| M20 | 2,5  | 33  | 13 | 32  |
| M22 | 2,5  | 34  | 14 | 36  |
| M24 | 3    | 39  | 15 | 41  |
| M27 | 3    | 41  | 17 | 46  |
| M30 | 3,5  | 44  | 19 | 50  |
| M36 | 4    | 52  | 23 | 60  |
| M39 | 4    | 68  | 25 | 65  |
| M42 | 4,5  | 74  | 26 | 70  |
| M45 | 4,5  | 76  | 28 | 75  |
| M48 | 5    | 82  | 30 | 80  |
| M56 | 5,5  | 90  | 35 | 90  |
| M64 | 6    | 100 | 40 | 100 |

- PEINER HV-bolts in sizes M12 to M36 are specified in EN 14399-4. Bolts from M39 to M64 are defined in DAST guideline 021.
- PEINER HV-bolts with associated HV-nuts and HV-rings may be used only as a set from one and the same supplier.

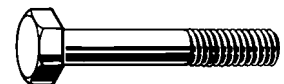
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 10.9  |                   | Standard  | 04005 | 1-77 |
| M      | hexagon          | St       | 10.9  | Hot d.g.          | Standard  | 04210 | 1-78 |

#### 04005 PEINER High-strength structural bolt

C05A

Thread Metric thread  
 Material Steel  
 Class 10.9  
 Packaging Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M12X30  | 100 | <a href="#">04005.120.030</a> | M16X130 | 25 | <a href="#">04005.160.130</a> | M20X200 | 15 | <a href="#">04005.200.200</a> |
| M12X35  | 100 | <a href="#">04005.120.035</a> | M16X140 | 25 | <a href="#">04005.160.140</a> | M20X210 | 15 | <a href="#">04005.200.210</a> |
| M12X40  | 100 | <a href="#">04005.120.040</a> | M16X150 | 25 | <a href="#">04005.160.150</a> | M20X220 | 15 | <a href="#">04005.200.220</a> |
| M12X45  | 100 | <a href="#">04005.120.045</a> | M16X160 | 25 | <a href="#">04005.160.160</a> | M20X230 | 15 | <a href="#">04005.200.230</a> |
| M12X50  | 100 | <a href="#">04005.120.050</a> | M16X170 | 25 | <a href="#">04005.160.170</a> | M20X240 | 15 | <a href="#">04005.200.240</a> |
| M12X55  | 100 | <a href="#">04005.120.055</a> | M16X180 | 25 | <a href="#">04005.160.180</a> | M20X250 | 15 | <a href="#">04005.200.250</a> |
| M12X60  | 50  | <a href="#">04005.120.060</a> | M16X190 | 25 | <a href="#">04005.160.190</a> | M20X260 | 15 | <a href="#">04005.200.260</a> |
| M12X65  | 50  | <a href="#">04005.120.065</a> | M16X200 | 25 | <a href="#">04005.160.200</a> |         |    |                               |
| M12X70  | 50  | <a href="#">04005.120.070</a> | M16X210 | 25 | <a href="#">04005.160.210</a> | M22X50  | 25 | <a href="#">04005.220.050</a> |
| M12X75  | 50  | <a href="#">04005.120.075</a> | M16X220 | 25 | <a href="#">04005.160.220</a> | M22X55  | 25 | <a href="#">04005.220.055</a> |
| M12X80  | 50  | <a href="#">04005.120.080</a> |         |    |                               | M22X60  | 25 | <a href="#">04005.220.060</a> |
| M12X85  | 50  | <a href="#">04005.120.085</a> | M20X40  | 25 | <a href="#">04005.200.040</a> | M22X65  | 25 | <a href="#">04005.220.065</a> |
| M12X90  | 50  | <a href="#">04005.120.090</a> | M20X45  | 25 | <a href="#">04005.200.045</a> | M22X70  | 25 | <a href="#">04005.220.070</a> |
| M12X100 | 50  | <a href="#">04005.120.100</a> | M20X50  | 25 | <a href="#">04005.200.050</a> | M22X75  | 25 | <a href="#">04005.220.075</a> |
| M12X110 | 50  | <a href="#">04005.120.110</a> | M20X55  | 25 | <a href="#">04005.200.055</a> | M22X80  | 25 | <a href="#">04005.220.080</a> |
| M12X120 | 50  | <a href="#">04005.120.120</a> | M20X60  | 25 | <a href="#">04005.200.060</a> | M22X85  | 25 | <a href="#">04005.220.085</a> |
|         |     |                               | M20X65  | 25 | <a href="#">04005.200.065</a> | M22X90  | 25 | <a href="#">04005.220.090</a> |
| M16X35  | 50  | <a href="#">04005.160.035</a> | M20X70  | 25 | <a href="#">04005.200.070</a> | M22X100 | 25 | <a href="#">04005.220.100</a> |
| M16X40  | 50  | <a href="#">04005.160.040</a> | M20X75  | 25 | <a href="#">04005.200.075</a> | M22X110 | 25 | <a href="#">04005.220.110</a> |
| M16X45  | 50  | <a href="#">04005.160.045</a> | M20X80  | 25 | <a href="#">04005.200.080</a> | M22X120 | 25 | <a href="#">04005.220.120</a> |
| M16X50  | 50  | <a href="#">04005.160.050</a> | M20X85  | 25 | <a href="#">04005.200.085</a> | M22X130 | 25 | <a href="#">04005.220.130</a> |
| M16X55  | 50  | <a href="#">04005.160.055</a> | M20X90  | 25 | <a href="#">04005.200.090</a> | M22X140 | 20 | <a href="#">04005.220.140</a> |
| M16X60  | 50  | <a href="#">04005.160.060</a> | M20X100 | 25 | <a href="#">04005.200.100</a> | M22X150 | 15 | <a href="#">04005.220.150</a> |
| M16X65  | 50  | <a href="#">04005.160.065</a> | M20X110 | 25 | <a href="#">04005.200.110</a> | M22X160 | 15 | <a href="#">04005.220.160</a> |
| M16X70  | 50  | <a href="#">04005.160.070</a> | M20X120 | 25 | <a href="#">04005.200.120</a> | M22X170 | 15 | <a href="#">04005.220.170</a> |
| M16X75  | 50  | <a href="#">04005.160.075</a> | M20X130 | 25 | <a href="#">04005.200.130</a> | M22X180 | 15 | <a href="#">04005.220.180</a> |
| M16X80  | 25  | <a href="#">04005.160.080</a> | M20X140 | 25 | <a href="#">04005.200.140</a> | M22X200 | 15 | <a href="#">04005.220.200</a> |
| M16X85  | 25  | <a href="#">04005.160.085</a> | M20X150 | 25 | <a href="#">04005.200.150</a> |         |    |                               |
| M16X90  | 25  | <a href="#">04005.160.090</a> | M20X160 | 20 | <a href="#">04005.200.160</a> | M24X50  | 25 | <a href="#">04005.240.050</a> |
| M16X100 | 25  | <a href="#">04005.160.100</a> | M20X170 | 20 | <a href="#">04005.200.170</a> | M24X55  | 25 | <a href="#">04005.240.055</a> |
| M16X110 | 25  | <a href="#">04005.160.110</a> | M20X180 | 15 | <a href="#">04005.200.180</a> | M24X60  | 25 | <a href="#">04005.240.060</a> |
| M16X120 | 25  | <a href="#">04005.160.120</a> | M20X190 | 15 | <a href="#">04005.200.190</a> | M24X65  | 25 | <a href="#">04005.240.065</a> |







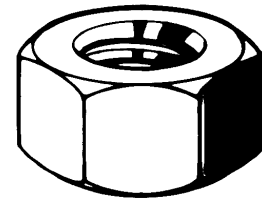
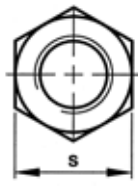
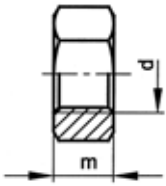
**04210 PEINER High-strength structural bolt**

1

| d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M48X410 | 1 | <a href="#">04210.480.410</a> | M56X320 | 1 | <a href="#">04210.560.320</a> | M64X240 | 1 | <a href="#">04210.640.240</a> |
| M48X420 | 1 | <a href="#">04210.480.420</a> | M56X330 | 1 | <a href="#">04210.560.330</a> | M64X250 | 1 | <a href="#">04210.640.250</a> |
| M48X430 | 1 | <a href="#">04210.480.430</a> | M56X340 | 1 | <a href="#">04210.560.340</a> | M64X260 | 1 | <a href="#">04210.640.260</a> |
| M48X440 | 1 | <a href="#">04210.480.440</a> | M56X350 | 1 | <a href="#">04210.560.350</a> | M64X270 | 1 | <a href="#">04210.640.270</a> |
| M48X450 | 1 | <a href="#">04210.480.450</a> | M56X360 | 1 | <a href="#">04210.560.360</a> | M64X280 | 1 | <a href="#">04210.640.280</a> |
| M48X460 | 1 | <a href="#">04210.480.460</a> | M56X370 | 1 | <a href="#">04210.560.370</a> | M64X290 | 1 | <a href="#">04210.640.290</a> |
| M48X470 | 1 | <a href="#">04210.480.470</a> | M56X380 | 1 | <a href="#">04210.560.380</a> | M64X300 | 1 | <a href="#">04210.640.300</a> |
| M48X480 | 1 | <a href="#">04210.480.480</a> | M56X390 | 1 | <a href="#">04210.560.390</a> | M64X310 | 1 | <a href="#">04210.640.310</a> |
| M48X490 | 1 | <a href="#">04210.480.490</a> | M56X400 | 1 | <a href="#">04210.560.400</a> | M64X320 | 1 | <a href="#">04210.640.320</a> |
| M48X500 | 1 | <a href="#">04210.480.500</a> | M56X410 | 1 | <a href="#">04210.560.410</a> | M64X330 | 1 | <a href="#">04210.640.330</a> |
|         |   |                               | M56X420 | 1 | <a href="#">04210.560.420</a> | M64X340 | 1 | <a href="#">04210.640.340</a> |
| M56X140 | 1 | <a href="#">04210.560.140</a> | M56X430 | 1 | <a href="#">04210.560.430</a> | M64X350 | 1 | <a href="#">04210.640.350</a> |
| M56X150 | 1 | <a href="#">04210.560.150</a> | M56X440 | 1 | <a href="#">04210.560.440</a> | M64X360 | 1 | <a href="#">04210.640.360</a> |
| M56X160 | 1 | <a href="#">04210.560.160</a> | M56X450 | 1 | <a href="#">04210.560.450</a> | M64X370 | 1 | <a href="#">04210.640.370</a> |
| M56X170 | 1 | <a href="#">04210.560.170</a> | M56X460 | 1 | <a href="#">04210.560.460</a> | M64X380 | 1 | <a href="#">04210.640.380</a> |
| M56X180 | 1 | <a href="#">04210.560.180</a> | M56X470 | 1 | <a href="#">04210.560.470</a> | M64X390 | 1 | <a href="#">04210.640.390</a> |
| M56X190 | 1 | <a href="#">04210.560.190</a> | M56X480 | 1 | <a href="#">04210.560.480</a> | M64X400 | 1 | <a href="#">04210.640.400</a> |
| M56X200 | 1 | <a href="#">04210.560.200</a> | M56X490 | 1 | <a href="#">04210.560.490</a> | M64X410 | 1 | <a href="#">04210.640.410</a> |
| M56X210 | 1 | <a href="#">04210.560.210</a> | M56X500 | 1 | <a href="#">04210.560.500</a> | M64X420 | 1 | <a href="#">04210.640.420</a> |
| M56X220 | 1 | <a href="#">04210.560.220</a> |         |   |                               | M64X430 | 1 | <a href="#">04210.640.430</a> |
| M56X230 | 1 | <a href="#">04210.560.230</a> | M64X150 | 1 | <a href="#">04210.640.150</a> | M64X440 | 1 | <a href="#">04210.640.440</a> |
| M56X240 | 1 | <a href="#">04210.560.240</a> | M64X160 | 1 | <a href="#">04210.640.160</a> | M64X450 | 1 | <a href="#">04210.640.450</a> |
| M56X250 | 1 | <a href="#">04210.560.250</a> | M64X170 | 1 | <a href="#">04210.640.170</a> | M64X460 | 1 | <a href="#">04210.640.460</a> |
| M56X260 | 1 | <a href="#">04210.560.260</a> | M64X180 | 1 | <a href="#">04210.640.180</a> | M64X470 | 1 | <a href="#">04210.640.470</a> |
| M56X270 | 1 | <a href="#">04210.560.270</a> | M64X190 | 1 | <a href="#">04210.640.190</a> | M64X480 | 1 | <a href="#">04210.640.480</a> |
| M56X280 | 1 | <a href="#">04210.560.280</a> | M64X200 | 1 | <a href="#">04210.640.200</a> | M64X490 | 1 | <a href="#">04210.640.490</a> |
| M56X290 | 1 | <a href="#">04210.560.290</a> | M64X210 | 1 | <a href="#">04210.640.210</a> | M64X500 | 1 | <a href="#">04210.640.500</a> |
| M56X300 | 1 | <a href="#">04210.560.300</a> | M64X220 | 1 | <a href="#">04210.640.220</a> |         |   |                               |
| M56X310 | 1 | <a href="#">04210.560.310</a> | M64X230 | 1 | <a href="#">04210.640.230</a> |         |   |                               |

## High-strength structural nut

EN 14399-4



### Technical data

| d   | P    | m  | s  |
|-----|------|----|----|
| M12 | 1,75 | 10 | 22 |
| M16 | 2    | 13 | 27 |
| M20 | 2,5  | 16 | 32 |
| M22 | 2,5  | 18 | 36 |
| M24 | 3    | 20 | 41 |

| d   | P   | m  | s  |
|-----|-----|----|----|
| M27 | 3   | 22 | 46 |
| M30 | 3,5 | 24 | 50 |
| M36 | 4   | 29 | 60 |
| M39 | 4   | 31 | 65 |
| M42 | 4,5 | 34 | 70 |

| d   | P   | m  | s   |
|-----|-----|----|-----|
| M45 | 4,5 | 36 | 75  |
| M48 | 5   | 38 | 80  |
| M56 | 5,5 | 45 | 90  |
| M64 | 6   | 51 | 100 |

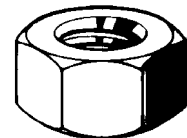
- Technical brochure available on request.

### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | [10]  |                   | Standard  | 04025 | 1-81 |
| M      | hexagon          | St       | [10]  | Hot d.g.          | Standard  | 04225 | 1-81 |

#### 04025 PEINER High-strength structural nut C05A

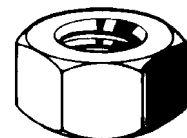
|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | [10]          |
| <b>Packaging</b> | Standard      |



| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 200 | <a href="#">04025.120.001</a> | M22 | 50 | <a href="#">04025.220.001</a> | M30 | 50 | <a href="#">04025.300.001</a> |
| M16 | 100 | <a href="#">04025.160.001</a> | M24 | 50 | <a href="#">04025.240.001</a> | M36 | 25 | <a href="#">04025.360.001</a> |
| M20 | 100 | <a href="#">04025.200.001</a> | M27 | 50 | <a href="#">04025.270.001</a> |     |    |                               |

#### 04225 PEINER High-strength structural nut C05A

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Steel              |
| <b>Class</b>             | [10]               |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |

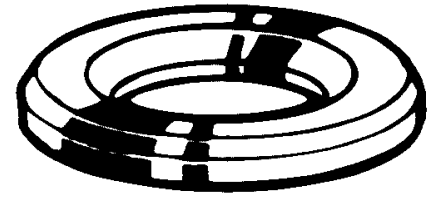
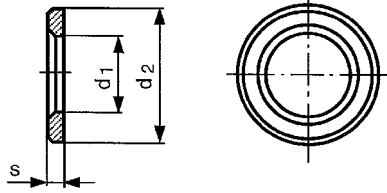


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M12 | 200 | <a href="#">04225.120.001</a> | M27 | 50 | <a href="#">04225.270.001</a> | M45 | 1 | <a href="#">04225.450.001</a> |
| M16 | 100 | <a href="#">04225.160.001</a> | M30 | 50 | <a href="#">04225.300.001</a> | M48 | 1 | <a href="#">04225.480.001</a> |
| M20 | 100 | <a href="#">04225.200.001</a> | M36 | 25 | <a href="#">04225.360.001</a> | M56 | 1 | <a href="#">04225.560.001</a> |
| M22 | 50  | <a href="#">04225.220.001</a> | M39 | 1  | <a href="#">04225.390.001</a> | M64 | 1 | <a href="#">04225.640.001</a> |
| M24 | 50  | <a href="#">04225.240.001</a> | M42 | 1  | <a href="#">04225.420.001</a> |     |   |                               |

- Hot dip galvanized high-strength structural nuts acc. EN 14399-4 are supplied lubricated.

## High-strength structural washer

EN 14399-6



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s  |
|--------------|----------------|----------------|----|
| M12          | 13             | 24             | 3  |
| M16          | 17             | 30             | 4  |
| M20          | 21             | 37             | 4  |
| M22          | 23             | 39             | 4  |
| M24          | 25             | 44             | 4  |
| M27          | 28             | 50             | 5  |
| M30          | 31             | 56             | 5  |
| M36          | 37             | 66             | 6  |
| M39          | 41             | 72             | 6  |
| M42          | 44             | 78             | 8  |
| M45          | 47             | 85             | 8  |
| M48          | 50             | 92             | 8  |
| M56          | 58             | 105            | 10 |
| M64          | 66             | 115            | 10 |

- Technical brochure available on request.

### Article groups

| Material        | Surface treatment | Packaging | Code  | Page |
|-----------------|-------------------|-----------|-------|------|
| St 300-370 HV10 |                   | Standard  | 04035 | 1-82 |
| St 300-370 HV10 | Hot d.g.          | Standard  | 04237 | 1-82 |

#### 04035 PEINER High-strength structural washer

C05A

Material Steel 300-370 HV10  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M12           | 400 | <a href="#">04035.120.001</a> | M22           | 200 | <a href="#">04035.220.001</a> | M30           | 100 | <a href="#">04035.300.001</a> |
| M16           | 200 | <a href="#">04035.160.001</a> | M24           | 200 | <a href="#">04035.240.001</a> | M36           | 50  | <a href="#">04035.360.001</a> |
| M20           | 200 | <a href="#">04035.200.001</a> | M27           | 100 | <a href="#">04035.270.001</a> |               |     |                               |

#### 04237 PEINER High-strength structural washer

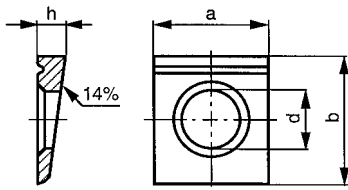
C05A

Material Steel 300-370 HV10  
 Surface treatment Hot dip galvanized  
 Packaging Standard

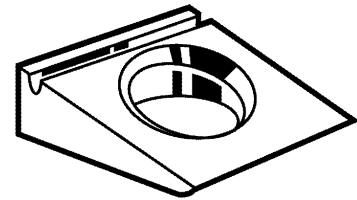


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒ | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|---|-------------------------------|
| M12           | 400 | <a href="#">04237.120.001</a> | M27           | 100 | <a href="#">04237.270.001</a> | M45           | 1 | <a href="#">04237.450.001</a> |
| M16           | 200 | <a href="#">04237.160.001</a> | M30           | 100 | <a href="#">04237.300.001</a> | M48           | 1 | <a href="#">04237.480.001</a> |
| M20           | 200 | <a href="#">04237.200.001</a> | M36           | 50  | <a href="#">04237.360.001</a> | M56           | 1 | <a href="#">04237.560.001</a> |
| M22           | 200 | <a href="#">04237.220.001</a> | M39           | 1   | <a href="#">04237.390.001</a> | M64           | 1 | <a href="#">04237.640.001</a> |
| M24           | 200 | <a href="#">04237.240.001</a> | M42           | 1   | <a href="#">04237.420.001</a> |               |   |                               |

**Square taper washer 14% for I-sections**



DIN 6917  
NEN 5515



**Technical data**

| For nom.size | d  | a  | b  | h    |
|--------------|----|----|----|------|
| M12          | 13 | 26 | 30 | 6,2  |
| M16          | 17 | 32 | 36 | 7,5  |
| M20          | 21 | 40 | 44 | 9,2  |
| M22          | 23 | 44 | 50 | 10   |
| M24          | 25 | 56 | 56 | 10,8 |
| M27          | 28 | 56 | 56 | 10,8 |
| M30          | 31 | 62 | 62 | 11,7 |
| M33 (#DIN)   | 34 | 62 | 62 | 11,7 |
| M36          | 37 | 68 | 68 | 12,5 |

- Technical brochure available on request.

**Article groups**

| Material        | Surface treatment | Packaging | Code  | Page |
|-----------------|-------------------|-----------|-------|------|
| St 295-350 HV10 |                   | Standard  | 04040 | 1-83 |
| St 295-350 HV10 | Hot d.g.          | Standard  | 04240 | 1-83 |

**04040 PEINER Square taper washer 14% for I-sections** C05A

Material: Steel 295-350 HV10  
Packaging: Standard




| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M12           | 200 | <a href="#">04040.120.001</a> | M20           | 100 | <a href="#">04040.200.001</a> | M24           | 50 | <a href="#">04040.240.001</a> |
| M16           | 100 | <a href="#">04040.160.001</a> | M22           | 50  | <a href="#">04040.220.001</a> | M30           | 50 | <a href="#">04040.300.001</a> |

**04240 PEINER Square taper washer 14% for I-sections** C05A

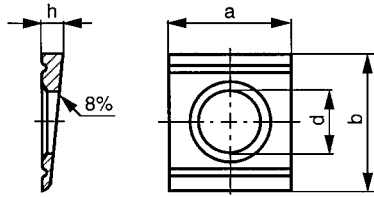
Material: Steel 295-350 HV10  
Surface treatment: Hot dip galvanized  
Packaging: Standard



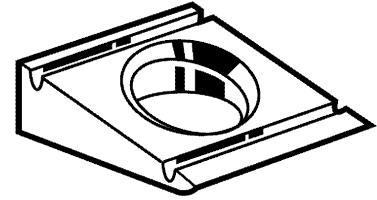

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M12           | 200 | <a href="#">04240.120.001</a> | M22           | 50 | <a href="#">04240.220.001</a> | M30           | 50 | <a href="#">04240.300.001</a> |
| M16           | 100 | <a href="#">04240.160.001</a> | M24           | 50 | <a href="#">04240.240.001</a> | M36           | 50 | <a href="#">04240.360.001</a> |
| M20           | 100 | <a href="#">04240.200.001</a> | M27           | 50 | <a href="#">04240.270.001</a> |               |    |                               |

## Square taper washer 8% for U-section

1



DIN 6918  
NEN 5514



### Technical data

| For nom.size | d  | a  | b  | h   |
|--------------|----|----|----|-----|
| M12          | 13 | 26 | 30 | 4,9 |
| M16          | 17 | 32 | 36 | 5,9 |
| M20          | 21 | 40 | 44 | 7   |
| M22          | 23 | 44 | 50 | 8   |
| M24          | 25 | 56 | 56 | 8,5 |
| M27          | 28 | 56 | 56 | 8,5 |
| M30          | 31 | 62 | 62 | 9   |
| M36          | 37 | 68 | 68 | 9,4 |

- Technical brochure available on request.

### Article groups

| Material        | Surface treatment | Packaging | Code  | Page |
|-----------------|-------------------|-----------|-------|------|
| St 295-350 HV10 |                   | Standard  | 04050 | 1-84 |
| St 295-350 HV10 | Hot d.g.          | Standard  | 04250 | 1-84 |

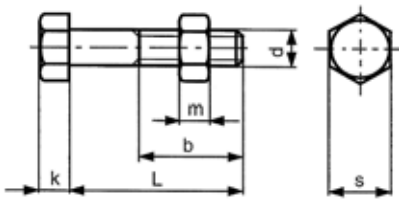
| 04050 PEINER Square taper washer 8% for U-section |                    | C05A  |   |
|---|--------------------|---|---|
| <b>Material</b>                                   | Steel 295-350 HV10 |  |  |
| <b>Packaging</b>                                  | Standard           |   |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M12           | 200 | <a href="#">04050.120.001</a> | M20           | 100 | <a href="#">04050.200.001</a> | M24           | 50 | <a href="#">04050.240.001</a> |
| M16           | 100 | <a href="#">04050.160.001</a> | M22           | 50  | <a href="#">04050.220.001</a> | M27           | 50 | <a href="#">04050.270.001</a> |

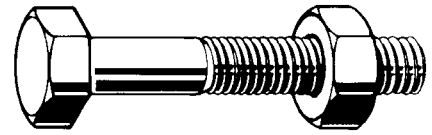
| 04250 PEINER Square taper washer 8% for U-section |                    | C05A  |   |
|---|--------------------|---|---|
| <b>Material</b>                                   | Steel 295-350 HV10 |  |  |
| <b>Surface treatment</b>                          | Hot dip galvanized |   |   |
| <b>Packaging</b>                                  | Standard           |   |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M12           | 200 | <a href="#">04250.120.001</a> | M22           | 50 | <a href="#">04250.220.001</a> | M30           | 50 | <a href="#">04250.300.001</a> |
| M16           | 100 | <a href="#">04250.160.001</a> | M24           | 50 | <a href="#">04250.240.001</a> | M36           | 50 | <a href="#">04250.360.001</a> |
| M20           | 100 | <a href="#">04250.200.001</a> | M27           | 50 | <a href="#">04250.270.001</a> |               |    |                               |

**Structural assembly set**



ISO 4014/4032  
EN 15048



1

**Technical data**

| d   | P    | b (min.): L≤125mm | b (min.): 125mm<L≤200mm | b (min.): L>200mm | k    | m (max.) | s  |
|-----|------|-------------------|-------------------------|-------------------|------|----------|----|
| M10 | 1,5  | 26                | 32                      | 45                | 6,4  | 8,4      | 16 |
| M12 | 1,75 | 30                | 36                      | 49                | 7,5  | 10,8     | 18 |
| M16 | 2    | 38                | 44                      | 57                | 10   | 14,8     | 24 |
| M20 | 2,5  | 46                | 52                      | 65                | 12,5 | 18       | 30 |
| M24 | 3    | 54                | 60                      | 73                | 15   | 21,5     | 36 |
| M27 | 3    | 60                | 66                      | 79                | 17   | 23,8     | 41 |
| M30 | 3,5  | 66                | 72                      | 85                | 18,7 | 25,6     | 46 |
| M33 | 3,5  | 72                | 78                      | 91                | 21   | 28,7     | 50 |
| M36 | 4    | 78                | 84                      | 97                | 22,5 | 31       | 55 |

• Full boxes only.

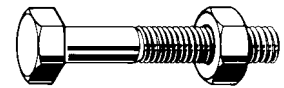
**Article groups**

| Thread | Driving features | Material | Class | Surface treatment |            | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|------------|-----------|-------|------|
| M      | hexagon          | St       | 8.8   | Hot d.g.          | iso metric | Standard  | 01405 | 1-85 |
| M      | hexagon          | St       | 8.8   | Zipl              |            | Standard  | 01222 | 1-86 |

**01405 Structural assembly set**

A96A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Hot dip galvanized  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M10X45  | 100 | <a href="#">01405.100.045</a> | M16X80  | 25 | <a href="#">01405.160.080</a> | M20X300 | 10 | <a href="#">01405.200.300</a> |
| M10X50  | 100 | <a href="#">01405.100.050</a> | M16X90  | 25 | <a href="#">01405.160.090</a> | M24X70  | 25 | <a href="#">01405.240.070</a> |
| M10X55  | 100 | <a href="#">01405.100.055</a> | M16X100 | 25 | <a href="#">01405.160.100</a> | M24X75  | 25 | <a href="#">01405.240.075</a> |
| M10X60  | 100 | <a href="#">01405.100.060</a> | M16X110 | 25 | <a href="#">01405.160.110</a> | M24X80  | 25 | <a href="#">01405.240.080</a> |
| M10X65  | 100 | <a href="#">01405.100.065</a> | M16X120 | 25 | <a href="#">01405.160.120</a> | M24X85  | 25 | <a href="#">01405.240.085</a> |
| M10X70  | 100 | <a href="#">01405.100.070</a> | M16X130 | 25 | <a href="#">01405.160.130</a> | M24X90  | 10 | <a href="#">01405.240.090</a> |
| M10X75  | 100 | <a href="#">01405.100.075</a> | M16X140 | 25 | <a href="#">01405.160.140</a> | M24X95  | 10 | <a href="#">01405.240.095</a> |
| M10X80  | 100 | <a href="#">01405.100.080</a> | M16X150 | 25 | <a href="#">01405.160.150</a> | M24X100 | 10 | <a href="#">01405.240.100</a> |
| M10X90  | 100 | <a href="#">01405.100.090</a> | M16X160 | 25 | <a href="#">01405.160.160</a> | M24X110 | 10 | <a href="#">01405.240.110</a> |
| M10X100 | 100 | <a href="#">01405.100.100</a> | M16X170 | 25 | <a href="#">01405.160.170</a> | M24X120 | 10 | <a href="#">01405.240.120</a> |
| M10X110 | 50  | <a href="#">01405.100.110</a> | M16X180 | 25 | <a href="#">01405.160.180</a> | M24X130 | 10 | <a href="#">01405.240.130</a> |
| M10X120 | 50  | <a href="#">01405.100.120</a> | M16X200 | 25 | <a href="#">01405.160.200</a> | M24X140 | 10 | <a href="#">01405.240.140</a> |
| M10X130 | 50  | <a href="#">01405.100.130</a> | M16X220 | 25 | <a href="#">01405.160.220</a> | M24X150 | 10 | <a href="#">01405.240.150</a> |
| M10X140 | 50  | <a href="#">01405.100.140</a> | M16X240 | 10 | <a href="#">01405.160.240</a> | M24X160 | 10 | <a href="#">01405.240.160</a> |
| M10X160 | 50  | <a href="#">01405.100.160</a> | M16X260 | 10 | <a href="#">01405.160.260</a> | M24X170 | 10 | <a href="#">01405.240.170</a> |
| M10X180 | 50  | <a href="#">01405.100.180</a> | M16X280 | 10 | <a href="#">01405.160.280</a> | M24X180 | 10 | <a href="#">01405.240.180</a> |
|         |     |                               | M16X300 | 10 | <a href="#">01405.160.300</a> | M24X180 | 10 | <a href="#">01405.240.180</a> |
| M12X50  | 100 | <a href="#">01405.120.050</a> |         |    |                               | M24X200 | 10 | <a href="#">01405.240.200</a> |
| M12X55  | 100 | <a href="#">01405.120.055</a> | M20X65  | 25 | <a href="#">01405.200.065</a> | M24X220 | 10 | <a href="#">01405.240.220</a> |
| M12X60  | 100 | <a href="#">01405.120.060</a> | M20X70  | 25 | <a href="#">01405.200.070</a> | M24X240 | 10 | <a href="#">01405.240.240</a> |
| M12X65  | 50  | <a href="#">01405.120.065</a> | M20X75  | 25 | <a href="#">01405.200.075</a> | M24X260 | 10 | <a href="#">01405.240.260</a> |
| M12X70  | 50  | <a href="#">01405.120.070</a> | M20X80  | 25 | <a href="#">01405.200.080</a> | M24X280 | 10 | <a href="#">01405.240.280</a> |
| M12X75  | 50  | <a href="#">01405.120.075</a> | M20X85  | 25 | <a href="#">01405.200.085</a> | M24X300 | 10 | <a href="#">01405.240.300</a> |
| M12X80  | 50  | <a href="#">01405.120.080</a> | M20X90  | 25 | <a href="#">01405.200.090</a> |         |    |                               |
| M12X90  | 50  | <a href="#">01405.120.090</a> | M20X95  | 25 | <a href="#">01405.200.095</a> | M27X80  | 10 | <a href="#">01405.270.080</a> |
| M12X100 | 50  | <a href="#">01405.120.100</a> | M20X100 | 25 | <a href="#">01405.200.100</a> | M27X90  | 10 | <a href="#">01405.270.090</a> |
| M12X110 | 50  | <a href="#">01405.120.110</a> | M20X110 | 25 | <a href="#">01405.200.110</a> | M27X100 | 10 | <a href="#">01405.270.100</a> |
| M12X120 | 50  | <a href="#">01405.120.120</a> | M20X120 | 25 | <a href="#">01405.200.120</a> | M27X110 | 10 | <a href="#">01405.270.110</a> |
| M12X130 | 50  | <a href="#">01405.120.130</a> | M20X130 | 25 | <a href="#">01405.200.130</a> | M27X120 | 10 | <a href="#">01405.270.120</a> |
| M12X140 | 50  | <a href="#">01405.120.140</a> | M20X140 | 25 | <a href="#">01405.200.140</a> | M27X130 | 10 | <a href="#">01405.270.130</a> |
| M12X150 | 50  | <a href="#">01405.120.150</a> | M20X150 | 25 | <a href="#">01405.200.150</a> | M27X140 | 10 | <a href="#">01405.270.140</a> |
| M12X160 | 50  | <a href="#">01405.120.160</a> | M20X160 | 10 | <a href="#">01405.200.160</a> | M27X150 | 10 | <a href="#">01405.270.150</a> |
| M12X180 | 50  | <a href="#">01405.120.180</a> | M20X170 | 10 | <a href="#">01405.200.170</a> | M27X160 | 10 | <a href="#">01405.270.160</a> |
|         |     |                               | M20X180 | 10 | <a href="#">01405.200.180</a> | M27X180 | 5  | <a href="#">01405.270.180</a> |
| M16X55  | 50  | <a href="#">01405.160.055</a> | M20X190 | 10 | <a href="#">01405.200.190</a> | M27X200 | 5  | <a href="#">01405.270.200</a> |
| M16X60  | 50  | <a href="#">01405.160.060</a> | M20X200 | 10 | <a href="#">01405.200.200</a> | M27X220 | 5  | <a href="#">01405.270.220</a> |
| M16X65  | 25  | <a href="#">01405.160.065</a> | M20X220 | 10 | <a href="#">01405.200.220</a> | M27X230 | 5  | <a href="#">01405.270.230</a> |
| M16X70  | 25  | <a href="#">01405.160.070</a> | M20X240 | 10 | <a href="#">01405.200.240</a> | M27X240 | 5  | <a href="#">01405.270.240</a> |
| M16X75  | 25  | <a href="#">01405.160.075</a> | M20X260 | 10 | <a href="#">01405.200.260</a> | M27X260 | 5  | <a href="#">01405.270.260</a> |
|         |     |                               | M20X280 | 10 | <a href="#">01405.200.280</a> |         |    |                               |

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**01405 Structural assembly set** ←

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M27X280 | 5  | <a href="#">01405.270.280</a> | M30X130 | 10 | <a href="#">01405.300.130</a> | M36X130 | 5 | <a href="#">01405.360.130</a> |
| M27X300 | 5  | <a href="#">01405.270.300</a> | M30X140 | 10 | <a href="#">01405.300.140</a> | M36X220 | 5 | <a href="#">01405.360.220</a> |
| M30X90  | 10 | <a href="#">01405.300.090</a> | M30X150 | 10 | <a href="#">01405.300.150</a> |         |   |                               |
| M30X100 | 10 | <a href="#">01405.300.100</a> | M30X160 | 10 | <a href="#">01405.300.160</a> |         |   |                               |
| M30X110 | 10 | <a href="#">01405.300.110</a> | M36X110 | 5  | <a href="#">01405.360.110</a> |         |   |                               |
| M30X120 | 10 | <a href="#">01405.300.120</a> | M36X120 | 5  | <a href="#">01405.360.120</a> |         |   |                               |

- New European constructions must comply with the Construction Directive 89/106/EEC in order to ensure safety to persons and objects.
- In most cases this means the application of products according to the harmonized European standards (EN-standards).
- For non-preloaded structural bolting, this means that hexagon bolts and nuts according to EN 15048-1 should be used.
- Compared to the normal bolts ISO 4014/4017 (formerly DIN 931/933) and nuts ISO 4032 (DIN 934) these bolts and nuts have a supplementary marking "SB" (Structural Bolting) and the packaging shows the CE-logo.
- The manufacturers need to be CE-certified for the production of bolts/nuts EN 15048-1.

**01222 Structural assembly set** A96A

|                          |               |   |   |
|--------------------------|---------------|---|---|
| <b>Thread</b>            | Metric thread |  |  |
| <b>Material</b>          | Steel         |   |   |
| <b>Class</b>             | 8.8           |   |   |
| <b>Surface treatment</b> | Zinc plated   |   |   |
| <b>Packaging</b>         | Standard      |   |   |

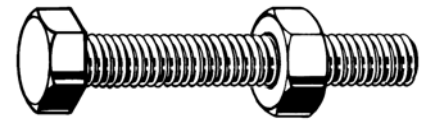
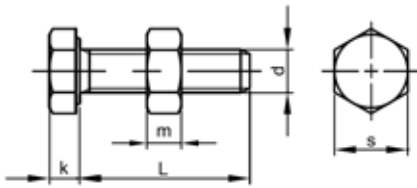
| d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M12X50  | 100 | <a href="#">01222.120.050</a> | M20X65  | 25 | <a href="#">01222.200.065</a> | M27X120 | 10 | <a href="#">01222.270.120</a> |
| M12X55  | 100 | <a href="#">01222.120.055</a> | M20X70  | 25 | <a href="#">01222.200.070</a> | M27X130 | 10 | <a href="#">01222.270.130</a> |
| M12X60  | 75  | <a href="#">01222.120.060</a> | M20X75  | 25 | <a href="#">01222.200.075</a> | M27X140 | 10 | <a href="#">01222.270.140</a> |
| M12X70  | 75  | <a href="#">01222.120.070</a> | M20X80  | 20 | <a href="#">01222.200.080</a> | M27X150 | 10 | <a href="#">01222.270.150</a> |
| M12X75  | 50  | <a href="#">01222.120.075</a> | M20X85  | 25 | <a href="#">01222.200.085</a> | M27X160 | 10 | <a href="#">01222.270.160</a> |
| M12X80  | 50  | <a href="#">01222.120.080</a> | M20X90  | 20 | <a href="#">01222.200.090</a> | M27X180 | 5  | <a href="#">01222.270.180</a> |
| M12X85  | 50  | <a href="#">01222.120.085</a> | M20X100 | 20 | <a href="#">01222.200.100</a> | M27X200 | 5  | <a href="#">01222.270.200</a> |
| M12X90  | 50  | <a href="#">01222.120.090</a> | M20X110 | 20 | <a href="#">01222.200.110</a> |         |    |                               |
| M12X100 | 50  | <a href="#">01222.120.100</a> | M20X120 | 20 | <a href="#">01222.200.120</a> | M30X90  | 10 | <a href="#">01222.300.090</a> |
| M12X110 | 50  | <a href="#">01222.120.110</a> | M20X130 | 20 | <a href="#">01222.200.130</a> | M30X100 | 10 | <a href="#">01222.300.100</a> |
| M12X120 | 50  | <a href="#">01222.120.120</a> | M20X140 | 10 | <a href="#">01222.200.140</a> | M30X110 | 10 | <a href="#">01222.300.110</a> |
| M12X30  | 50  | <a href="#">01222.120.130</a> | M20X150 | 10 | <a href="#">01222.200.150</a> | M30X120 | 10 | <a href="#">01222.300.120</a> |
| M12X140 | 50  | <a href="#">01222.120.140</a> | M20X160 | 10 | <a href="#">01222.200.160</a> | M30X130 | 10 | <a href="#">01222.300.130</a> |
| M12X150 | 50  | <a href="#">01222.120.150</a> | M20X170 | 10 | <a href="#">01222.200.170</a> | M30X140 | 10 | <a href="#">01222.300.140</a> |
| M12X160 | 25  | <a href="#">01222.120.160</a> | M20X180 | 10 | <a href="#">01222.200.180</a> | M30X150 | 10 | <a href="#">01222.300.150</a> |
| M12X170 | 25  | <a href="#">01222.120.170</a> | M20X190 | 10 | <a href="#">01222.200.190</a> | M30X160 | 10 | <a href="#">01222.300.160</a> |
| M12X180 | 25  | <a href="#">01222.120.180</a> | M20X200 | 10 | <a href="#">01222.200.200</a> | M30X170 | 5  | <a href="#">01222.300.170</a> |
| M12X190 | 25  | <a href="#">01222.120.190</a> | M20X220 | 10 | <a href="#">01222.200.220</a> | M30X180 | 5  | <a href="#">01222.300.180</a> |
| M12X200 | 25  | <a href="#">01222.120.200</a> | M20X240 | 10 | <a href="#">01222.200.240</a> | M30X200 | 5  | <a href="#">01222.300.200</a> |
| M12X220 | 25  | <a href="#">01222.120.220</a> | M20X250 | 10 | <a href="#">01222.200.250</a> | M30X220 | 5  | <a href="#">01222.300.220</a> |
| M12X240 | 25  | <a href="#">01222.120.240</a> | M20X260 | 10 | <a href="#">01222.200.260</a> | M30X240 | 5  | <a href="#">01222.300.240</a> |
| M12X250 | 25  | <a href="#">01222.120.250</a> | M20X280 | 10 | <a href="#">01222.200.280</a> | M30X260 | 5  | <a href="#">01222.300.260</a> |
| M12X260 | 25  | <a href="#">01222.120.260</a> | M20X300 | 10 | <a href="#">01222.200.300</a> | M30X280 | 5  | <a href="#">01222.300.280</a> |
| M12X280 | 25  | <a href="#">01222.120.280</a> | M20X320 | 10 | <a href="#">01222.200.320</a> | M30X300 | 5  | <a href="#">01222.300.300</a> |
| M12X300 | 25  | <a href="#">01222.120.300</a> | M20X340 | 10 | <a href="#">01222.200.340</a> |         |    |                               |
|         |     |                               | M20X360 | 10 | <a href="#">01222.200.360</a> | M33X100 | 5  | <a href="#">01222.330.100</a> |
| M16X55  | 50  | <a href="#">01222.160.055</a> |         |    |                               | M33X110 | 5  | <a href="#">01222.330.110</a> |
| M16X60  | 50  | <a href="#">01222.160.060</a> | M24X80  | 10 | <a href="#">01222.240.080</a> | M33X120 | 5  | <a href="#">01222.330.120</a> |
| M16X65  | 50  | <a href="#">01222.160.065</a> | M24X85  | 10 | <a href="#">01222.240.085</a> | M33X130 | 5  | <a href="#">01222.330.130</a> |
| M16X70  | 25  | <a href="#">01222.160.070</a> | M24X90  | 10 | <a href="#">01222.240.090</a> | M33X140 | 5  | <a href="#">01222.330.140</a> |
| M16X75  | 25  | <a href="#">01222.160.075</a> | M24X100 | 10 | <a href="#">01222.240.100</a> | M33X150 | 5  | <a href="#">01222.330.150</a> |
| M16X80  | 25  | <a href="#">01222.160.080</a> | M24X110 | 10 | <a href="#">01222.240.110</a> | M33X160 | 5  | <a href="#">01222.330.160</a> |
| M16X85  | 25  | <a href="#">01222.160.085</a> | M24X120 | 10 | <a href="#">01222.240.120</a> | M33X180 | 2  | <a href="#">01222.330.180</a> |
| M16X90  | 25  | <a href="#">01222.160.090</a> | M24X130 | 10 | <a href="#">01222.240.130</a> |         |    |                               |
| M16X95  | 25  | <a href="#">01222.160.095</a> | M24X140 | 10 | <a href="#">01222.240.140</a> | M36X110 | 5  | <a href="#">01222.360.110</a> |
| M16X100 | 25  | <a href="#">01222.160.100</a> | M24X150 | 25 | <a href="#">01222.240.150</a> | M36X120 | 5  | <a href="#">01222.360.120</a> |
| M16X110 | 25  | <a href="#">01222.160.110</a> | M24X160 | 10 | <a href="#">01222.240.160</a> | M36X130 | 5  | <a href="#">01222.360.130</a> |
| M16X120 | 25  | <a href="#">01222.160.120</a> | M24X170 | 10 | <a href="#">01222.240.170</a> | M36X140 | 5  | <a href="#">01222.360.140</a> |
| M16X130 | 25  | <a href="#">01222.160.130</a> | M24X180 | 10 | <a href="#">01222.240.180</a> | M36X150 | 5  | <a href="#">01222.360.150</a> |
| M16X140 | 25  | <a href="#">01222.160.140</a> | M24X200 | 10 | <a href="#">01222.240.200</a> | M36X160 | 5  | <a href="#">01222.360.160</a> |
| M16X150 | 25  | <a href="#">01222.160.150</a> | M24X220 | 10 | <a href="#">01222.240.220</a> | M36X180 | 2  | <a href="#">01222.360.180</a> |
| M16X160 | 25  | <a href="#">01222.160.160</a> | M24X240 | 10 | <a href="#">01222.240.240</a> | M36X200 | 2  | <a href="#">01222.360.200</a> |
| M16X170 | 25  | <a href="#">01222.160.170</a> | M24X260 | 10 | <a href="#">01222.240.260</a> | M36X220 | 2  | <a href="#">01222.360.220</a> |
| M16X180 | 25  | <a href="#">01222.160.180</a> | M24X280 | 10 | <a href="#">01222.240.280</a> | M36X240 | 2  | <a href="#">01222.360.240</a> |
| M16X190 | 25  | <a href="#">01222.160.190</a> | M24X300 | 10 | <a href="#">01222.240.300</a> | M36X260 | 2  | <a href="#">01222.360.260</a> |
| M16X200 | 25  | <a href="#">01222.160.200</a> | M24X320 | 10 | <a href="#">01222.240.320</a> | M36X280 | 2  | <a href="#">01222.360.280</a> |
| M16X220 | 25  | <a href="#">01222.160.220</a> | M24X340 | 5  | <a href="#">01222.240.340</a> | M36X300 | 2  | <a href="#">01222.360.300</a> |
| M16X240 | 10  | <a href="#">01222.160.240</a> | M24X360 | 5  | <a href="#">01222.240.360</a> | M36X320 | 2  | <a href="#">01222.360.320</a> |
| M16X250 | 10  | <a href="#">01222.160.250</a> |         |    |                               |         |    |                               |
| M16X260 | 10  | <a href="#">01222.160.260</a> | M27X80  | 5  | <a href="#">01222.270.080</a> |         |    |                               |
| M16X280 | 10  | <a href="#">01222.160.280</a> | M27X90  | 10 | <a href="#">01222.270.090</a> |         |    |                               |
| M16X300 | 10  | <a href="#">01222.160.300</a> | M27X100 | 10 | <a href="#">01222.270.100</a> |         |    |                               |
|         |     |                               | M27X110 | 10 | <a href="#">01222.270.110</a> |         |    |                               |

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- The manufacturers need to be CE-certified for the production of bolts/nuts EN 15048-1.



## Structural assembly set

ISO 4017/4032  
EN 15048



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### Technical data

| d   | P    | k    | m (max.) | s  |
|-----|------|------|----------|----|
| M10 | 1,5  | 6,4  | 8,4      | 16 |
| M12 | 1,75 | 7,5  | 10,8     | 18 |
| M16 | 2    | 10   | 14,8     | 24 |
| M20 | 2,5  | 12,5 | 18       | 30 |
| M24 | 3    | 15   | 21,5     | 36 |
| M27 | 3    | 17   | 23,8     | 41 |
| M30 | 3,5  | 18,7 | 25,6     | 46 |
| M36 | 4    | 22,5 | 31       | 55 |

- Full boxes only.

### Article groups

| Thread | Driving features | Material | Class | Surface treatment |            | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|------------|-----------|-------|------|
| M      | hexagon          | St       | 8.8   | Hot d.g.          | iso metric | Standard  | 01415 | 1-87 |
| M      | hexagon          | St       | 8.8   | Zipl              |            | Standard  | 01232 | 1-88 |

#### 01415 Structural assembly set

A96A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Hot dip galvanized  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M10X16  | 200 | <a href="#">01415.100.016</a> | M12X120 | 50 | <a href="#">01415.120.120</a> | M20X120 | 25 | <a href="#">01415.200.120</a> |
| M10X20  | 200 | <a href="#">01415.100.020</a> |         |    |                               |         |    |                               |
| M10X25  | 200 | <a href="#">01415.100.025</a> | M16X25  | 50 | <a href="#">01415.160.025</a> | M24X40  | 25 | <a href="#">01415.240.040</a> |
| M10X30  | 200 | <a href="#">01415.100.030</a> | M16X30  | 50 | <a href="#">01415.160.030</a> | M24X45  | 25 | <a href="#">01415.240.045</a> |
| M10X35  | 100 | <a href="#">01415.100.035</a> | M16X35  | 50 | <a href="#">01415.160.035</a> | M24X50  | 25 | <a href="#">01415.240.050</a> |
| M10X40  | 100 | <a href="#">01415.100.040</a> | M16X40  | 50 | <a href="#">01415.160.040</a> | M24X55  | 25 | <a href="#">01415.240.055</a> |
| M10X45  | 100 | <a href="#">01415.100.045</a> | M16X45  | 50 | <a href="#">01415.160.045</a> | M24X60  | 25 | <a href="#">01415.240.060</a> |
| M10X50  | 100 | <a href="#">01415.100.050</a> | M16X50  | 50 | <a href="#">01415.160.050</a> | M24X65  | 25 | <a href="#">01415.240.065</a> |
| M10X55  | 100 | <a href="#">01415.100.055</a> | M16X55  | 50 | <a href="#">01415.160.055</a> | M24X70  | 25 | <a href="#">01415.240.070</a> |
| M10X60  | 100 | <a href="#">01415.100.060</a> | M16X60  | 50 | <a href="#">01415.160.060</a> | M24X75  | 25 | <a href="#">01415.240.075</a> |
| M10X65  | 100 | <a href="#">01415.100.065</a> | M16X65  | 25 | <a href="#">01415.160.065</a> | M24X80  | 25 | <a href="#">01415.240.080</a> |
| M10X70  | 100 | <a href="#">01415.100.070</a> | M16X70  | 25 | <a href="#">01415.160.070</a> | M24X90  | 10 | <a href="#">01415.240.090</a> |
| M10X75  | 100 | <a href="#">01415.100.075</a> | M16X75  | 25 | <a href="#">01415.160.075</a> | M24X100 | 10 | <a href="#">01415.240.100</a> |
| M10X80  | 100 | <a href="#">01415.100.080</a> | M16X80  | 25 | <a href="#">01415.160.080</a> | M24X110 | 10 | <a href="#">01415.240.110</a> |
| M10X90  | 100 | <a href="#">01415.100.090</a> | M16X90  | 25 | <a href="#">01415.160.090</a> | M24X120 | 10 | <a href="#">01415.240.120</a> |
| M10X100 | 100 | <a href="#">01415.100.100</a> | M16X100 | 25 | <a href="#">01415.160.100</a> |         |    |                               |
|         |     |                               | M16X110 | 25 | <a href="#">01415.160.110</a> | M27X50  | 10 | <a href="#">01415.270.050</a> |
| M12X20  | 100 | <a href="#">01415.120.020</a> | M16X120 | 25 | <a href="#">01415.160.120</a> | M27X60  | 10 | <a href="#">01415.270.060</a> |
| M12X25  | 100 | <a href="#">01415.120.025</a> |         |    |                               | M27X65  | 10 | <a href="#">01415.270.065</a> |
| M12X30  | 100 | <a href="#">01415.120.030</a> | M20X30  | 25 | <a href="#">01415.200.030</a> | M27X70  | 10 | <a href="#">01415.270.070</a> |
| M12X35  | 100 | <a href="#">01415.120.035</a> | M20X35  | 25 | <a href="#">01415.200.035</a> | M27X75  | 10 | <a href="#">01415.270.075</a> |
| M12X40  | 100 | <a href="#">01415.120.040</a> | M20X40  | 25 | <a href="#">01415.200.040</a> | M27X80  | 10 | <a href="#">01415.270.080</a> |
| M12X45  | 100 | <a href="#">01415.120.045</a> | M20X45  | 25 | <a href="#">01415.200.045</a> | M27X90  | 10 | <a href="#">01415.270.090</a> |
| M12X50  | 100 | <a href="#">01415.120.050</a> | M20X50  | 25 | <a href="#">01415.200.050</a> | M27X100 | 10 | <a href="#">01415.270.100</a> |
| M12X55  | 100 | <a href="#">01415.120.055</a> | M20X55  | 25 | <a href="#">01415.200.055</a> | M27X110 | 10 | <a href="#">01415.270.110</a> |
| M12X60  | 100 | <a href="#">01415.120.060</a> | M20X60  | 25 | <a href="#">01415.200.060</a> | M27X120 | 10 | <a href="#">01415.270.120</a> |
| M12X65  | 50  | <a href="#">01415.120.065</a> | M20X65  | 25 | <a href="#">01415.200.065</a> |         |    |                               |
| M12X70  | 50  | <a href="#">01415.120.070</a> | M20X70  | 25 | <a href="#">01415.200.070</a> | M30X65  | 10 | <a href="#">01415.300.065</a> |
| M12X75  | 50  | <a href="#">01415.120.075</a> | M20X75  | 25 | <a href="#">01415.200.075</a> | M30X70  | 10 | <a href="#">01415.300.070</a> |
| M12X80  | 50  | <a href="#">01415.120.080</a> | M20X80  | 25 | <a href="#">01415.200.080</a> | M30X80  | 10 | <a href="#">01415.300.080</a> |
| M12X90  | 50  | <a href="#">01415.120.090</a> | M20X90  | 25 | <a href="#">01415.200.090</a> | M30X90  | 10 | <a href="#">01415.300.090</a> |
| M12X100 | 50  | <a href="#">01415.120.100</a> | M20X100 | 25 | <a href="#">01415.200.100</a> | M30X100 | 10 | <a href="#">01415.300.100</a> |
| M12X110 | 50  | <a href="#">01415.120.110</a> | M20X110 | 25 | <a href="#">01415.200.110</a> |         |    |                               |

- New European constructions must comply with the Construction Directive 89/106/EEC in order to ensure safety to persons and objects.
- In most cases this means the application of products according to the harmonized European standards (EN-standards).
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- Compared to the normal bolts ISO 4014/4017 (formerly DIN 931/933) and nuts ISO 4032 (DIN 934) these bolts and nuts have a supplementary marking "SB" (Structural Bolting) and the packaging shows the CE-logo.

1

**01415 Structural assembly set** ←

| d x L | ✉ | Art.number | d x L | ✉ | Art.number | d x L | ✉ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

- The manufacturers need to be CE-certified for the production of bolts/nuts EN 15048-1.

**01232 Structural assembly set** A96A

|                          |               |  |  |
|--------------------------|---------------|--|--|
| <b>Thread</b>            | Metric thread |  |  |
| <b>Material</b>          | Steel         |  |  |
| <b>Class</b>             | 8.8           |  |  |
| <b>Surface treatment</b> | Zinc plated   |  |  |
| <b>Packaging</b>         | Standard      |  |  |

| d x L  | ✉   | Art.number                    | d x L   | ✉  | Art.number                    | d x L   | ✉  | Art.number                    |
|--------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M12X20 | 100 | <a href="#">01232.120.020</a> | M16X80  | 25 | <a href="#">01232.160.080</a> | M24X70  | 25 | <a href="#">01232.240.070</a> |
| M12X25 | 100 | <a href="#">01232.120.025</a> | M16X90  | 25 | <a href="#">01232.160.090</a> | M24X75  | 25 | <a href="#">01232.240.075</a> |
| M12X30 | 100 | <a href="#">01232.120.030</a> | M16X100 | 25 | <a href="#">01232.160.100</a> | M24X80  | 25 | <a href="#">01232.240.080</a> |
| M12X35 | 100 | <a href="#">01232.120.035</a> |         |    |                               | M24X90  | 10 | <a href="#">01232.240.090</a> |
| M12X40 | 100 | <a href="#">01232.120.040</a> | M20X25  | 25 | <a href="#">01232.200.025</a> | M24X100 | 10 | <a href="#">01232.240.100</a> |
| M12X45 | 100 | <a href="#">01232.120.045</a> | M20X30  | 25 | <a href="#">01232.200.030</a> |         |    |                               |
| M12X50 | 100 | <a href="#">01232.120.050</a> | M20X35  | 25 | <a href="#">01232.200.035</a> | M27X50  | 10 | <a href="#">01232.270.050</a> |
| M12X55 | 100 | <a href="#">01232.120.055</a> | M20X40  | 25 | <a href="#">01232.200.040</a> | M27X60  | 10 | <a href="#">01232.270.060</a> |
| M12X60 | 100 | <a href="#">01232.120.060</a> | M20X45  | 25 | <a href="#">01232.200.045</a> | M27X70  | 10 | <a href="#">01232.270.070</a> |
| M12X65 | 50  | <a href="#">01232.120.065</a> | M20X50  | 25 | <a href="#">01232.200.050</a> | M27X80  | 10 | <a href="#">01232.270.080</a> |
| M12X70 | 50  | <a href="#">01232.120.070</a> | M20X55  | 25 | <a href="#">01232.200.055</a> |         |    |                               |
| M12X80 | 50  | <a href="#">01232.120.080</a> | M20X60  | 25 | <a href="#">01232.200.060</a> | M30X50  | 10 | <a href="#">01232.300.050</a> |
|        |     |                               | M20X65  | 25 | <a href="#">01232.200.065</a> | M30X60  | 10 | <a href="#">01232.300.060</a> |
| M16X20 | 50  | <a href="#">01232.160.020</a> | M20X70  | 25 | <a href="#">01232.200.070</a> | M30X70  | 10 | <a href="#">01232.300.070</a> |
| M16X25 | 50  | <a href="#">01232.160.025</a> | M20X80  | 25 | <a href="#">01232.200.080</a> | M30X80  | 10 | <a href="#">01232.300.080</a> |
| M16X30 | 50  | <a href="#">01232.160.030</a> | M20X90  | 25 | <a href="#">01232.200.090</a> | M30X90  | 10 | <a href="#">01232.300.090</a> |
| M16X35 | 50  | <a href="#">01232.160.035</a> | M20X100 | 25 | <a href="#">01232.200.100</a> | M30X100 | 10 | <a href="#">01232.300.100</a> |
| M16X40 | 50  | <a href="#">01232.160.040</a> |         |    |                               |         |    |                               |
| M16X45 | 50  | <a href="#">01232.160.045</a> | M24X40  | 25 | <a href="#">01232.240.040</a> | M36X70  | 5  | <a href="#">01232.360.070</a> |
| M16X50 | 50  | <a href="#">01232.160.050</a> | M24X45  | 25 | <a href="#">01232.240.045</a> | M36X80  | 5  | <a href="#">01232.360.080</a> |
| M16X55 | 50  | <a href="#">01232.160.055</a> | M24X50  | 20 | <a href="#">01232.240.050</a> | M36X90  | 5  | <a href="#">01232.360.090</a> |
| M16X60 | 50  | <a href="#">01232.160.060</a> | M24X55  | 25 | <a href="#">01232.240.055</a> | M36X100 | 5  | <a href="#">01232.360.100</a> |
| M16X65 | 25  | <a href="#">01232.160.065</a> | M24X60  | 10 | <a href="#">01232.240.060</a> |         |    |                               |
| M16X70 | 25  | <a href="#">01232.160.070</a> | M24X65  | 25 | <a href="#">01232.240.065</a> |         |    |                               |

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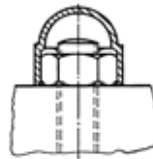
## Protecting cap for hexagon bolts, screws and nuts



### Technical data

| For use with | s  | s <sub>1</sub> | s <sub>2</sub> | d    | H    | h    |
|--------------|----|----------------|----------------|------|------|------|
| M4           | 7  | 6,8            | 8,6            | 7,6  | 8,1  | 4,8  |
| M5           | 8  | 7,8            | 9,8            | 9,5  | 10,8 | 6,9  |
| M6           | 10 | 9,8            | 11,6           | 11   | 13,3 | 6,9  |
| M7           | 11 | 10,8           | 12,5           | 12   | 14,2 | 7,4  |
| M8           | 13 | 12,8           | 15             | 14,3 | 15,3 | 8    |
| M10          | 17 | 16,7           | 18,8           | 18   | 20,5 | 10,3 |
| M12          | 19 | 18,7           | 20,8           | 20,2 | 22   | 11,5 |
| M14          | 22 | 21,7           | 24,3           | 23,5 | 24,5 | 13   |
| M16          | 24 | 23,7           | 26,5           | 26   | 28   | 15,1 |
| M20          | 30 | 29,8           | 33             | 32   | 34   | 18   |
| M22          | 32 | 31,8           | 35             | 34   | 37   | 19   |
| M24          | 36 | 35,8           | 39,5           | 38   | 41   | 20   |
| M27          | 41 | 40,8           | 44,5           | 43   | 47   | 22   |
| M30          | 46 | 45,8           | 49,5           | 48   | 52   | 24   |
| M33          | 50 | 49             | 54             | 53   | 57,5 | 36   |
| M36          | 55 | 54,5           | 58,7           | 57   | 62,2 | 38   |

### Example of application



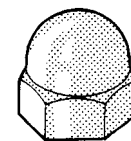
### Article groups

| Material   | Colour | Packaging | Code  | Page |
|------------|--------|-----------|-------|------|
| Plastic PE | White  | Standard  | 56660 | 1-89 |
| Plastic PE | Black  | Standard  | 56661 | 1-90 |
| Plastic PE | Grey   | Standard  | 56662 | 1-90 |

### 56660 Protecting cap for hexagon bolts, screws and nuts

W02G

**Material** Plastic Polyethylene  
**Colour** White  
**Packaging** Standard



| For use with / s | ☒   | Art.number                    | For use with / s | ☒  | Art.number                    | For use with / s | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| M4/s=7           | 100 | <a href="#">56660.040.001</a> | M12/s=19         | 50 | <a href="#">56660.120.001</a> | M27/s=41         | 10 | <a href="#">56660.270.001</a> |
| M5/s=8           | 100 | <a href="#">56660.050.001</a> | M14/s=22         | 50 | <a href="#">56660.140.001</a> | M30/s=46         | 10 | <a href="#">56660.300.001</a> |
| M6/s=10          | 100 | <a href="#">56660.060.001</a> | M16/s=24         | 50 | <a href="#">56660.160.001</a> | M33/s=50         | 10 | <a href="#">56660.330.001</a> |
| M7/s=11          | 100 | <a href="#">56660.070.001</a> | M20/s=30         | 25 | <a href="#">56660.200.001</a> | M36/s=55         | 10 | <a href="#">56660.360.001</a> |
| M8/s=13          | 100 | <a href="#">56660.080.001</a> | M22/s=32         | 25 | <a href="#">56660.220.001</a> |                  |    |                               |
| M10/s=17         | 50  | <a href="#">56660.100.001</a> | M24/s=36         | 25 | <a href="#">56660.240.001</a> |                  |    |                               |

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| 56661 Protecting cap for hexagon bolts, screws and nuts |                      | W02G |
|---|----------------------|------|
| <b>Material</b>   | Plastic Polyethylene |      |
| <b>Colour</b>   | Black                |      |
| <b>Packaging</b>  | Standard             |      |






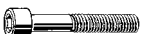
























| For use with / s | ☒   | Art.number                    | For use with / s | ☒  | Art.number                    | For use with / s | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| M4/s=7           | 100 | <a href="#">56661.040.001</a> | M10/s=17         | 50 | <a href="#">56661.100.001</a> | M22/s=32         | 25 | <a href="#">56661.220.001</a> |
| M5/s=8           | 100 | <a href="#">56661.050.001</a> | M12/s=19         | 50 | <a href="#">56661.120.001</a> | M24/s=36         | 25 | <a href="#">56661.240.001</a> |
| M6/s=10          | 100 | <a href="#">56661.060.001</a> | M14/s=22         | 50 | <a href="#">56661.140.001</a> | M27/s=41         | 10 | <a href="#">56661.270.001</a> |
| M7/s=11          | 100 | <a href="#">56661.070.001</a> | M16/s=24         | 50 | <a href="#">56661.160.001</a> |                  |    |                               |
| M8/s=13          | 100 | <a href="#">56661.080.001</a> | M20/s=30         | 25 | <a href="#">56661.200.001</a> |                  |    |                               |

| 56662 Protecting cap for hexagon bolts, screws and nuts |                      | W03G |
|---|----------------------|------|
| <b>Material</b>   | Plastic Polyethylene |      |
| <b>Colour</b>   | Grey                 |      |
| <b>Packaging</b>  | Standard             |      |

| For use with / s | ☒   | Art.number                    | For use with / s | ☒   | Art.number                    | For use with / s | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|----|-------------------------------|
| M4/s=7           | 100 | <a href="#">56662.040.001</a> | M8/s=13          | 100 | <a href="#">56662.080.001</a> | M16/s=24         | 50 | <a href="#">56662.160.001</a> |
| M5/s=8           | 100 | <a href="#">56662.050.001</a> | M10/s=17         | 50  | <a href="#">56662.100.001</a> | M20/s=30         | 25 | <a href="#">56662.200.001</a> |
| M6/s=10          | 100 | <a href="#">56662.060.001</a> | M12/s=19         | 50  | <a href="#">56662.120.001</a> | M24/s=36         | 25 | <a href="#">56662.240.001</a> |
| M7/s=11          | 100 | <a href="#">56662.070.001</a> | M14/s=22         | 50  | <a href="#">56662.140.001</a> |                  |    |                               |

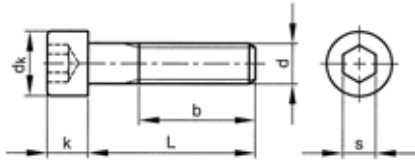
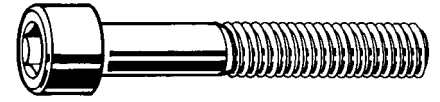
## Hexagon socket products<sup>2</sup>

2

|  |   |   |  |  |
|--|---|---|--|--|
|  <p>Page 2-2<br/>ISO 4762<br/>DIN 912</p> <p><b>Metric</b></p>                              |  <p>Page 2-14<br/>ISO 14579</p> <p><b>Hexalobular</b></p>                    |  <p>Page 2-15<br/>ISO ≈4762<br/>DIN ≈912</p> <p><b>Fully threaded Metric</b></p>       |  <p>Page 2-17<br/>ISO 4762<br/>DIN 912</p> <p><b>Metric fine</b></p>         |  <p>Page 2-18<br/>ANSI ≈B18.3<br/>(1960)<br/>BS ≈2470</p> <p><b>1960 Series UNC</b></p> |
|  <p>Page 2-20<br/>ANSI ≈B18.3<br/>(1960)</p> <p><b>1960 Series UNF</b></p>                  |  <p>Page 2-21<br/>ANSI ≈B18.3<br/>(1936)</p> <p><b>1936 Series UNC</b></p>   |  <p>Page 2-23<br/>ANSI ≈B18.3<br/>(1936)</p> <p><b>1936 Series UNF</b></p>             |  <p>Page 2-24<br/>BS ≈2470</p> <p><b>BSW</b></p>                             |  <p>Page 2-25<br/>DIN 7984<br/>NEN 1601</p> <p><b>Low cylindrical Metric</b></p>        |
|  <p>Page 2-28<br/>DIN 6912</p> <p><b>Low cylindrical with pilot point Metric</b></p>        |  <p>Page 2-31<br/>ISO 10642<br/>DIN 7991</p> <p><b>Metric</b></p>            |  <p>Page 2-36<br/>ISO ≈10642<br/>DIN ≈7991</p> <p><b>Hexalobular Metric</b></p>        |  <p>Page 2-37<br/>ANSI ≈B18.3<br/>BS ≈2470</p> <p><b>UNC</b></p>             |  <p>Page 2-38<br/>ANSI ≈B18.3<br/>BS ≈2470</p> <p><b>UNF</b></p>                        |
|  <p>Page 2-39<br/>BS ≈2470</p> <p><b>BSW</b></p>  |  <p>Page 2-40<br/>ISO ≈7380<br/>ANSI ≈B18.3.4M</p> <p><b>Metric</b></p>      |  <p>Page 2-43<br/>ISO ≈7380<br/>ANSI ≈B18.3.4M</p> <p><b>Hexalobular Metric</b></p>    |  <p>Page 2-44</p> <p><b>With flange</b></p>                                  |  <p>Page 2-46</p> <p><b>Self Locking Metric</b></p>                                     |
|  <p>Page 2-47<br/>ISO ≈7379<br/>ANSI ≈B18.3.3M</p> <p><b>Shoulder screw f9 Metric</b></p> |  <p>Page 2-49<br/>ANSI B18.3<br/>BS 2470</p> <p><b>UNC</b></p>             |  <p>Page 2-50<br/>ISO ≈7379<br/>ANSI ≈B18.3.3M</p> <p><b>Tolerance h8 Metric</b></p> |  <p>Page 2-51<br/>ISO 4029<br/>DIN 916</p> <p><b>Cup point Metric</b></p>  |  <p>Page 2-55<br/>ISO ≈4029<br/>DIN ≈916</p> <p><b>Cup point serrated Metric</b></p>  |
|  <p>Page 2-56<br/>ISO ≈4029<br/>DIN ≈916</p> <p><b>Cup point Metric fine</b></p>          |  <p>Page 2-57<br/>ISO 4026<br/>DIN 913</p> <p><b>Flat point Metric</b></p> |  <p>Page 2-60<br/>ISO ≈4026<br/>DIN ≈913</p> <p><b>Flat point Metric fine</b></p>    |  <p>Page 2-61<br/>ISO 4027<br/>DIN 914</p> <p><b>Cone point Metric</b></p> |  <p>Page 2-63<br/>ISO 4028<br/>DIN 915</p> <p><b>Dog point Metric</b></p>             |
|  <p>Page 2-65</p> <p><b>With nylon dog point Metric</b></p>                               |  <p>Page 2-66<br/>ANSI ≈B18.3<br/>BS ≈2470</p> <p><b>Cup point UNC</b></p> |  <p>Page 2-67<br/>ANSI ≈B18.3<br/>BS ≈2470</p> <p><b>Cup point BSW</b></p>           |  <p>Page 2-68</p> <p><b>Plastic</b></p>                                    |  <p>Page 2-69<br/>DIN 906</p> <p><b>Metric fine</b></p>                               |
|  <p>Page 2-70<br/>DIN 908</p> <p><b>With collar Metric fine</b></p>                       |  <p>Page 2-71<br/>DIN 910</p> <p><b>With collar Metric fine</b></p>        |  <p>Page 2-72<br/>DIN 906</p> <p><b>Non Metric</b></p>                               |  <p>Page 2-73<br/>DIN 908</p> <p><b>With collar non Metric</b></p>         |  <p>Page 2-74<br/>DIN 910</p> <p><b>With collar non Metric</b></p>                    |

## Hexagon socket head cap screw

2


 ISO 4762  
 DIN 912  
 NEN 1241  
 ANSI B18.3.1M  
 NF E25-125  
 BS 4168-1


### Technical data

| d          | P    | b   | dk (max.) | k (max.) | s   | Full thread L ≤ |
|------------|------|-----|-----------|----------|-----|-----------------|
| M1,6       | 0,35 | 15  | 3         | 1,6      | 1,5 | 16              |
| M2         | 0,4  | 16  | 3,8       | 2        | 1,5 | 20              |
| M2,5       | 0,45 | 17  | 4,5       | 2,5      | 2   | 25              |
| M3         | 0,5  | 18  | 5,5       | 3        | 2,5 | 20              |
| M4         | 0,7  | 20  | 7         | 4        | 3   | 25              |
| M5         | 0,8  | 22  | 8,5       | 5        | 4   | 25              |
| M6         | 1    | 24  | 10        | 6        | 5   | 30              |
| M8         | 1,25 | 28  | 13        | 8        | 6   | 35              |
| M10        | 1,5  | 32  | 16        | 10       | 8   | 40              |
| M12        | 1,75 | 36  | 18        | 12       | 10  | 50              |
| M14        | 2    | 40  | 21        | 14       | 12  | 55              |
| M16        | 2    | 44  | 24        | 16       | 14  | 60              |
| M18        | 2,5  | 48  | 27        | 18       | 14  | 65              |
| M20        | 2,5  | 52  | 30        | 20       | 17  | 75              |
| M22        | 2,5  | 56  | 33        | 22       | 17  | 70              |
| M24        | 3    | 60  | 36        | 24       | 19  | 85              |
| M27        | 3    | 66  | 40        | 27       | 19  | 90              |
| M30        | 3,5  | 72  | 45        | 30       | 22  | 100             |
| M33        | 3,5  | 78  | 50        | 33       | 24  | 100             |
| M36        | 4    | 84  | 54        | 36       | 27  | 110             |
| M39 (#DIN) | 4    | 90  | 58        | 39       | 27  | 120             |
| M42        | 4,5  | 96  | 63        | 42       | 32  | 130             |
| M48        | 5    | 108 | 72        | 48       | 36  | 150             |

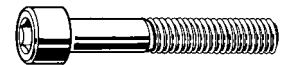
### Article groups

| Thread | Driving features | Material      | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|---------------|-------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St            | 8.8   |                   | Standard  | 07060 | 2-2  |
| M      | hexagon socket   | St            | 8.8   | Zipl              | Standard  | 07160 | 2-4  |
| M      | hexagon socket   | St            | 8.8   | Zipl yell.p.      | Standard  | 07170 | 2-5  |
| M      | hexagon socket   | St            | 8.8   | FLZNNC-NC6        | Standard  | 07065 | 2-5  |
| M      | hexagon socket   | St            | 10.9  |                   | Standard  | 07015 | 2-6  |
| M      | hexagon socket   | St            | 12.9  |                   | Standard  | 07000 | 2-6  |
| M      | hexagon socket   | St            | 12.9  | FLZNNC-NC6        | Standard  | 07025 | 2-8  |
| M      | hexagon socket   | St.St. A2     | 70    |                   | Standard  | 51050 | 2-9  |
| M      | hexagon socket   | St.St. A4     | 70    |                   | Standard  | 55050 | 2-11 |
| M      | hexagon socket   | St.St. A4     | 80    |                   | Standard  | 53570 | 2-12 |
| M      | hexagon socket   | Al Sopral P60 |       |                   | Standard  | 45205 | 2-13 |

### 07060 Hexagon socket head cap screw

D02A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X4  | 200 | <a href="#">07060.030.004</a> | M4X10 | 200 | <a href="#">07060.040.010</a> | M4X70 | 200 | <a href="#">07060.040.070</a> |
| M3X5  | 200 | <a href="#">07060.030.005</a> | M4X12 | 200 | <a href="#">07060.040.012</a> |       |     |                               |
| M3X6  | 200 | <a href="#">07060.030.006</a> | M4X16 | 200 | <a href="#">07060.040.016</a> | M5X6  | 200 | <a href="#">07060.050.006</a> |
| M3X8  | 200 | <a href="#">07060.030.008</a> | M4X18 | 200 | <a href="#">07060.040.018</a> | M5X8  | 200 | <a href="#">07060.050.008</a> |
| M3X10 | 200 | <a href="#">07060.030.010</a> | M4X20 | 200 | <a href="#">07060.040.020</a> | M5X10 | 200 | <a href="#">07060.050.010</a> |
| M3X12 | 200 | <a href="#">07060.030.012</a> | M4X25 | 200 | <a href="#">07060.040.025</a> | M5X12 | 200 | <a href="#">07060.050.012</a> |
| M3X16 | 200 | <a href="#">07060.030.016</a> | M4X30 | 200 | <a href="#">07060.040.030</a> | M5X14 | 200 | <a href="#">07060.050.014</a> |
| M3X20 | 200 | <a href="#">07060.030.020</a> | M4X35 | 200 | <a href="#">07060.040.035</a> | M5X16 | 200 | <a href="#">07060.050.016</a> |
| M3X25 | 200 | <a href="#">07060.030.025</a> | M4X40 | 200 | <a href="#">07060.040.040</a> | M5X18 | 200 | <a href="#">07060.050.018</a> |
| M3X30 | 500 | <a href="#">07060.030.030</a> | M4X45 | 200 | <a href="#">07060.040.045</a> | M5X20 | 200 | <a href="#">07060.050.020</a> |
|       |     |                               | M4X50 | 200 | <a href="#">07060.040.050</a> | M5X25 | 200 | <a href="#">07060.050.025</a> |
| M4X6  | 200 | <a href="#">07060.040.006</a> | M4X60 | 200 | <a href="#">07060.040.060</a> | M5X30 | 200 | <a href="#">07060.050.030</a> |
| M4X8  | 200 | <a href="#">07060.040.008</a> | M4X65 | 200 | <a href="#">07060.040.065</a> | M5X35 | 200 | <a href="#">07060.050.035</a> |







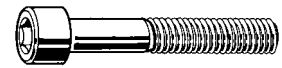
**07160 Hexagon socket head cap screw** ←

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M16X30  | 50 | <a href="#">07160.160.030</a> | M20X40  | 25 | <a href="#">07160.200.040</a> | M24X80  | 10 | <a href="#">07160.240.080</a> |
| M16X35  | 50 | <a href="#">07160.160.035</a> | M20X45  | 25 | <a href="#">07160.200.045</a> | M24X90  | 10 | <a href="#">07160.240.090</a> |
| M16X40  | 50 | <a href="#">07160.160.040</a> | M20X50  | 25 | <a href="#">07160.200.050</a> | M24X100 | 10 | <a href="#">07160.240.100</a> |
| M16X45  | 50 | <a href="#">07160.160.045</a> | M20X55  | 25 | <a href="#">07160.200.055</a> | M24X110 | 10 | <a href="#">07160.240.110</a> |
| M16X50  | 50 | <a href="#">07160.160.050</a> | M20X60  | 25 | <a href="#">07160.200.060</a> | M24X120 | 5  | <a href="#">07160.240.120</a> |
| M16X55  | 50 | <a href="#">07160.160.055</a> | M20X65  | 25 | <a href="#">07160.200.065</a> | M24X140 | 5  | <a href="#">07160.240.140</a> |
| M16X60  | 50 | <a href="#">07160.160.060</a> | M20X70  | 25 | <a href="#">07160.200.070</a> | M24X160 | 5  | <a href="#">07160.240.160</a> |
| M16X65  | 50 | <a href="#">07160.160.065</a> | M20X80  | 25 | <a href="#">07160.200.080</a> | M24X180 | 5  | <a href="#">07160.240.180</a> |
| M16X70  | 25 | <a href="#">07160.160.070</a> | M20X90  | 25 | <a href="#">07160.200.090</a> | M24X200 | 5  | <a href="#">07160.240.200</a> |
| M16X80  | 25 | <a href="#">07160.160.080</a> | M20X100 | 25 | <a href="#">07160.200.100</a> |         |    |                               |
| M16X90  | 25 | <a href="#">07160.160.090</a> | M20X110 | 25 | <a href="#">07160.200.110</a> | M27X60  | 10 | <a href="#">07160.270.060</a> |
| M16X100 | 25 | <a href="#">07160.160.100</a> | M20X120 | 25 | <a href="#">07160.200.120</a> | M27X80  | 10 | <a href="#">07160.270.080</a> |
| M16X110 | 25 | <a href="#">07160.160.110</a> | M20X130 | 25 | <a href="#">07160.200.130</a> | M27X100 | 10 | <a href="#">07160.270.100</a> |
| M16X120 | 25 | <a href="#">07160.160.120</a> | M20X140 | 25 | <a href="#">07160.200.140</a> |         |    |                               |
| M16X130 | 25 | <a href="#">07160.160.130</a> | M20X160 | 10 | <a href="#">07160.200.160</a> | M30X80  | 5  | <a href="#">07160.300.080</a> |
| M16X140 | 25 | <a href="#">07160.160.140</a> | M20X180 | 10 | <a href="#">07160.200.180</a> | M30X100 | 2  | <a href="#">07160.300.100</a> |
| M16X160 | 25 | <a href="#">07160.160.160</a> | M20X200 | 10 | <a href="#">07160.200.200</a> | M30X120 | 2  | <a href="#">07160.300.120</a> |
| M16X180 | 10 | <a href="#">07160.160.180</a> |         |    |                               | M30X140 | 2  | <a href="#">07160.300.140</a> |
| M16X200 | 10 | <a href="#">07160.160.200</a> | M22X50  | 10 | <a href="#">07160.220.050</a> | M30X160 | 2  | <a href="#">07160.300.160</a> |
|         |    |                               | M22X60  | 10 | <a href="#">07160.220.060</a> |         |    |                               |
| M18X40  | 25 | <a href="#">07160.180.040</a> | M22X70  | 10 | <a href="#">07160.220.070</a> | M36X100 | 1  | <a href="#">07160.360.100</a> |
| M18X50  | 25 | <a href="#">07160.180.050</a> | M22X80  | 10 | <a href="#">07160.220.080</a> | M36X120 | 1  | <a href="#">07160.360.120</a> |
| M18X60  | 25 | <a href="#">07160.180.060</a> | M22X100 | 10 | <a href="#">07160.220.100</a> | M36X160 | 1  | <a href="#">07160.360.160</a> |
| M18X80  | 25 | <a href="#">07160.180.080</a> |         |    |                               | M36X200 | 1  | <a href="#">07160.360.200</a> |
| M18X100 | 25 | <a href="#">07160.180.100</a> | M24X40  | 10 | <a href="#">07160.240.040</a> | M36X240 | 1  | <a href="#">07160.360.240</a> |
| M18X120 | 10 | <a href="#">07160.180.120</a> | M24X50  | 10 | <a href="#">07160.240.050</a> |         |    |                               |
|         |    |                               | M24X60  | 10 | <a href="#">07160.240.060</a> |         |    |                               |
| M20X30  | 25 | <a href="#">07160.200.030</a> | M24X70  | 10 | <a href="#">07160.240.070</a> |         |    |                               |

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**07170 Hexagon socket head cap screw** D02A

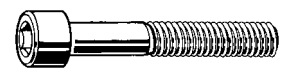
|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 8.8                           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X6  | 200 | <a href="#">07170.040.006</a> | M6X25  | 200 | <a href="#">07170.060.025</a> | M10X20  | 200 | <a href="#">07170.100.020</a> |
| M4X8  | 200 | <a href="#">07170.040.008</a> | M6X30  | 200 | <a href="#">07170.060.030</a> | M10X25  | 200 | <a href="#">07170.100.025</a> |
| M4X10 | 200 | <a href="#">07170.040.010</a> | M6X35  | 200 | <a href="#">07170.060.035</a> | M10X30  | 200 | <a href="#">07170.100.030</a> |
| M4X12 | 200 | <a href="#">07170.040.012</a> | M6X40  | 200 | <a href="#">07170.060.040</a> | M10X35  | 100 | <a href="#">07170.100.035</a> |
| M4X16 | 200 | <a href="#">07170.040.016</a> | M6X45  | 200 | <a href="#">07170.060.045</a> | M10X40  | 100 | <a href="#">07170.100.040</a> |
| M4X20 | 200 | <a href="#">07170.040.020</a> | M6X50  | 200 | <a href="#">07170.060.050</a> | M10X45  | 100 | <a href="#">07170.100.045</a> |
| M4X25 | 200 | <a href="#">07170.040.025</a> | M6X60  | 200 | <a href="#">07170.060.060</a> | M10X50  | 100 | <a href="#">07170.100.050</a> |
| M4X30 | 200 | <a href="#">07170.040.030</a> | M6X70  | 200 | <a href="#">07170.060.070</a> | M10X60  | 100 | <a href="#">07170.100.060</a> |
| M4X35 | 200 | <a href="#">07170.040.035</a> | M6X80  | 200 | <a href="#">07170.060.080</a> | M10X70  | 100 | <a href="#">07170.100.070</a> |
| M4X40 | 200 | <a href="#">07170.040.040</a> |        |     |                               | M10X80  | 100 | <a href="#">07170.100.080</a> |
|       |     |                               | M8X16  | 200 | <a href="#">07170.080.016</a> | M10X100 | 50  | <a href="#">07170.100.100</a> |
| M5X10 | 200 | <a href="#">07170.050.010</a> | M8X20  | 200 | <a href="#">07170.080.020</a> |         |     |                               |
| M5X12 | 200 | <a href="#">07170.050.012</a> | M8X25  | 200 | <a href="#">07170.080.025</a> | M12X20  | 100 | <a href="#">07170.120.020</a> |
| M5X16 | 200 | <a href="#">07170.050.016</a> | M8X30  | 200 | <a href="#">07170.080.030</a> | M12X25  | 100 | <a href="#">07170.120.025</a> |
| M5X20 | 200 | <a href="#">07170.050.020</a> | M8X35  | 200 | <a href="#">07170.080.035</a> | M12X30  | 100 | <a href="#">07170.120.030</a> |
| M5X25 | 200 | <a href="#">07170.050.025</a> | M8X40  | 200 | <a href="#">07170.080.040</a> | M12X35  | 100 | <a href="#">07170.120.035</a> |
| M5X30 | 200 | <a href="#">07170.050.030</a> | M8X45  | 200 | <a href="#">07170.080.045</a> | M12X40  | 100 | <a href="#">07170.120.040</a> |
| M5X35 | 200 | <a href="#">07170.050.035</a> | M8X50  | 200 | <a href="#">07170.080.050</a> | M12X50  | 100 | <a href="#">07170.120.050</a> |
| M5X40 | 200 | <a href="#">07170.050.040</a> | M8X55  | 200 | <a href="#">07170.080.055</a> | M12X60  | 100 | <a href="#">07170.120.060</a> |
| M5X45 | 200 | <a href="#">07170.050.045</a> | M8X60  | 200 | <a href="#">07170.080.060</a> | M12X70  | 50  | <a href="#">07170.120.070</a> |
| M5X50 | 200 | <a href="#">07170.050.050</a> | M8X70  | 200 | <a href="#">07170.080.070</a> | M12X80  | 50  | <a href="#">07170.120.080</a> |
|       |     |                               | M8X80  | 200 | <a href="#">07170.080.080</a> | M12X100 | 50  | <a href="#">07170.120.100</a> |
| M6X10 | 200 | <a href="#">07170.060.010</a> | M8X90  | 50  | <a href="#">07170.080.090</a> | M12X120 | 50  | <a href="#">07170.120.120</a> |
| M6X12 | 200 | <a href="#">07170.060.012</a> | M8X100 | 200 | <a href="#">07170.080.100</a> |         |     |                               |
| M6X16 | 200 | <a href="#">07170.060.016</a> |        |     |                               |         |     |                               |
| M6X20 | 200 | <a href="#">07170.060.020</a> | M10X16 | 200 | <a href="#">07170.100.016</a> |         |     |                               |

**07065 Hexagon socket head cap screw** A96A

|                          |   |
|--------------------------|---|
| <b>Thread</b>            | Metric thread                           |
| <b>Material</b>          | Steel                                   |
| <b>Class</b>             | 8.8                                     |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |
| <b>Packaging</b>         | Standard                                |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X10 | 200 | <a href="#">07065.030.010</a> | M4X25 | 200 | <a href="#">07065.040.025</a> | M5X30 | 200 | <a href="#">07065.050.030</a> |
| M3X12 | 200 | <a href="#">07065.030.012</a> | M4X30 | 200 | <a href="#">07065.040.030</a> | M5X40 | 200 | <a href="#">07065.050.040</a> |
| M3X16 | 200 | <a href="#">07065.030.016</a> | M4X40 | 200 | <a href="#">07065.040.040</a> | M5X45 | 200 | <a href="#">07065.050.045</a> |
| M3X20 | 200 | <a href="#">07065.030.020</a> | M4X50 | 200 | <a href="#">07065.040.050</a> | M5X50 | 200 | <a href="#">07065.050.050</a> |
|       |     |                               |       |     |                               | M5X55 | 200 | <a href="#">07065.050.055</a> |
| M4X8  | 200 | <a href="#">07065.040.008</a> | M5X10 | 200 | <a href="#">07065.050.010</a> | M5X60 | 200 | <a href="#">07065.050.060</a> |
| M4X10 | 200 | <a href="#">07065.040.010</a> | M5X12 | 200 | <a href="#">07065.050.012</a> | M5X70 | 200 | <a href="#">07065.050.070</a> |
| M4X12 | 200 | <a href="#">07065.040.012</a> | M5X16 | 200 | <a href="#">07065.050.016</a> | M5X80 | 200 | <a href="#">07065.050.080</a> |
| M4X16 | 200 | <a href="#">07065.040.016</a> | M5X20 | 200 | <a href="#">07065.050.020</a> | M5X90 | 200 | <a href="#">07065.050.090</a> |
| M4X20 | 200 | <a href="#">07065.040.020</a> | M5X25 | 200 | <a href="#">07065.050.025</a> |       |     |                               |

2

**07065 Hexagon socket head cap screw** ←

| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M6X10 | 200 | <a href="#">07065.060.010</a> | M8X35  | 200 | <a href="#">07065.080.035</a> | M12X25  | 100 | <a href="#">07065.120.025</a> |
| M6X12 | 200 | <a href="#">07065.060.012</a> | M8X40  | 200 | <a href="#">07065.080.040</a> | M12X30  | 100 | <a href="#">07065.120.030</a> |
| M6X16 | 200 | <a href="#">07065.060.016</a> | M8X45  | 200 | <a href="#">07065.080.045</a> | M12X35  | 100 | <a href="#">07065.120.035</a> |
| M6X20 | 200 | <a href="#">07065.060.020</a> | M8X50  | 200 | <a href="#">07065.080.050</a> | M12X40  | 100 | <a href="#">07065.120.040</a> |
| M6X25 | 200 | <a href="#">07065.060.025</a> | M8X60  | 200 | <a href="#">07065.080.060</a> | M12X45  | 100 | <a href="#">07065.120.045</a> |
| M6X30 | 200 | <a href="#">07065.060.030</a> | M8X70  | 200 | <a href="#">07065.080.070</a> | M12X50  | 100 | <a href="#">07065.120.050</a> |
| M6X35 | 200 | <a href="#">07065.060.035</a> | M8X80  | 200 | <a href="#">07065.080.080</a> | M12X55  | 100 | <a href="#">07065.120.055</a> |
| M6X40 | 200 | <a href="#">07065.060.040</a> | M8X90  | 100 | <a href="#">07065.080.090</a> | M12X60  | 100 | <a href="#">07065.120.060</a> |
| M6X45 | 200 | <a href="#">07065.060.045</a> |        |     |                               | M12X65  | 50  | <a href="#">07065.120.065</a> |
| M6X50 | 200 | <a href="#">07065.060.050</a> | M10X20 | 200 | <a href="#">07065.100.020</a> | M12X70  | 50  | <a href="#">07065.120.070</a> |
| M6X55 | 200 | <a href="#">07065.060.055</a> | M10X25 | 200 | <a href="#">07065.100.025</a> | M12X80  | 50  | <a href="#">07065.120.080</a> |
| M6X60 | 200 | <a href="#">07065.060.060</a> | M10X30 | 200 | <a href="#">07065.100.030</a> | M12X90  | 50  | <a href="#">07065.120.090</a> |
| M6X65 | 200 | <a href="#">07065.060.065</a> | M10X35 | 100 | <a href="#">07065.100.035</a> | M12X100 | 50  | <a href="#">07065.120.100</a> |
| M6X70 | 200 | <a href="#">07065.060.070</a> | M10X40 | 100 | <a href="#">07065.100.040</a> |         |     |                               |
| M6X80 | 200 | <a href="#">07065.060.080</a> | M10X45 | 100 | <a href="#">07065.100.045</a> | M16X40  | 50  | <a href="#">07065.160.040</a> |
| M6X90 | 100 | <a href="#">07065.060.090</a> | M10X50 | 100 | <a href="#">07065.100.050</a> | M16X50  | 50  | <a href="#">07065.160.050</a> |
|       |     |                               | M10X55 | 100 | <a href="#">07065.100.055</a> | M16X60  | 50  | <a href="#">07065.160.060</a> |
| M8X10 | 200 | <a href="#">07065.080.010</a> | M10X60 | 100 | <a href="#">07065.100.060</a> | M16X70  | 25  | <a href="#">07065.160.070</a> |
| M8X12 | 200 | <a href="#">07065.080.012</a> | M10X70 | 100 | <a href="#">07065.100.070</a> | M16X80  | 25  | <a href="#">07065.160.080</a> |
| M8X16 | 200 | <a href="#">07065.080.016</a> | M10X80 | 100 | <a href="#">07065.100.080</a> | M16X90  | 25  | <a href="#">07065.160.090</a> |
| M8X20 | 200 | <a href="#">07065.080.020</a> | M10X90 | 100 | <a href="#">07065.100.090</a> | M16X100 | 25  | <a href="#">07065.160.100</a> |
| M8X25 | 200 | <a href="#">07065.080.025</a> |        |     |                               |         |     |                               |
| M8X30 | 200 | <a href="#">07065.080.030</a> | M12X20 | 100 | <a href="#">07065.120.020</a> |         |     |                               |

**07015 Hexagon socket head cap screw** D03A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 10.9          |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|-------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M5X10 | 500 | <a href="#">07015.050.010</a> | M8X25   | 200 | <a href="#">07015.080.025</a> | M12X120 | 50 | <a href="#">07015.120.120</a> |
| M5X12 | 500 | <a href="#">07015.050.012</a> | M8X30   | 200 | <a href="#">07015.080.030</a> |         |    |                               |
| M5X16 | 500 | <a href="#">07015.050.016</a> | M8X35   | 200 | <a href="#">07015.080.035</a> | M16X30  | 50 | <a href="#">07015.160.030</a> |
| M5X20 | 500 | <a href="#">07015.050.020</a> | M8X40   | 200 | <a href="#">07015.080.040</a> | M16X40  | 50 | <a href="#">07015.160.040</a> |
| M5X25 | 500 | <a href="#">07015.050.025</a> | M8X45   | 200 | <a href="#">07015.080.045</a> | M16X50  | 50 | <a href="#">07015.160.050</a> |
| M5X30 | 500 | <a href="#">07015.050.030</a> | M8X50   | 200 | <a href="#">07015.080.050</a> | M16X60  | 50 | <a href="#">07015.160.060</a> |
| M5X35 | 200 | <a href="#">07015.050.035</a> | M8X60   | 200 | <a href="#">07015.080.060</a> | M16X70  | 25 | <a href="#">07015.160.070</a> |
| M5X40 | 200 | <a href="#">07015.050.040</a> | M8X70   | 200 | <a href="#">07015.080.070</a> | M16X80  | 25 | <a href="#">07015.160.080</a> |
| M5X45 | 200 | <a href="#">07015.050.045</a> | M8X80   | 100 | <a href="#">07015.080.080</a> | M16X90  | 25 | <a href="#">07015.160.090</a> |
| M5X50 | 200 | <a href="#">07015.050.050</a> |         |     |                               | M16X100 | 25 | <a href="#">07015.160.100</a> |
| M5X60 | 200 | <a href="#">07015.050.060</a> | M10X20  | 200 | <a href="#">07015.100.020</a> | M16X120 | 25 | <a href="#">07015.160.120</a> |
|       |     |                               | M10X25  | 200 | <a href="#">07015.100.025</a> |         |    |                               |
| M6X10 | 500 | <a href="#">07015.060.010</a> | M10X30  | 200 | <a href="#">07015.100.030</a> | M20X40  | 25 | <a href="#">07015.200.040</a> |
| M6X12 | 500 | <a href="#">07015.060.012</a> | M10X40  | 100 | <a href="#">07015.100.040</a> | M20X50  | 25 | <a href="#">07015.200.050</a> |
| M6X16 | 500 | <a href="#">07015.060.016</a> | M10X50  | 100 | <a href="#">07015.100.050</a> | M20X60  | 25 | <a href="#">07015.200.060</a> |
| M6X20 | 500 | <a href="#">07015.060.020</a> | M10X60  | 100 | <a href="#">07015.100.060</a> | M20X70  | 25 | <a href="#">07015.200.070</a> |
| M6X25 | 500 | <a href="#">07015.060.025</a> | M10X70  | 100 | <a href="#">07015.100.070</a> | M20X80  | 25 | <a href="#">07015.200.080</a> |
| M6X30 | 500 | <a href="#">07015.060.030</a> | M10X80  | 100 | <a href="#">07015.100.080</a> | M20X90  | 25 | <a href="#">07015.200.090</a> |
| M6X35 | 200 | <a href="#">07015.060.035</a> | M10X100 | 50  | <a href="#">07015.100.100</a> | M20X100 | 25 | <a href="#">07015.200.100</a> |
| M6X40 | 200 | <a href="#">07015.060.040</a> |         |     |                               | M20X120 | 25 | <a href="#">07015.200.120</a> |
| M6X45 | 200 | <a href="#">07015.060.045</a> | M12X30  | 100 | <a href="#">07015.120.030</a> |         |    |                               |
| M6X50 | 200 | <a href="#">07015.060.050</a> | M12X40  | 100 | <a href="#">07015.120.040</a> | M24X50  | 10 | <a href="#">07015.240.050</a> |
| M6X60 | 200 | <a href="#">07015.060.060</a> | M12X50  | 100 | <a href="#">07015.120.050</a> | M24X60  | 10 | <a href="#">07015.240.060</a> |
| M6X70 | 200 | <a href="#">07015.060.070</a> | M12X60  | 100 | <a href="#">07015.120.060</a> | M24X70  | 10 | <a href="#">07015.240.070</a> |
| M6X80 | 100 | <a href="#">07015.060.080</a> | M12X70  | 50  | <a href="#">07015.120.070</a> | M24X80  | 10 | <a href="#">07015.240.080</a> |
| M6X90 | 100 | <a href="#">07015.060.090</a> | M12X80  | 50  | <a href="#">07015.120.080</a> | M24X90  | 10 | <a href="#">07015.240.090</a> |
|       |     |                               | M12X90  | 50  | <a href="#">07015.120.090</a> | M24X100 | 10 | <a href="#">07015.240.100</a> |
| M8X16 | 200 | <a href="#">07015.080.016</a> | M12X100 | 50  | <a href="#">07015.120.100</a> | M24X120 | 5  | <a href="#">07015.240.120</a> |
| M8X20 | 200 | <a href="#">07015.080.020</a> | M12X110 | 50  | <a href="#">07015.120.110</a> |         |    |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**07000 Hexagon socket head cap screw** D01A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 12.9          |
| <b>Packaging</b> | Standard      |



| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M1,6X3 | 100 | <a href="#">07000.016.003</a> | M2X10  | 100 | <a href="#">07000.020.010</a> | M2,5X8  | 100 | <a href="#">07000.025.008</a> |
| M1,6X4 | 100 | <a href="#">07000.016.004</a> | M2X12  | 100 | <a href="#">07000.020.012</a> | M2,5X10 | 100 | <a href="#">07000.025.010</a> |
| M1,6X5 | 100 | <a href="#">07000.016.005</a> | M2X14  | 100 | <a href="#">07000.020.014</a> | M2,5X12 | 100 | <a href="#">07000.025.012</a> |
| M1,6X6 | 100 | <a href="#">07000.016.006</a> | M2X16  | 100 | <a href="#">07000.020.016</a> | M2,5X14 | 100 | <a href="#">07000.025.014</a> |
|        |     |                               | M2X20  | 100 | <a href="#">07000.020.020</a> | M2,5X16 | 100 | <a href="#">07000.025.016</a> |
| M2X3   | 100 | <a href="#">07000.020.003</a> |        |     |                               | M2,5X20 | 100 | <a href="#">07000.025.020</a> |
| M2X4   | 100 | <a href="#">07000.020.004</a> | M2,5X3 | 100 | <a href="#">07000.025.003</a> | M2,5X25 | 100 | <a href="#">07000.025.025</a> |
| M2X5   | 100 | <a href="#">07000.020.005</a> | M2,5X4 | 100 | <a href="#">07000.025.004</a> |         |     |                               |
| M2X6   | 100 | <a href="#">07000.020.006</a> | M2,5X5 | 100 | <a href="#">07000.025.005</a> | M3X4    | 200 | <a href="#">07000.030.004</a> |
| M2X8   | 100 | <a href="#">07000.020.008</a> | M2,5X6 | 100 | <a href="#">07000.025.006</a> | M3X6    | 200 | <a href="#">07000.030.006</a> |

**07000 Hexagon socket head cap screw**

| d x L  | Art.number        | d x L   | Art.number        | d x L   | Art.number        |
|--------|-------------------|---------|-------------------|---------|-------------------|
| M3X8   | 200 07000.030.008 | M6X40   | 200 07000.060.040 | M10X250 | 10 07000.100.250  |
| M3X10  | 200 07000.030.010 | M6X45   | 200 07000.060.045 | M10X260 | 10 07000.100.260  |
| M3X12  | 200 07000.030.012 | M6X50   | 200 07000.060.050 | M10X270 | 10 07000.100.270  |
| M3X14  | 200 07000.030.014 | M6X55   | 200 07000.060.055 | M10X280 | 10 07000.100.280  |
| M3X16  | 200 07000.030.016 | M6X60   | 200 07000.060.060 | M10X300 | 10 07000.100.300  |
| M3X18  | 200 07000.030.018 | M6X65   | 200 07000.060.065 | M12X16  | 100 07000.120.016 |
| M3X20  | 200 07000.030.020 | M6X70   | 200 07000.060.070 | M12X20  | 100 07000.120.020 |
| M3X22  | 200 07000.030.022 | M6X75   | 200 07000.060.075 | M12X25  | 100 07000.120.025 |
| M3X25  | 200 07000.030.025 | M6X80   | 200 07000.060.080 | M12X30  | 100 07000.120.030 |
| M3X30  | 200 07000.030.030 | M6X85   | 100 07000.060.085 | M12X35  | 100 07000.120.035 |
| M3X35  | 200 07000.030.035 | M6X90   | 100 07000.060.090 | M12X45  | 100 07000.120.045 |
| M3X40  | 200 07000.030.040 | M6X95   | 100 07000.060.095 | M12X50  | 100 07000.120.050 |
| M3X45  | 200 07000.030.045 | M6X100  | 100 07000.060.100 | M12X55  | 100 07000.120.055 |
| M3X50  | 200 07000.030.050 | M6X110  | 50 07000.060.110  | M12X60  | 100 07000.120.060 |
| M3X60  | 200 07000.030.060 | M6X115  | 50 07000.060.115  | M12X65  | 50 07000.120.065  |
| M4X5   | 200 07000.040.005 | M6X120  | 50 07000.060.120  | M12X70  | 50 07000.120.070  |
| M4X6   | 200 07000.040.006 | M6X130  | 50 07000.060.130  | M12X75  | 50 07000.120.075  |
| M4X8   | 200 07000.040.008 | M6X135  | 50 07000.060.135  | M12X80  | 50 07000.120.080  |
| M4X10  | 200 07000.040.010 | M6X140  | 25 07000.060.140  | M12X85  | 50 07000.120.085  |
| M4X12  | 200 07000.040.012 | M6X150  | 25 07000.060.150  | M12X90  | 50 07000.120.090  |
| M4X14  | 200 07000.040.014 | M6X160  | 25 07000.060.160  | M12X100 | 50 07000.120.100  |
| M4X16  | 200 07000.040.016 | M6X165  | 25 07000.060.165  | M12X110 | 50 07000.120.110  |
| M4X18  | 200 07000.040.018 | M6X170  | 25 07000.060.170  | M12X120 | 50 07000.120.120  |
| M4X20  | 200 07000.040.020 | M6X180  | 25 07000.060.180  | M12X130 | 25 07000.120.130  |
| M4X22  | 200 07000.040.022 | M6X190  | 25 07000.060.190  | M12X140 | 25 07000.120.140  |
| M4X25  | 200 07000.040.025 | M6X200  | 25 07000.060.200  | M12X150 | 25 07000.120.150  |
| M4X30  | 200 07000.040.030 | M8X10   | 200 07000.080.010 | M12X160 | 25 07000.120.160  |
| M4X35  | 200 07000.040.035 | M8X12   | 200 07000.080.012 | M12X170 | 25 07000.120.170  |
| M4X40  | 200 07000.040.040 | M8X14   | 200 07000.080.014 | M12X180 | 10 07000.120.180  |
| M4X45  | 200 07000.040.045 | M8X16   | 200 07000.080.016 | M12X180 | 10 07000.120.180  |
| M4X50  | 200 07000.040.050 | M8X18   | 200 07000.080.018 | M12X200 | 10 07000.120.200  |
| M4X55  | 200 07000.040.055 | M8X20   | 200 07000.080.020 | M12X210 | 10 07000.120.210  |
| M4X60  | 200 07000.040.060 | M8X22   | 200 07000.080.022 | M12X220 | 10 07000.120.220  |
| M4X65  | 200 07000.040.065 | M8X25   | 200 07000.080.025 | M12X230 | 10 07000.120.230  |
| M4X70  | 200 07000.040.070 | M8X30   | 200 07000.080.030 | M12X240 | 10 07000.120.240  |
| M4X75  | 200 07000.040.075 | M8X35   | 200 07000.080.035 | M12X260 | 10 07000.120.260  |
| M4X80  | 200 07000.040.080 | M8X40   | 200 07000.080.040 | M12X280 | 10 07000.120.280  |
| M4X90  | 200 07000.040.090 | M8X45   | 200 07000.080.045 | M12X300 | 10 07000.120.300  |
| M4X100 | 100 07000.040.100 | M8X50   | 200 07000.080.050 | M14X20  | 100 07000.140.020 |
| M4X110 | 100 07000.040.110 | M8X55   | 200 07000.080.055 | M14X25  | 100 07000.140.025 |
| M4X120 | 100 07000.040.120 | M8X60   | 200 07000.080.060 | M14X30  | 100 07000.140.030 |
| M5X6   | 200 07000.050.006 | M8X65   | 200 07000.080.065 | M14X35  | 100 07000.140.035 |
| M5X8   | 200 07000.050.008 | M8X70   | 200 07000.080.070 | M14X40  | 100 07000.140.040 |
| M5X10  | 200 07000.050.010 | M8X75   | 200 07000.080.075 | M14X45  | 50 07000.140.045  |
| M5X12  | 200 07000.050.012 | M8X80   | 200 07000.080.080 | M14X50  | 50 07000.140.050  |
| M5X14  | 200 07000.050.014 | M8X85   | 100 07000.080.085 | M14X55  | 50 07000.140.055  |
| M5X16  | 200 07000.050.016 | M8X90   | 100 07000.080.090 | M14X60  | 50 07000.140.060  |
| M5X18  | 200 07000.050.018 | M8X100  | 100 07000.080.100 | M14X65  | 50 07000.140.065  |
| M5X20  | 200 07000.050.020 | M8X110  | 50 07000.080.110  | M14X70  | 50 07000.140.070  |
| M5X22  | 200 07000.050.022 | M8X120  | 50 07000.080.120  | M14X75  | 50 07000.140.075  |
| M5X25  | 200 07000.050.025 | M8X130  | 50 07000.080.130  | M14X80  | 50 07000.140.080  |
| M5X30  | 200 07000.050.030 | M8X140  | 50 07000.080.140  | M14X80  | 50 07000.140.080  |
| M5X35  | 200 07000.050.035 | M8X150  | 50 07000.080.150  | M14X90  | 50 07000.140.090  |
| M5X40  | 200 07000.050.040 | M8X160  | 50 07000.080.160  | M14X100 | 50 07000.140.100  |
| M5X45  | 200 07000.050.045 | M8X170  | 50 07000.080.170  | M14X110 | 25 07000.140.110  |
| M5X50  | 200 07000.050.050 | M8X180  | 50 07000.080.180  | M14X120 | 25 07000.140.120  |
| M5X55  | 200 07000.050.055 | M8X200  | 50 07000.080.200  | M14X130 | 25 07000.140.130  |
| M5X60  | 200 07000.050.060 | M10X12  | 200 07000.100.012 | M14X140 | 25 07000.140.140  |
| M5X65  | 200 07000.050.065 | M10X16  | 200 07000.100.016 | M14X150 | 25 07000.140.150  |
| M5X70  | 200 07000.050.070 | M10X20  | 200 07000.100.020 | M14X160 | 25 07000.140.160  |
| M5X75  | 200 07000.050.075 | M10X25  | 200 07000.100.025 | M14X180 | 10 07000.140.180  |
| M5X80  | 200 07000.050.080 | M10X30  | 200 07000.100.030 | M14X200 | 10 07000.140.200  |
| M5X90  | 200 07000.050.090 | M10X35  | 100 07000.100.035 | M16X20  | 50 07000.160.020  |
| M5X100 | 200 07000.050.100 | M10X40  | 100 07000.100.040 | M16X25  | 50 07000.160.025  |
| M5X110 | 200 07000.050.110 | M10X45  | 100 07000.100.045 | M16X30  | 50 07000.160.030  |
| M5X115 | 100 07000.050.115 | M10X50  | 100 07000.100.050 | M16X35  | 50 07000.160.035  |
| M5X120 | 100 07000.050.120 | M10X55  | 100 07000.100.055 | M16X40  | 50 07000.160.040  |
| M5X130 | 50 07000.050.130  | M10X60  | 100 07000.100.060 | M16X45  | 50 07000.160.045  |
| M5X135 | 200 07000.050.135 | M10X65  | 100 07000.100.065 | M16X50  | 50 07000.160.050  |
| M5X140 | 25 07000.050.140  | M10X70  | 100 07000.100.070 | M16X55  | 50 07000.160.055  |
| M5X150 | 25 07000.050.150  | M10X75  | 100 07000.100.075 | M16X60  | 50 07000.160.060  |
| M5X160 | 25 07000.050.160  | M10X80  | 100 07000.100.080 | M16X65  | 25 07000.160.065  |
| M5X170 | 25 07000.050.170  | M10X85  | 100 07000.100.085 | M16X70  | 25 07000.160.070  |
| M5X180 | 25 07000.050.180  | M10X90  | 100 07000.100.090 | M16X75  | 25 07000.160.075  |
| M5X190 | 25 07000.050.190  | M10X100 | 50 07000.100.100  | M16X80  | 25 07000.160.080  |
| M5X200 | 25 07000.050.200  | M10X110 | 50 07000.100.110  | M16X85  | 25 07000.160.085  |
| M6X6   | 500 07000.060.006 | M10X120 | 50 07000.100.120  | M16X90  | 25 07000.160.090  |
| M6X8   | 200 07000.060.008 | M10X130 | 50 07000.100.130  | M16X100 | 25 07000.160.100  |
| M6X10  | 200 07000.060.010 | M10X140 | 25 07000.100.140  | M16X110 | 25 07000.160.110  |
| M6X12  | 200 07000.060.012 | M10X150 | 25 07000.100.150  | M16X120 | 25 07000.160.120  |
| M6X14  | 200 07000.060.014 | M10X160 | 25 07000.100.160  | M16X130 | 25 07000.160.130  |
| M6X16  | 200 07000.060.016 | M10X170 | 25 07000.100.170  | M16X140 | 25 07000.160.140  |
| M6X18  | 200 07000.060.018 | M10X180 | 25 07000.100.180  | M16X150 | 10 07000.160.150  |
| M6X20  | 200 07000.060.020 | M10X190 | 25 07000.100.190  | M16X160 | 10 07000.160.160  |
| M6X22  | 200 07000.060.022 | M10X200 | 25 07000.100.200  | M16X170 | 10 07000.160.170  |
| M6X25  | 200 07000.060.025 | M10X210 | 25 07000.100.210  | M16X180 | 10 07000.160.180  |
| M6X30  | 200 07000.060.030 | M10X220 | 25 07000.100.220  | M16X190 | 25 07000.160.190  |
| M6X35  | 200 07000.060.035 | M10X230 | 25 07000.100.230  | M16X200 | 10 07000.160.200  |
|        |                   | M10X240 | 10 07000.100.240  | M16X210 | 10 07000.160.210  |



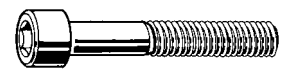
**07025 Hexagon socket head cap screw** ←

| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X25  | 200 | <a href="#">07025.030.025</a> | M8X10   | 200 | <a href="#">07025.080.010</a> | M12X90  | 50  | <a href="#">07025.120.090</a> |
| M3X30  | 200 | <a href="#">07025.030.030</a> | M8X12   | 200 | <a href="#">07025.080.012</a> | M12X100 | 50  | <a href="#">07025.120.100</a> |
| M3X35  | 200 | <a href="#">07025.030.035</a> | M8X16   | 200 | <a href="#">07025.080.016</a> | M12X120 | 50  | <a href="#">07025.120.120</a> |
| M4X6   | 200 | <a href="#">07025.040.006</a> | M8X20   | 200 | <a href="#">07025.080.020</a> | M12X140 | 25  | <a href="#">07025.120.140</a> |
| M4X8   | 200 | <a href="#">07025.040.008</a> | M8X25   | 200 | <a href="#">07025.080.025</a> | M14X30  | 100 | <a href="#">07025.140.030</a> |
| M4X10  | 200 | <a href="#">07025.040.010</a> | M8X30   | 200 | <a href="#">07025.080.030</a> | M14X40  | 100 | <a href="#">07025.140.040</a> |
| M4X12  | 200 | <a href="#">07025.040.012</a> | M8X35   | 200 | <a href="#">07025.080.035</a> | M14X50  | 50  | <a href="#">07025.140.050</a> |
| M4X16  | 200 | <a href="#">07025.040.016</a> | M8X40   | 200 | <a href="#">07025.080.040</a> | M14X60  | 50  | <a href="#">07025.140.060</a> |
| M4X20  | 200 | <a href="#">07025.040.020</a> | M8X45   | 200 | <a href="#">07025.080.045</a> | M14X70  | 50  | <a href="#">07025.140.070</a> |
| M4X25  | 200 | <a href="#">07025.040.025</a> | M8X50   | 200 | <a href="#">07025.080.050</a> | M14X80  | 50  | <a href="#">07025.140.080</a> |
| M4X30  | 200 | <a href="#">07025.040.030</a> | M8X55   | 200 | <a href="#">07025.080.055</a> | M14X90  | 50  | <a href="#">07025.140.090</a> |
| M4X45  | 200 | <a href="#">07025.040.045</a> | M8X60   | 200 | <a href="#">07025.080.060</a> | M14X100 | 50  | <a href="#">07025.140.100</a> |
| M4X50  | 200 | <a href="#">07025.040.050</a> | M8X70   | 200 | <a href="#">07025.080.070</a> | M16X25  | 50  | <a href="#">07025.160.025</a> |
| M5X6   | 200 | <a href="#">07025.050.006</a> | M8X80   | 200 | <a href="#">07025.080.080</a> | M16X30  | 50  | <a href="#">07025.160.030</a> |
| M5X8   | 200 | <a href="#">07025.050.008</a> | M8X90   | 100 | <a href="#">07025.080.090</a> | M16X35  | 50  | <a href="#">07025.160.035</a> |
| M5X10  | 200 | <a href="#">07025.050.010</a> | M8X100  | 100 | <a href="#">07025.080.100</a> | M16X40  | 50  | <a href="#">07025.160.040</a> |
| M5X12  | 200 | <a href="#">07025.050.012</a> | M8X110  | 50  | <a href="#">07025.080.110</a> | M16X45  | 50  | <a href="#">07025.160.045</a> |
| M5X16  | 200 | <a href="#">07025.050.016</a> | M8X140  | 50  | <a href="#">07025.080.140</a> | M16X50  | 50  | <a href="#">07025.160.050</a> |
| M5X20  | 200 | <a href="#">07025.050.020</a> | M10X12  | 200 | <a href="#">07025.100.012</a> | M16X55  | 50  | <a href="#">07025.160.055</a> |
| M5X25  | 200 | <a href="#">07025.050.025</a> | M10X16  | 200 | <a href="#">07025.100.016</a> | M16X60  | 50  | <a href="#">07025.160.060</a> |
| M5X30  | 200 | <a href="#">07025.050.030</a> | M10X20  | 200 | <a href="#">07025.100.020</a> | M16X70  | 25  | <a href="#">07025.160.070</a> |
| M5X35  | 200 | <a href="#">07025.050.035</a> | M10X25  | 200 | <a href="#">07025.100.025</a> | M16X75  | 25  | <a href="#">07025.160.075</a> |
| M5X40  | 200 | <a href="#">07025.050.040</a> | M10X30  | 200 | <a href="#">07025.100.030</a> | M16X80  | 25  | <a href="#">07025.160.080</a> |
| M5X45  | 200 | <a href="#">07025.050.045</a> | M10X35  | 100 | <a href="#">07025.100.035</a> | M16X90  | 25  | <a href="#">07025.160.090</a> |
| M5X50  | 200 | <a href="#">07025.050.050</a> | M10X40  | 200 | <a href="#">07025.100.040</a> | M16X100 | 25  | <a href="#">07025.160.100</a> |
| M5X60  | 200 | <a href="#">07025.050.060</a> | M10X45  | 100 | <a href="#">07025.100.045</a> | M16X110 | 25  | <a href="#">07025.160.110</a> |
| M5X70  | 200 | <a href="#">07025.050.070</a> | M10X50  | 100 | <a href="#">07025.100.050</a> | M16X120 | 25  | <a href="#">07025.160.120</a> |
| M5X100 | 200 | <a href="#">07025.050.100</a> | M10X55  | 100 | <a href="#">07025.100.055</a> | M20X40  | 25  | <a href="#">07025.200.040</a> |
| M6X10  | 200 | <a href="#">07025.060.010</a> | M10X60  | 100 | <a href="#">07025.100.060</a> | M20X50  | 25  | <a href="#">07025.200.050</a> |
| M6X12  | 200 | <a href="#">07025.060.012</a> | M10X65  | 100 | <a href="#">07025.100.065</a> | M20X60  | 25  | <a href="#">07025.200.060</a> |
| M6X16  | 200 | <a href="#">07025.060.016</a> | M10X70  | 100 | <a href="#">07025.100.070</a> | M20X70  | 25  | <a href="#">07025.200.070</a> |
| M6X18  | 200 | <a href="#">07025.060.018</a> | M10X80  | 100 | <a href="#">07025.100.080</a> | M20X80  | 25  | <a href="#">07025.200.080</a> |
| M6X20  | 200 | <a href="#">07025.060.020</a> | M10X90  | 100 | <a href="#">07025.100.090</a> | M20X90  | 25  | <a href="#">07025.200.090</a> |
| M6X25  | 200 | <a href="#">07025.060.025</a> | M10X100 | 100 | <a href="#">07025.100.100</a> | M20X100 | 25  | <a href="#">07025.200.100</a> |
| M6X30  | 200 | <a href="#">07025.060.030</a> | M10X120 | 50  | <a href="#">07025.100.120</a> | M20X120 | 25  | <a href="#">07025.200.120</a> |
| M6X35  | 200 | <a href="#">07025.060.035</a> | M10X150 | 25  | <a href="#">07025.100.150</a> | M24X40  | 10  | <a href="#">07025.240.040</a> |
| M6X40  | 200 | <a href="#">07025.060.040</a> | M10X160 | 25  | <a href="#">07025.100.160</a> | M24X50  | 10  | <a href="#">07025.240.050</a> |
| M6X45  | 200 | <a href="#">07025.060.045</a> | M12X20  | 100 | <a href="#">07025.120.020</a> | M24X60  | 10  | <a href="#">07025.240.060</a> |
| M6X50  | 200 | <a href="#">07025.060.050</a> | M12X25  | 100 | <a href="#">07025.120.025</a> | M24X70  | 10  | <a href="#">07025.240.070</a> |
| M6X55  | 200 | <a href="#">07025.060.055</a> | M12X30  | 100 | <a href="#">07025.120.030</a> | M24X80  | 10  | <a href="#">07025.240.080</a> |
| M6X60  | 200 | <a href="#">07025.060.060</a> | M12X35  | 100 | <a href="#">07025.120.035</a> | M24X90  | 10  | <a href="#">07025.240.090</a> |
| M6X65  | 200 | <a href="#">07025.060.065</a> | M12X40  | 100 | <a href="#">07025.120.040</a> | M24X100 | 10  | <a href="#">07025.240.100</a> |
| M6X70  | 200 | <a href="#">07025.060.070</a> | M12X45  | 100 | <a href="#">07025.120.045</a> | M24X120 | 5   | <a href="#">07025.240.120</a> |
| M6X75  | 200 | <a href="#">07025.060.075</a> | M12X50  | 100 | <a href="#">07025.120.050</a> | M24X140 | 5   | <a href="#">07025.240.140</a> |
| M6X80  | 200 | <a href="#">07025.060.080</a> | M12X55  | 100 | <a href="#">07025.120.055</a> |         |     |                               |
| M6X100 | 100 | <a href="#">07025.060.100</a> | M12X60  | 100 | <a href="#">07025.120.060</a> |         |     |                               |
| M6X130 | 50  | <a href="#">07025.060.130</a> | M12X70  | 50  | <a href="#">07025.120.070</a> |         |     |                               |
| M6X140 | 25  | <a href="#">07025.060.140</a> | M12X80  | 50  | <a href="#">07025.120.080</a> |         |     |                               |

• Technical brochure available on request.

**51050 Hexagon socket head cap screw** Q05A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| d x L     | ☒   | Art.number                    | d x L   | ☒    | Art.number                    | d x L    | ☒    | Art.number                    |
|-----------|-----|-------------------------------|---------|------|-------------------------------|----------|------|-------------------------------|
| M1,6X12 * | 500 | <a href="#">51050.016.012</a> | M3X4    | 1    | <a href="#">51050.030.004</a> | M4X18 *  | 1000 | <a href="#">51050.040.018</a> |
| M2X4      | 100 | <a href="#">51050.020.004</a> | M3X5    | 200  | <a href="#">51050.030.005</a> | M4X20    | 200  | <a href="#">51050.040.020</a> |
| M2X5      | 100 | <a href="#">51050.020.005</a> | M3X6    | 200  | <a href="#">51050.030.006</a> | M4X22 *  | 500  | <a href="#">51050.040.022</a> |
| M2X6      | 100 | <a href="#">51050.020.006</a> | M3X8    | 200  | <a href="#">51050.030.008</a> | M4X25    | 200  | <a href="#">51050.040.025</a> |
| M2X8      | 100 | <a href="#">51050.020.008</a> | M3X10   | 200  | <a href="#">51050.030.010</a> | M4X30    | 200  | <a href="#">51050.040.030</a> |
| M2X10     | 100 | <a href="#">51050.020.010</a> | M3X12   | 200  | <a href="#">51050.030.012</a> | M4X35    | 200  | <a href="#">51050.040.035</a> |
| M2X12     | 100 | <a href="#">51050.020.012</a> | M3X16   | 200  | <a href="#">51050.030.016</a> | M4X40    | 200  | <a href="#">51050.040.040</a> |
| M2X14 *   | 500 | <a href="#">51050.020.014</a> | M3X18   | 200  | <a href="#">51050.030.018</a> | M4X45    | 200  | <a href="#">51050.040.045</a> |
| M2X16     | 100 | <a href="#">51050.020.016</a> | M3X20   | 200  | <a href="#">51050.030.020</a> | M4X50    | 200  | <a href="#">51050.040.050</a> |
| M2X18 *   | 500 | <a href="#">51050.020.018</a> | M3X22 * | 1000 | <a href="#">51050.030.022</a> | M4X55    | 100  | <a href="#">51050.040.055</a> |
| M2,5X3 *  | 500 | <a href="#">51050.025.003</a> | M3X25   | 200  | <a href="#">51050.030.025</a> | M4X60    | 200  | <a href="#">51050.040.060</a> |
| M2,5X4    | 1   | <a href="#">51050.025.004</a> | M3X30   | 200  | <a href="#">51050.030.030</a> | M4X80 *  | 100  | <a href="#">51050.040.080</a> |
| M2,5X5    | 100 | <a href="#">51050.025.005</a> | M3X35   | 200  | <a href="#">51050.030.035</a> | M4X90 *  | 100  | <a href="#">51050.040.090</a> |
| M2,5X6    | 100 | <a href="#">51050.025.006</a> | M3X40   | 200  | <a href="#">51050.030.040</a> | M4X100 * | 100  | <a href="#">51050.040.100</a> |
| M2,5X8    | 100 | <a href="#">51050.025.008</a> | M3X45   | 200  | <a href="#">51050.030.045</a> | M5X6     | 200  | <a href="#">51050.050.006</a> |
| M2,5X10   | 100 | <a href="#">51050.025.010</a> | M3X60 * | 200  | <a href="#">51050.030.060</a> | M5X8     | 200  | <a href="#">51050.050.008</a> |
| M2,5X12   | 100 | <a href="#">51050.025.012</a> | M3X70 * | 200  | <a href="#">51050.030.070</a> | M5X10    | 200  | <a href="#">51050.050.010</a> |
| M2,5X14 * | 500 | <a href="#">51050.025.014</a> | M4X6    | 200  | <a href="#">51050.040.006</a> | M5X12    | 200  | <a href="#">51050.050.012</a> |
| M2,5X16   | 100 | <a href="#">51050.025.016</a> | M4X8    | 200  | <a href="#">51050.040.008</a> | M5X16    | 200  | <a href="#">51050.050.016</a> |
| M2,5X18 * | 500 | <a href="#">51050.025.018</a> | M4X10   | 200  | <a href="#">51050.040.010</a> | M5X20    | 200  | <a href="#">51050.050.020</a> |
| M2,5X20   | 100 | <a href="#">51050.025.020</a> | M4X12   | 200  | <a href="#">51050.040.012</a> | M5X22 *  | 500  | <a href="#">51050.050.022</a> |
|           |     |                               | M4X16   | 200  | <a href="#">51050.040.016</a> | M5X25    | 200  | <a href="#">51050.050.025</a> |





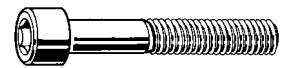
**55050 Hexagon socket head cap screw**

| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M16X40    | 25 | <a href="#">55050.160.040</a> | M20X55    | 25 | <a href="#">55050.200.055</a> | M24X110   | 10 | <a href="#">55050.240.110</a> |
| M16X45    | 25 | <a href="#">55050.160.045</a> | M20X60    | 25 | <a href="#">55050.200.060</a> | M24X120   | 10 | <a href="#">55050.240.120</a> |
| M16X50    | 25 | <a href="#">55050.160.050</a> | M20X70    | 25 | <a href="#">55050.200.070</a> | M24X140   | 10 | <a href="#">55050.240.140</a> |
| M16X55    | 25 | <a href="#">55050.160.055</a> | M20X75 *  | 25 | <a href="#">55050.200.075</a> | M24X150   | 10 | <a href="#">55050.240.150</a> |
| M16X60    | 25 | <a href="#">55050.160.060</a> | M20X80    | 10 | <a href="#">55050.200.080</a> | M24X200 * | 10 | <a href="#">55050.240.200</a> |
| M16X70    | 25 | <a href="#">55050.160.070</a> | M20X90    | 10 | <a href="#">55050.200.090</a> |           |    |                               |
| M16X80    | 25 | <a href="#">55050.160.080</a> | M20X100   | 10 | <a href="#">55050.200.100</a> | M27X50    | 5  | <a href="#">55050.270.050</a> |
| M16X90    | 10 | <a href="#">55050.160.090</a> | M20X110   | 10 | <a href="#">55050.200.110</a> | M27X60    | 5  | <a href="#">55050.270.060</a> |
| M16X100   | 10 | <a href="#">55050.160.100</a> | M20X120   | 10 | <a href="#">55050.200.120</a> | M27X70    | 5  | <a href="#">55050.270.070</a> |
| M16X110   | 10 | <a href="#">55050.160.110</a> | M20X130   | 10 | <a href="#">55050.200.130</a> | M27X80    | 5  | <a href="#">55050.270.080</a> |
| M16X120   | 10 | <a href="#">55050.160.120</a> | M20X140   | 10 | <a href="#">55050.200.140</a> | M27X90    | 5  | <a href="#">55050.270.090</a> |
| M16X130   | 10 | <a href="#">55050.160.130</a> | M20X150   | 10 | <a href="#">55050.200.150</a> | M27X100   | 5  | <a href="#">55050.270.100</a> |
| M16X140   | 10 | <a href="#">55050.160.140</a> | M20X160 * | 25 | <a href="#">55050.200.160</a> | M27X130   | 5  | <a href="#">55050.270.130</a> |
| M16X150   | 10 | <a href="#">55050.160.150</a> | M20X170 * | 25 | <a href="#">55050.200.170</a> | M27X140   | 5  | <a href="#">55050.270.140</a> |
| M16X160 * | 25 | <a href="#">55050.160.160</a> | M20X180 * | 25 | <a href="#">55050.200.180</a> | M27X150   | 5  | <a href="#">55050.270.150</a> |
| M16X170 * | 25 | <a href="#">55050.160.170</a> | M20X190 * | 25 | <a href="#">55050.200.190</a> |           |    |                               |
| M16X180 * | 25 | <a href="#">55050.160.180</a> | M20X200 * | 25 | <a href="#">55050.200.200</a> | M30X50    | 2  | <a href="#">55050.300.050</a> |
| M16X190 * | 25 | <a href="#">55050.160.190</a> |           |    |                               | M30X60    | 2  | <a href="#">55050.300.060</a> |
| M16X200 * | 25 | <a href="#">55050.160.200</a> | M24X40 *  | 10 | <a href="#">55050.240.040</a> | M30X70    | 2  | <a href="#">55050.300.070</a> |
|           |    |                               | M24X50    | 10 | <a href="#">55050.240.050</a> | M30X80    | 2  | <a href="#">55050.300.080</a> |
| M18X70 *  | 25 | <a href="#">55050.180.070</a> | M24X55 *  | 10 | <a href="#">55050.240.055</a> | M30X90    | 2  | <a href="#">55050.300.090</a> |
| M18X90 *  | 25 | <a href="#">55050.180.090</a> | M24X60    | 10 | <a href="#">55050.240.060</a> | M30X100   | 2  | <a href="#">55050.300.100</a> |
|           |    |                               | M24X65 *  | 10 | <a href="#">55050.240.065</a> | M30X110   | 2  | <a href="#">55050.300.110</a> |
| M20X30 *  | 5  | <a href="#">55050.200.030</a> | M24X70    | 10 | <a href="#">55050.240.070</a> | M30X130   | 2  | <a href="#">55050.300.130</a> |
| M20X35 *  | 25 | <a href="#">55050.200.035</a> | M24X75 *  | 10 | <a href="#">55050.240.075</a> | M30X140   | 2  | <a href="#">55050.300.140</a> |
| M20X40    | 25 | <a href="#">55050.200.040</a> | M24X80    | 10 | <a href="#">55050.240.080</a> | M30X150   | 2  | <a href="#">55050.300.150</a> |
| M20X45    | 25 | <a href="#">55050.200.045</a> | M24X90    | 10 | <a href="#">55050.240.090</a> |           |    |                               |
| M20X50    | 25 | <a href="#">55050.200.050</a> | M24X100   | 10 | <a href="#">55050.240.100</a> |           |    |                               |

• Sizes with a diameter > M24 and sizes with a length > 8xd are minimal property class 50.

**53570 Hexagon socket head cap screw**
**R11A**

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 80  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|---------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| M4X8    | 100 | <a href="#">53570.040.008</a> | M8X16     | 50  | <a href="#">53570.080.016</a> | M12X80 *  | 25  | <a href="#">53570.120.080</a> |
| M4X10   | 100 | <a href="#">53570.040.010</a> | M8X20     | 50  | <a href="#">53570.080.020</a> | M12X90 *  | 25  | <a href="#">53570.120.090</a> |
| M4X12   | 100 | <a href="#">53570.040.012</a> | M8X22 *   | 200 | <a href="#">53570.080.022</a> | M12X100 * | 25  | <a href="#">53570.120.100</a> |
| M4X16   | 100 | <a href="#">53570.040.016</a> | M8X25     | 50  | <a href="#">53570.080.025</a> | M12X110 * | 25  | <a href="#">53570.120.110</a> |
| M4X20   | 100 | <a href="#">53570.040.020</a> | M8X30     | 50  | <a href="#">53570.080.030</a> | M12X120 * | 25  | <a href="#">53570.120.120</a> |
| M4X25   | 100 | <a href="#">53570.040.025</a> | M8X40     | 50  | <a href="#">53570.080.040</a> | M12X130 * | 25  | <a href="#">53570.120.130</a> |
| M4X30   | 100 | <a href="#">53570.040.030</a> | M8X50     | 50  | <a href="#">53570.080.050</a> | M12X140 * | 25  | <a href="#">53570.120.140</a> |
| M4X35 * | 500 | <a href="#">53570.040.035</a> | M8X55 *   | 100 | <a href="#">53570.080.055</a> |           |     |                               |
| M4X40   | 100 | <a href="#">53570.040.040</a> | M8X60     | 50  | <a href="#">53570.080.060</a> | M14X30 *  | 50  | <a href="#">53570.140.030</a> |
| M4X45 * | 500 | <a href="#">53570.040.045</a> | M8X65 *   | 100 | <a href="#">53570.080.065</a> | M14X50 *  | 50  | <a href="#">53570.140.050</a> |
| M4X50 * | 500 | <a href="#">53570.040.050</a> | M8X70 *   | 100 | <a href="#">53570.080.070</a> |           |     |                               |
|         |     |                               | M8X75 *   | 100 | <a href="#">53570.080.075</a> | M16X25 *  | 25  | <a href="#">53570.160.025</a> |
| M5X8 *  | 500 | <a href="#">53570.050.008</a> | M8X90 *   | 100 | <a href="#">53570.080.090</a> | M16X30    | 25  | <a href="#">53570.160.030</a> |
| M5X10   | 100 | <a href="#">53570.050.010</a> |           |     |                               | M16X35 *  | 25  | <a href="#">53570.160.035</a> |
| M5X12   | 100 | <a href="#">53570.050.012</a> | M10X16    | 50  | <a href="#">53570.100.016</a> | M16X40    | 25  | <a href="#">53570.160.040</a> |
| M5X16   | 100 | <a href="#">53570.050.016</a> | M10X20    | 50  | <a href="#">53570.100.020</a> | M16X45 *  | 25  | <a href="#">53570.160.045</a> |
| M5X18 * | 500 | <a href="#">53570.050.018</a> | M10X25    | 50  | <a href="#">53570.100.025</a> | M16X50    | 25  | <a href="#">53570.160.050</a> |
| M5X20   | 100 | <a href="#">53570.050.020</a> | M10X30    | 50  | <a href="#">53570.100.030</a> | M16X55 *  | 25  | <a href="#">53570.160.055</a> |
| M5X22 * | 500 | <a href="#">53570.050.022</a> | M10X35    | 50  | <a href="#">53570.100.035</a> | M16X60    | 25  | <a href="#">53570.160.060</a> |
| M5X25   | 100 | <a href="#">53570.050.025</a> | M10X40    | 50  | <a href="#">53570.100.040</a> | M16X70    | 100 | <a href="#">53570.160.070</a> |
| M5X30   | 100 | <a href="#">53570.050.030</a> | M10X45 *  | 100 | <a href="#">53570.100.045</a> | M16X80 *  | 25  | <a href="#">53570.160.080</a> |
| M5X35   | 100 | <a href="#">53570.050.035</a> | M10X50    | 50  | <a href="#">53570.100.050</a> | M16X90 *  | 25  | <a href="#">53570.160.090</a> |
| M5X40   | 100 | <a href="#">53570.050.040</a> | M10X55 *  | 50  | <a href="#">53570.100.055</a> | M16X100 * | 25  | <a href="#">53570.160.100</a> |
| M5X50 * | 200 | <a href="#">53570.050.050</a> | M10X60    | 50  | <a href="#">53570.100.060</a> |           |     |                               |
| M5X55 * | 200 | <a href="#">53570.050.055</a> | M10X65 *  | 50  | <a href="#">53570.100.065</a> | M20X30 *  | 25  | <a href="#">53570.200.030</a> |
| M5X60 * | 200 | <a href="#">53570.050.060</a> | M10X75 *  | 50  | <a href="#">53570.100.075</a> | M20X45 *  | 25  | <a href="#">53570.200.045</a> |
|         |     |                               | M10X90 *  | 50  | <a href="#">53570.100.090</a> | M20X50    | 10  | <a href="#">53570.200.050</a> |
| M6X12   | 100 | <a href="#">53570.060.012</a> | M10X100 * | 50  | <a href="#">53570.100.100</a> | M20X60    | 10  | <a href="#">53570.200.060</a> |
| M6X14   | 100 | <a href="#">53570.060.014</a> | M10X110 * | 50  | <a href="#">53570.100.110</a> | M20X70    | 10  | <a href="#">53570.200.070</a> |
| M6X16   | 100 | <a href="#">53570.060.016</a> | M10X120 * | 50  | <a href="#">53570.100.120</a> | M20X80 *  | 25  | <a href="#">53570.200.080</a> |
| M6X20   | 100 | <a href="#">53570.060.020</a> | M10X130 * | 50  | <a href="#">53570.100.130</a> | M20X90 *  | 25  | <a href="#">53570.200.090</a> |
| M6X25   | 100 | <a href="#">53570.060.025</a> |           |     |                               | M20X100   | 10  | <a href="#">53570.200.100</a> |
| M6X30   | 100 | <a href="#">53570.060.030</a> | M12X20 *  | 50  | <a href="#">53570.120.020</a> | M20X110 * | 25  | <a href="#">53570.200.110</a> |
| M6X35   | 100 | <a href="#">53570.060.035</a> | M12X25    | 25  | <a href="#">53570.120.025</a> | M20X120 * | 25  | <a href="#">53570.200.120</a> |
| M6X40   | 100 | <a href="#">53570.060.040</a> | M12X30    | 25  | <a href="#">53570.120.030</a> |           |     |                               |
| M6X45 * | 100 | <a href="#">53570.060.045</a> | M12X35    | 25  | <a href="#">53570.120.035</a> | M24X45 *  | 10  | <a href="#">53570.240.045</a> |
| M6X50   | 100 | <a href="#">53570.060.050</a> | M12X40    | 25  | <a href="#">53570.120.040</a> | M24X50 *  | 10  | <a href="#">53570.240.050</a> |
| M6X55 * | 100 | <a href="#">53570.060.055</a> | M12X45    | 100 | <a href="#">53570.120.045</a> | M24X60 *  | 10  | <a href="#">53570.240.060</a> |
| M6X60   | 100 | <a href="#">53570.060.060</a> | M12X50    | 25  | <a href="#">53570.120.050</a> | M24X70 *  | 10  | <a href="#">53570.240.070</a> |
| M6X70 * | 100 | <a href="#">53570.060.070</a> | M12X55 *  | 50  | <a href="#">53570.120.055</a> | M24X80 *  | 10  | <a href="#">53570.240.080</a> |
| M6X80 * | 100 | <a href="#">53570.060.080</a> | M12X60    | 25  | <a href="#">53570.120.060</a> | M24X90 *  | 10  | <a href="#">53570.240.090</a> |
|         |     |                               | M12X65 *  | 50  | <a href="#">53570.120.065</a> | M24X100 * | 10  | <a href="#">53570.240.100</a> |
| M8X12 * | 500 | <a href="#">53570.080.012</a> | M12X75 *  | 25  | <a href="#">53570.120.075</a> |           |     |                               |



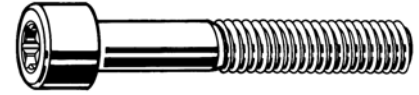
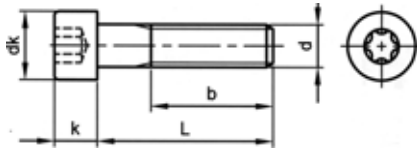
|  |                      |   |
|--|----------------------|---|
| <b>45205 Hexagon socket head cap screw</b> |                      | <b>W010</b>   |
| <b>Thread</b>                              | Metric thread        |  |
| <b>Material</b>                            | Aluminium Sopral P60 |   |
| <b>Packaging</b>                           | Standard             |   |
|  | ISO ≈4762            |   |
|  | <b>DIN ≈912</b>      |   |
|  | NEN ≈1241            |   |
|  | ANSI ≈B18.3.1M       |   |
|  | NF ≈E25-125          |   |
|  | BS ≈4168-1           |   |

2

| d x L | ✉   | Art.number                    | d x L | ✉   | Art.number                    | d x L  | ✉   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X10 | 200 | <a href="#">45205.040.010</a> | M5X40 | 200 | <a href="#">45205.050.040</a> | M8X15  | 200 | <a href="#">45205.080.015</a> |
| M4X12 | 200 | <a href="#">45205.040.012</a> |       |     |                               | M8X20  | 200 | <a href="#">45205.080.020</a> |
| M4X16 | 200 | <a href="#">45205.040.016</a> | M6X10 | 200 | <a href="#">45205.060.010</a> | M8X25  | 200 | <a href="#">45205.080.025</a> |
| M4X20 | 200 | <a href="#">45205.040.020</a> | M6X12 | 200 | <a href="#">45205.060.012</a> | M8X30  | 200 | <a href="#">45205.080.030</a> |
| M4X25 | 200 | <a href="#">45205.040.025</a> | M6X16 | 200 | <a href="#">45205.060.016</a> | M8X40  | 200 | <a href="#">45205.080.040</a> |
| M4X30 | 200 | <a href="#">45205.040.030</a> | M6X20 | 200 | <a href="#">45205.060.020</a> | M8X50  | 200 | <a href="#">45205.080.050</a> |
|       |     |                               | M6X25 | 200 | <a href="#">45205.060.025</a> |        |     |                               |
| M5X10 | 200 | <a href="#">45205.050.010</a> | M6X30 | 200 | <a href="#">45205.060.030</a> | M10X25 | 200 | <a href="#">45205.100.025</a> |
| M5X12 | 200 | <a href="#">45205.050.012</a> | M6X40 | 200 | <a href="#">45205.060.040</a> | M10X30 | 200 | <a href="#">45205.100.030</a> |
| M5X16 | 200 | <a href="#">45205.050.016</a> | M6X50 | 200 | <a href="#">45205.060.050</a> | M10X40 | 100 | <a href="#">45205.100.040</a> |
| M5X20 | 200 | <a href="#">45205.050.020</a> | M6X60 | 200 | <a href="#">45205.060.060</a> | M10X50 | 100 | <a href="#">45205.100.050</a> |
| M5X25 | 200 | <a href="#">45205.050.025</a> | M6X70 | 200 | <a href="#">45205.060.070</a> | M10X60 | 100 | <a href="#">45205.100.060</a> |
| M5X30 | 200 | <a href="#">45205.050.030</a> |       |     |                               |        |     |                               |

## Hexalobular socket cap screw

ISO 14579



### Technical data

| d    | P    | b  | dk (max.) | k (max.) | Socket |
|------|------|----|-----------|----------|--------|
| M2   | 0,4  | 16 | 3,8       | 2        | No.6   |
| M2,5 | 0,45 | 17 | 4,5       | 2,5      | No.8   |
| M3   | 0,5  | 18 | 5,5       | 3        | No.10  |
| M4   | 0,7  | 20 | 7         | 4        | No.20  |
| M5   | 0,8  | 22 | 8,5       | 5        | No.25  |
| M6   | 1    | 24 | 10        | 6        | No.30  |
| M8   | 1,25 | 28 | 13        | 8        | No.45  |
| M10  | 1,5  | 32 | 16        | 10       | No.50  |
| M12  | 1,75 | 36 | 18        | 12       | No.55  |
| M14  | 2    | 40 | 21        | 14       | No.60  |
| M16  | 2    | 44 | 24        | 16       | No.70  |
| M18  | 2,5  | 48 | 27        | 18       | No.80  |
| M20  | 2,5  | 52 | 30        | 20       | No.90  |

### 07165 Hexalobular socket cap screw

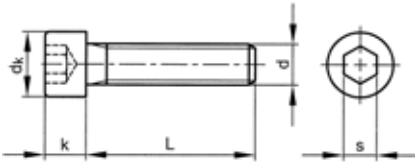
D02A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 8.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

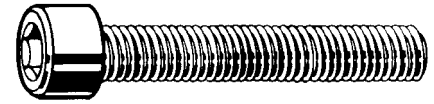


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M5X25 | 500 | <a href="#">07165.050.025</a> | M6X40 | 200 | <a href="#">07165.060.040</a> | M8X40 | 100 | <a href="#">07165.080.040</a> |
| M6X12 | 200 | <a href="#">07165.060.012</a> | M6X50 | 200 | <a href="#">07165.060.050</a> | M8X50 | 100 | <a href="#">07165.080.050</a> |
| M6X30 | 200 | <a href="#">07165.060.030</a> |       |     |                               |       |     |                               |
| M6X35 | 200 | <a href="#">07165.060.035</a> | M8X16 | 200 | <a href="#">07165.080.016</a> |       |     |                               |

## Hexagon socket head cap screw fully threaded



ISO ≈4762  
 DIN ≈912  
 NEN ≈1241  
 ANSI ≈B18.3.1M  
 NF ≈E25-125  
 BS ≈4168-1



2

### Technical data

| d   | P    | dk (max.) | k (max.) | s   |
|-----|------|-----------|----------|-----|
| M3  | 0,5  | 5,5       | 3        | 2,5 |
| M4  | 0,7  | 7         | 4        | 3   |
| M5  | 0,8  | 8,5       | 5        | 4   |
| M6  | 1    | 10        | 6        | 5   |
| M8  | 1,25 | 13        | 8        | 6   |
| M10 | 1,5  | 16        | 10       | 8   |
| M12 | 1,75 | 18        | 12       | 10  |
| M14 | 2    | 21        | 14       | 12  |
| M16 | 2    | 24        | 16       | 14  |
| M20 | 2,5  | 30        | 20       | 17  |

### Article groups

| Thread | Driving features | Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|--------|------------------|------------|--------|-------------------|--------|-----------|-------|------|
| M      | hexagon socket   | St         | 8.8    |                   |        | Standard  | 07070 | 2-15 |
| M      | hexagon socket   | St         | 8.8    | Zipl              |        | Standard  | 07071 | 2-15 |
| M      | hexagon socket   | St         | 12.9   |                   |        | Standard  | 07010 | 2-16 |
| M      | hexagon socket   | Plastic PA | PA 6.6 |                   | White  | Standard  | 56120 | 2-16 |

#### 07070 Hexagon socket head cap screw fully threaded

D03A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| M3X25 | 200 | <a href="#">07070.030.025</a> | M6X50  | 200 | <a href="#">07070.060.050</a> | M10X100 | 50 | <a href="#">07070.100.100</a> |
| M4X30 | 200 | <a href="#">07070.040.030</a> | M6X60  | 200 | <a href="#">07070.060.060</a> |         |    |                               |
| M4X40 | 200 | <a href="#">07070.040.040</a> | M6X80  | 200 | <a href="#">07070.060.080</a> | M12X60  | 50 | <a href="#">07070.120.060</a> |
| M4X50 | 200 | <a href="#">07070.040.050</a> | M6X90  | 100 | <a href="#">07070.060.090</a> | M12X70  | 50 | <a href="#">07070.120.070</a> |
| M4X60 | 200 | <a href="#">07070.040.060</a> | M6X100 | 100 | <a href="#">07070.060.100</a> | M12X80  | 50 | <a href="#">07070.120.080</a> |
|       |     |                               |        |     |                               | M12X100 | 50 | <a href="#">07070.120.100</a> |
| M5X30 | 200 | <a href="#">07070.050.030</a> | M8X40  | 100 | <a href="#">07070.080.040</a> | M12X120 | 50 | <a href="#">07070.120.120</a> |
| M5X35 | 200 | <a href="#">07070.050.035</a> | M8X50  | 100 | <a href="#">07070.080.050</a> |         |    |                               |
| M5X40 | 200 | <a href="#">07070.050.040</a> | M8X60  | 100 | <a href="#">07070.080.060</a> | M14X60  | 50 | <a href="#">07070.140.060</a> |
| M5X45 | 200 | <a href="#">07070.050.045</a> | M8X70  | 100 | <a href="#">07070.080.070</a> | M14X80  | 50 | <a href="#">07070.140.080</a> |
| M5X50 | 200 | <a href="#">07070.050.050</a> | M8X80  | 100 | <a href="#">07070.080.080</a> |         |    |                               |
| M5X60 | 200 | <a href="#">07070.050.060</a> | M8X100 | 100 | <a href="#">07070.080.100</a> | M16X80  | 25 | <a href="#">07070.160.080</a> |
| M5X80 | 200 | <a href="#">07070.050.080</a> |        |     |                               | M16X100 | 25 | <a href="#">07070.160.100</a> |
|       |     |                               | M10X50 | 50  | <a href="#">07070.100.050</a> |         |    |                               |
| M6X35 | 200 | <a href="#">07070.060.035</a> | M10X60 | 50  | <a href="#">07070.100.060</a> | M20X80  | 25 | <a href="#">07070.200.080</a> |
| M6X40 | 200 | <a href="#">07070.060.040</a> | M10X70 | 50  | <a href="#">07070.100.070</a> |         |    |                               |
| M6X45 | 200 | <a href="#">07070.060.045</a> | M10X80 | 50  | <a href="#">07070.100.080</a> |         |    |                               |

#### 07071 Hexagon socket head cap screw fully threaded

D03A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X25 | 200 | <a href="#">07071.030.025</a> | M4X50 | 200 | <a href="#">07071.040.050</a> | M5X50 | 200 | <a href="#">07071.050.050</a> |
| M3X30 | 200 | <a href="#">07071.030.030</a> | M4X60 | 200 | <a href="#">07071.040.060</a> | M5X60 | 200 | <a href="#">07071.050.060</a> |
| M3X40 | 200 | <a href="#">07071.030.040</a> |       |     |                               | M5X70 | 200 | <a href="#">07071.050.070</a> |
| M3X50 | 200 | <a href="#">07071.030.050</a> | M5X30 | 200 | <a href="#">07071.050.030</a> | M5X80 | 200 | <a href="#">07071.050.080</a> |
|       |     |                               | M5X35 | 200 | <a href="#">07071.050.035</a> |       |     |                               |
| M4X30 | 200 | <a href="#">07071.040.030</a> | M5X40 | 200 | <a href="#">07071.050.040</a> | M6X35 | 200 | <a href="#">07071.060.035</a> |
| M4X40 | 200 | <a href="#">07071.040.040</a> | M5X45 | 200 | <a href="#">07071.050.045</a> | M6X40 | 200 | <a href="#">07071.060.040</a> |

2

**07071 Hexagon socket head cap screw fully threaded** ←

| d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|-------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M6X45 | 200 | <a href="#">07071.060.045</a> | M8X100  | 100 | <a href="#">07071.080.100</a> | M12X100 | 50 | <a href="#">07071.120.100</a> |
| M6X50 | 200 | <a href="#">07071.060.050</a> |         |     |                               |         |    |                               |
| M6X60 | 200 | <a href="#">07071.060.060</a> | M10X50  | 50  | <a href="#">07071.100.050</a> | M16X70  | 50 | <a href="#">07071.160.070</a> |
| M6X70 | 200 | <a href="#">07071.060.070</a> | M10X60  | 50  | <a href="#">07071.100.060</a> | M16X80  | 25 | <a href="#">07071.160.080</a> |
| M6X80 | 200 | <a href="#">07071.060.080</a> | M10X70  | 50  | <a href="#">07071.100.070</a> | M16X90  | 25 | <a href="#">07071.160.090</a> |
|       |     |                               | M10X80  | 50  | <a href="#">07071.100.080</a> | M16X100 | 25 | <a href="#">07071.160.100</a> |
| M8X40 | 100 | <a href="#">07071.080.040</a> | M10X100 | 50  | <a href="#">07071.100.100</a> |         |    |                               |
| M8X50 | 100 | <a href="#">07071.080.050</a> |         |     |                               | M20X80  | 25 | <a href="#">07071.200.080</a> |
| M8X60 | 100 | <a href="#">07071.080.060</a> | M12X60  | 50  | <a href="#">07071.120.060</a> | M20X90  | 25 | <a href="#">07071.200.090</a> |
| M8X70 | 100 | <a href="#">07071.080.070</a> | M12X70  | 50  | <a href="#">07071.120.070</a> | M20X100 | 25 | <a href="#">07071.200.100</a> |
| M8X80 | 100 | <a href="#">07071.080.080</a> | M12X80  | 50  | <a href="#">07071.120.080</a> |         |    |                               |

**07010 Hexagon socket head cap screw fully threaded** D03A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 12.9          |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| M3X25 | 200 | <a href="#">07010.030.025</a> | M6X35  | 200 | <a href="#">07010.060.035</a> | M10X60 | 50 | <a href="#">07010.100.060</a> |
| M4X30 | 200 | <a href="#">07010.040.030</a> | M6X40  | 200 | <a href="#">07010.060.040</a> | M10X70 | 50 | <a href="#">07010.100.070</a> |
| M4X40 | 200 | <a href="#">07010.040.040</a> | M6X50  | 200 | <a href="#">07010.060.050</a> | M10X80 | 50 | <a href="#">07010.100.080</a> |
| M4X50 | 200 | <a href="#">07010.040.050</a> |        |     |                               |        |    |                               |
|       |     |                               | M8X40  | 100 | <a href="#">07010.080.040</a> | M12X60 | 50 | <a href="#">07010.120.060</a> |
| M5X30 | 200 | <a href="#">07010.050.030</a> | M8X50  | 100 | <a href="#">07010.080.050</a> | M12X80 | 50 | <a href="#">07010.120.080</a> |
| M5X35 | 200 | <a href="#">07010.050.035</a> | M8X60  | 100 | <a href="#">07010.080.060</a> |        |    |                               |
| M5X40 | 200 | <a href="#">07010.050.040</a> | M8X80  | 100 | <a href="#">07010.080.080</a> |        |    |                               |
| M5X50 | 200 | <a href="#">07010.050.050</a> |        |     |                               |        |    |                               |
|       |     |                               | M10X50 | 50  | <a href="#">07010.100.050</a> |        |    |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

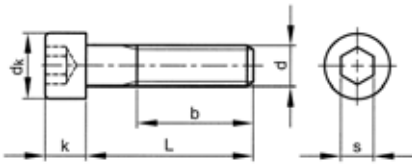
**56120 Hexagon socket head cap screw fully threaded plastic** W02A

|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |

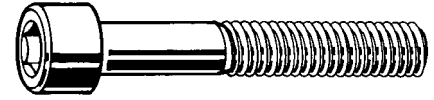


| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M6X10 | 50 | <a href="#">56120.060.010</a> | M8X25  | 50 | <a href="#">56120.080.025</a> | M10X50 | 25 | <a href="#">56120.100.050</a> |
| M6X16 | 50 | <a href="#">56120.060.016</a> | M8X30  | 50 | <a href="#">56120.080.030</a> | M10X60 | 25 | <a href="#">56120.100.060</a> |
| M6X20 | 50 | <a href="#">56120.060.020</a> | M8X40  | 50 | <a href="#">56120.080.040</a> |        |    |                               |
| M6X25 | 50 | <a href="#">56120.060.025</a> | M8X50  | 50 | <a href="#">56120.080.050</a> | M12X30 | 25 | <a href="#">56120.120.030</a> |
| M6X30 | 50 | <a href="#">56120.060.030</a> | M8X60  | 50 | <a href="#">56120.080.060</a> | M12X40 | 25 | <a href="#">56120.120.040</a> |
| M6X40 | 50 | <a href="#">56120.060.040</a> |        |    |                               | M12X50 | 25 | <a href="#">56120.120.050</a> |
| M6X50 | 50 | <a href="#">56120.060.050</a> | M10X20 | 25 | <a href="#">56120.100.020</a> | M12X60 | 25 | <a href="#">56120.120.060</a> |
|       |    |                               | M10X25 | 25 | <a href="#">56120.100.025</a> |        |    |                               |
| M8X16 | 50 | <a href="#">56120.080.016</a> | M10X30 | 25 | <a href="#">56120.100.030</a> |        |    |                               |
| M8X20 | 50 | <a href="#">56120.080.020</a> | M10X40 | 25 | <a href="#">56120.100.040</a> |        |    |                               |

## Hexagon socket head cap screw MF/MEF



ISO 4762  
**DIN 912**  
 NEN 1241  
 ANSI B18.3.1M  
 NF E25-125  
 BS 4168-1



2

### Technical data

| d   | b  | dk (max.) | k (max.) | s  | Full thread L ≤ |
|-----|----|-----------|----------|----|-----------------|
| M8  | 28 | 13        | 8        | 6  | 35              |
| M10 | 32 | 16        | 10       | 8  | 40              |
| M12 | 36 | 18        | 12       | 10 | 50              |
| M14 | 40 | 21        | 14       | 12 | 55              |
| M16 | 44 | 24        | 16       | 14 | 60              |
| M18 | 48 | 27        | 18       | 14 | 65              |

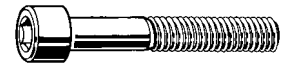
### Article groups

| Thread | Driving features | Material | Class | Packaging | Code  | Page |
|--------|------------------|----------|-------|-----------|-------|------|
| MF     | hexagon socket   | St       | 12.9  | Standard  | 07040 | 2-17 |
| MEF    | hexagon socket   | St       | 12.9  | Standard  | 07041 | 2-17 |

#### 07040 Hexagon socket head cap screw MF/MEF

D93A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 12.9  
**Packaging** Standard



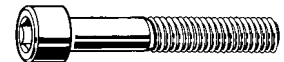
| d x P x L   | ☒   | Art.number                    | d x P x L    | ☒  | Art.number                    | d x P x L    | ☒  | Art.number                    |
|-------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M8X1,00X16  | 100 | <a href="#">07040.080.016</a> | M10X1,25X60  | 25 | <a href="#">07040.100.060</a> | M12X1,50X100 | 10 | <a href="#">07040.120.100</a> |
| M8X1,00X20  | 100 | <a href="#">07040.080.020</a> | M10X1,25X70  | 25 | <a href="#">07040.100.070</a> |              |    |                               |
| M8X1,00X25  | 100 | <a href="#">07040.080.025</a> | M10X1,25X80  | 25 | <a href="#">07040.100.080</a> | M14X1,50X30  | 10 | <a href="#">07040.140.030</a> |
| M8X1,00X30  | 100 | <a href="#">07040.080.030</a> | M10X1,25X90  | 25 | <a href="#">07040.100.090</a> | M14X1,50X40  | 10 | <a href="#">07040.140.040</a> |
| M8X1,00X35  | 100 | <a href="#">07040.080.035</a> | M10X1,25X100 | 25 | <a href="#">07040.100.100</a> | M14X1,50X50  | 10 | <a href="#">07040.140.050</a> |
| M8X1,00X40  | 100 | <a href="#">07040.080.040</a> |              |    |                               | M14X1,50X60  | 50 | <a href="#">07040.140.060</a> |
| M8X1,00X45  | 50  | <a href="#">07040.080.045</a> | M12X1,50X25  | 50 | <a href="#">07040.120.025</a> |              |    |                               |
| M8X1,00X50  | 50  | <a href="#">07040.080.050</a> | M12X1,50X30  | 50 | <a href="#">07040.120.030</a> | M16X1,50X40  | 10 | <a href="#">07040.160.040</a> |
|             |     |                               | M12X1,50X35  | 50 | <a href="#">07040.120.035</a> | M16X1,50X50  | 10 | <a href="#">07040.160.050</a> |
| M10X1,25X20 | 100 | <a href="#">07040.100.020</a> | M12X1,50X40  | 25 | <a href="#">07040.120.040</a> | M16X1,50X55  | 10 | <a href="#">07040.160.055</a> |
| M10X1,25X25 | 50  | <a href="#">07040.100.025</a> | M12X1,50X45  | 25 | <a href="#">07040.120.045</a> | M16X1,50X60  | 10 | <a href="#">07040.160.060</a> |
| M10X1,25X30 | 50  | <a href="#">07040.100.030</a> | M12X1,50X50  | 25 | <a href="#">07040.120.050</a> | M16X1,50X70  | 10 | <a href="#">07040.160.070</a> |
| M10X1,25X35 | 50  | <a href="#">07040.100.035</a> | M12X1,50X55  | 25 | <a href="#">07040.120.055</a> | M16X1,50X80  | 5  | <a href="#">07040.160.080</a> |
| M10X1,25X40 | 50  | <a href="#">07040.100.040</a> | M12X1,50X60  | 10 | <a href="#">07040.120.060</a> | M16X1,50X90  | 5  | <a href="#">07040.160.090</a> |
| M10X1,25X45 | 50  | <a href="#">07040.100.045</a> | M12X1,50X70  | 10 | <a href="#">07040.120.070</a> | M16X1,50X100 | 5  | <a href="#">07040.160.100</a> |
| M10X1,25X50 | 50  | <a href="#">07040.100.050</a> | M12X1,50X80  | 10 | <a href="#">07040.120.080</a> |              |    |                               |
| M10X1,25X55 | 50  | <a href="#">07040.100.055</a> | M12X1,50X90  | 10 | <a href="#">07040.120.090</a> |              |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 07041 Hexagon socket head cap screw MEF

D93A

**Thread** Metric extra fine thread  
**Material** Steel  
**Class** 12.9  
**Packaging** Standard

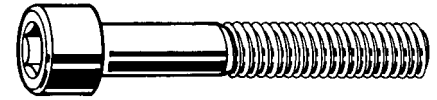
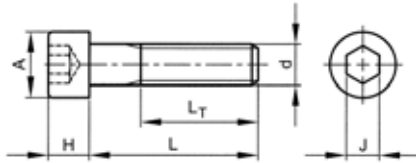


| d x P x L   | ☒  | Art.number                    | d x P x L    | ☒  | Art.number                    | d x P x L    | ☒  | Art.number                    |
|-------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10X1,00X30 | 50 | <a href="#">07041.100.030</a> | M10X1,00X100 | 25 | <a href="#">07041.100.100</a> | M12X1,25X70  | 10 | <a href="#">07041.120.070</a> |
| M10X1,00X35 | 50 | <a href="#">07041.100.035</a> |              |    |                               | M12X1,25X80  | 10 | <a href="#">07041.120.080</a> |
| M10X1,00X40 | 50 | <a href="#">07041.100.040</a> | M12X1,25X25  | 50 | <a href="#">07041.120.025</a> | M12X1,25X100 | 10 | <a href="#">07041.120.100</a> |
| M10X1,00X45 | 50 | <a href="#">07041.100.045</a> | M12X1,25X30  | 50 | <a href="#">07041.120.030</a> |              |    |                               |
| M10X1,00X50 | 50 | <a href="#">07041.100.050</a> | M12X1,25X40  | 25 | <a href="#">07041.120.040</a> | M18X1,50X70  | 5  | <a href="#">07041.180.070</a> |
| M10X1,00X60 | 25 | <a href="#">07041.100.060</a> | M12X1,25X45  | 25 | <a href="#">07041.120.045</a> | M18X1,50X80  | 5  | <a href="#">07041.180.080</a> |
| M10X1,00X70 | 25 | <a href="#">07041.100.070</a> | M12X1,25X50  | 25 | <a href="#">07041.120.050</a> |              |    |                               |
| M10X1,00X90 | 25 | <a href="#">07041.100.090</a> | M12X1,25X60  | 25 | <a href="#">07041.120.060</a> |              |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket head cap screw UNC 1960 series

ANSI ≈B18.3 (1960)  
BS ≈2470



2

### Technical data

| d    | Threads per inch | L <sub>T</sub> (min.) | H    | A    | J    |
|------|------------------|-----------------------|------|------|------|
| No.2 | 56               | 16                    | 2,5  | 3,6  | 5/64 |
| No.4 | 40               | 19                    | 2,8  | 4,6  | 3/32 |
| No.6 | 32               | 19                    | 3,5  | 5,7  | 7/64 |
| No.8 | 32               | 22                    | 4,2  | 6,8  | 9/64 |
| 1/4  | 20               | 25                    | 6,4  | 9,5  | 3/16 |
| 5/16 | 18               | 28                    | 7,9  | 11,9 | 1/4  |
| 3/8  | 16               | 32                    | 9,5  | 14,3 | 5/16 |
| 1/2  | 13               | 38                    | 12,7 | 19   | 3/8  |
| 5/8  | 11               | 45                    | 15,9 | 23,8 | 1/2  |
| 3/4  | 10               | 50                    | 19   | 28,5 | 5/8  |

- The mechanical properties corresponds much with the same property class 12.9 acc. to DIN ISO 898-1. Other properties acc. to ASTM A574.
- Marking of these screws is not mandatory.
- ATTENTION: as the product standard specifies thread tolerance 3A for thread sizes up to 1 inch, zinc plating can cause thread fit problems.

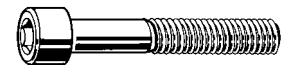
### Article groups

| Thread | Driving features | Material  | Class | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-----------|-------|------|
| UNC    | hexagon socket   | St        | 12.9  | Standard  | 07212 | 2-18 |
| UNC    | hexagon socket   | St.St. A2 |       | Standard  | 51056 | 2-18 |
| UNC    | hexagon socket   | St.St. A4 |       | Standard  | 55056 | 2-19 |

#### 07212 Hexagon socket head cap screw UNC 1960 series

X05A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Steel                   |
| <b>Class</b>     | 12.9                    |
| <b>Packaging</b> | Standard                |



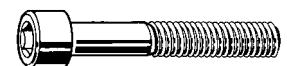
| d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| NO.2X3/16 | 100 | <a href="#">07212.021.004</a> | NO.4X5/8  | 100 | <a href="#">07212.028.015</a> | NO.6X1IN   | 100 | <a href="#">07212.035.025</a> |
| NO.2X1/4  | 100 | <a href="#">07212.021.006</a> | NO.4X3/4  | 100 | <a href="#">07212.028.019</a> | NO.8X1/4   | 100 | <a href="#">07212.041.006</a> |
| NO.2X3/8  | 100 | <a href="#">07212.021.009</a> | NO.6X1/4  | 100 | <a href="#">07212.035.006</a> | NO.8X3/8   | 100 | <a href="#">07212.041.009</a> |
| NO.2X1/2  | 100 | <a href="#">07212.021.012</a> | NO.6X5/16 | 100 | <a href="#">07212.035.007</a> | NO.8X1/2   | 100 | <a href="#">07212.041.012</a> |
| NO.2X5/8  | 100 | <a href="#">07212.021.015</a> | NO.6X3/8  | 100 | <a href="#">07212.035.009</a> | NO.8X5/8   | 100 | <a href="#">07212.041.015</a> |
| NO.4X1/4  | 100 | <a href="#">07212.028.006</a> | NO.6X1/2  | 100 | <a href="#">07212.035.012</a> | NO.8X3/4   | 100 | <a href="#">07212.041.019</a> |
| NO.4X5/16 | 100 | <a href="#">07212.028.007</a> | NO.6X5/8  | 100 | <a href="#">07212.035.015</a> | NO.8X1.IN. | 100 | <a href="#">07212.041.025</a> |
| NO.4X3/8  | 100 | <a href="#">07212.028.009</a> | NO.6X3/4  | 100 | <a href="#">07212.035.019</a> | NO.8X1.1/4 | 100 | <a href="#">07212.041.031</a> |
| NO.4X1/2  | 100 | <a href="#">07212.028.012</a> | NO.6X7/8  | 100 | <a href="#">07212.035.022</a> | NO.8X1.1/2 | 100 | <a href="#">07212.041.038</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 51056 Hexagon socket head cap screw UNC 1960 series

X61A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Stainless steel A2      |
| <b>Packaging</b> | Standard                |



| d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 1/4X1/4   | 100 | <a href="#">51056.063.006</a> | 1/4X2.1/4 | 100 | <a href="#">51056.063.057</a> | 3/8X2.3/4 | 100 | <a href="#">51056.096.069</a> |
| 1/4X3/8   | 100 | <a href="#">51056.063.009</a> | 1/4X2.1/2 | 100 | <a href="#">51056.063.063</a> | 3/8X3.1/2 | 50  | <a href="#">51056.096.088</a> |
| 1/4X1/2   | 100 | <a href="#">51056.063.012</a> |           |     |                               | 3/8X4.1/2 | 50  | <a href="#">51056.096.114</a> |
| 1/4X5/8   | 100 | <a href="#">51056.063.015</a> | 3/8X5/8   | 25  | <a href="#">51056.096.015</a> |           |     |                               |
| 1/4X7/8   | 100 | <a href="#">51056.063.022</a> | 3/8X1IN   | 50  | <a href="#">51056.096.025</a> | 1/2X3/4   | 25  | <a href="#">51056.127.019</a> |
| 1/4X1IN   | 100 | <a href="#">51056.063.025</a> | 3/8X1.1/4 | 50  | <a href="#">51056.096.031</a> | 1/2X1IN   | 25  | <a href="#">51056.127.025</a> |
| 1/4X1.1/4 | 100 | <a href="#">51056.063.031</a> | 3/8X1.1/2 | 50  | <a href="#">51056.096.038</a> | 1/2X1.1/4 | 25  | <a href="#">51056.127.031</a> |
| 1/4X1.1/2 | 100 | <a href="#">51056.063.038</a> | 3/8X1.3/4 | 50  | <a href="#">51056.096.044</a> | 1/2X1.1/2 | 25  | <a href="#">51056.127.038</a> |
| 1/4X1.3/4 | 100 | <a href="#">51056.063.044</a> | 3/8X2IN   | 50  | <a href="#">51056.096.050</a> | 1/2X1.3/4 | 25  | <a href="#">51056.127.044</a> |
| 1/4X2IN   | 100 | <a href="#">51056.063.050</a> | 3/8X2.1/2 | 50  | <a href="#">51056.096.063</a> | 1/2X2IN   | 25  | <a href="#">51056.127.050</a> |

**51056 Hexagon socket head cap screw UNC 1960 series** ←

| d x L   | ☒  | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|---------|----|-------------------------------|-------|---|------------|-------|---|------------|
| 1/2X3IN | 25 | <a href="#">51056.127.076</a> |       |   |            |       |   |            |
| 1/2X4IN | 25 | <a href="#">51056.127.101</a> |       |   |            |       |   |            |

**55056 Hexagon socket head cap screw UNC 1960 series** X15A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Stainless steel A4      |
| <b>Packaging</b> | Standard                |

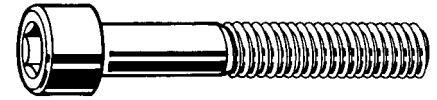
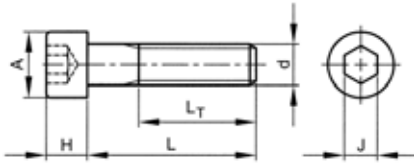
2

| d x L      | ☒   | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|-----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 1/4X1/2    | 100 | <a href="#">55056.063.012</a> | 3/8X3/4   | 50 | <a href="#">55056.096.019</a> | 1/2X2IN   | 25 | <a href="#">55056.127.050</a> |
| 1/4X3/4    | 100 | <a href="#">55056.063.019</a> | 3/8X1IN   | 50 | <a href="#">55056.096.025</a> |           |    |                               |
| 1/4X1IN    | 100 | <a href="#">55056.063.025</a> | 3/8X1.1/4 | 50 | <a href="#">55056.096.031</a> | 5/8X1.1/4 | 25 | <a href="#">55056.158.031</a> |
|            |     |                               | 3/8X1.1/2 | 50 | <a href="#">55056.096.038</a> | 5/8X1.1/2 | 25 | <a href="#">55056.158.038</a> |
| 5/16X3/4   | 100 | <a href="#">55056.079.019</a> | 3/8X2IN   | 50 | <a href="#">55056.096.050</a> | 5/8X2IN   | 10 | <a href="#">55056.158.050</a> |
| 5/16X1IN   | 100 | <a href="#">55056.079.025</a> |           |    |                               |           |    |                               |
| 5/16X1.1/4 | 100 | <a href="#">55056.079.031</a> | 1/2X1IN   | 25 | <a href="#">55056.127.025</a> | 3/4X2IN   | 10 | <a href="#">55056.191.050</a> |
| 5/16X1.1/2 | 100 | <a href="#">55056.079.038</a> | 1/2X1.1/4 | 25 | <a href="#">55056.127.031</a> | 3/4X2.1/2 | 10 | <a href="#">55056.191.063</a> |
|            |     |                               | 1/2X1.1/2 | 25 | <a href="#">55056.127.038</a> |           |    |                               |

- Depending on availability the austenitic steel type is comparable to AISI 316 with mechanical properties acc. to ASTM F593.

## Hexagon socket head cap screw UNF 1960 series

ANSI ≈B18.3 (1960)



2

### Technical data

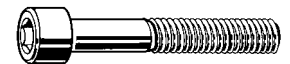
| d     | Threads per inch | L <sub>T</sub> (min.) | H    | A    | J    |
|-------|------------------|-----------------------|------|------|------|
| No.10 | 32               | 22                    | 4,8  | 7,9  | 5/32 |
| 1/4   | 28               | 25                    | 6,4  | 9,5  | 3/16 |
| 5/16  | 24               | 28                    | 7,9  | 11,9 | 1/4  |
| 3/8   | 24               | 32                    | 9,5  | 14,3 | 5/16 |
| 7/16  | 20               | 35                    | 11,1 | 16,7 | 3/8  |
| 1/2   | 20               | 38                    | 12,7 | 19   | 3/8  |
| 5/8   | 18               | 45                    | 15,9 | 23,8 | 1/2  |
| 3/4   | 16               | 50                    | 19   | 28,6 | 5/8  |

- The mechanical properties corresponds much with the same property class 12.9 acc. to DIN ISO 898-1. Other properties acc. to ASTM A574. Marking of these screws is not mandatory.
- ATTENTION: as the product standard specifies thread tolerance 3A for thread sizes up to 1 inch, zinc plating can cause thread fit problems.

### 07180 Hexagon socket head cap screw UNF 1960 series

X05A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | 12.9                  |
| <b>Packaging</b> | Standard              |



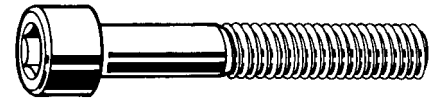
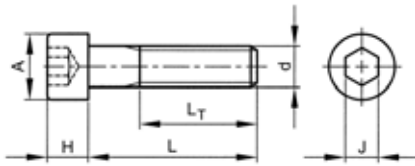
| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| NO.10X3/8   | 200 | <a href="#">07180.048.009</a> | 5/16X3/4   | 200 | <a href="#">07180.079.019</a> | 7/16X1.3/4 | 200 | <a href="#">07180.111.044</a> |
| NO.10X1/2   | 200 | <a href="#">07180.048.012</a> | 5/16X1.IN. | 200 | <a href="#">07180.079.025</a> | 1/2X1.1/2  | 50  | <a href="#">07180.127.038</a> |
| NO.10X5/8   | 200 | <a href="#">07180.048.015</a> | 5/16X1.1/4 | 200 | <a href="#">07180.079.031</a> | 1/2X2.IN.  | 50  | <a href="#">07180.127.050</a> |
| NO.10X1.IN. | 200 | <a href="#">07180.048.025</a> | 5/16X1.1/2 | 200 | <a href="#">07180.079.038</a> | 1/2X2.1/2  | 200 | <a href="#">07180.127.063</a> |
| NO.10X1.1/2 | 200 | <a href="#">07180.048.038</a> | 5/16X2.IN. | 200 | <a href="#">07180.079.050</a> |            |     |                               |
| 1/4X3/8     | 200 | <a href="#">07180.063.009</a> | 5/16X2.1/4 | 200 | <a href="#">07180.079.057</a> |            |     |                               |
| 1/4X1/2     | 200 | <a href="#">07180.063.012</a> |            |     |                               | 5/8X1.3/4  | 50  | <a href="#">07180.158.044</a> |
| 1/4X5/8     | 200 | <a href="#">07180.063.015</a> | 3/8X1.1/4  | 200 | <a href="#">07180.096.031</a> | 5/8X2.1/4  | 50  | <a href="#">07180.158.057</a> |
| 1/4X3/4     | 200 | <a href="#">07180.063.019</a> | 3/8X1.3/4  | 100 | <a href="#">07180.096.044</a> |            |     |                               |
| 1/4X1.IN.   | 200 | <a href="#">07180.063.025</a> | 3/8X2.1/2  | 50  | <a href="#">07180.096.063</a> |            |     |                               |
| 1/4X1.1/2   | 200 | <a href="#">07180.063.038</a> | 3/8X3.1/4  | 200 | <a href="#">07180.096.082</a> | 3/4X2.IN.  | 25  | <a href="#">07180.191.050</a> |
| 1/4X1.3/4   | 200 | <a href="#">07180.063.044</a> |            |     |                               |            |     |                               |
|             |     |                               | 7/16X1.1/2 | 200 | <a href="#">07180.111.038</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



## Hexagon socket head cap screw UNC 1936 series

ANSI =B18.3 (1936)



2

### Technical data

| d     | Threads per inch | L <sub>T</sub> (min.) | H    | A    | J    |
|-------|------------------|-----------------------|------|------|------|
| No.3  | 48               | 16                    | 2,5  | 4,1  | 5/64 |
| No.4  | 40               | 19                    | 2,8  | 4,7  | 3/32 |
| No.5  | 40               | 19                    | 3,2  | 5,2  | 3/32 |
| No.6  | 32               | 22                    | 3,5  | 5,7  | 7/64 |
| No.8  | 32               | 22                    | 4,2  | 6,9  | 9/64 |
| No.10 | 24               | 22                    | 4,8  | 7,9  | 5/32 |
| 1/4   | 20               | 25                    | 6,4  | 9,5  | 3/16 |
| 5/16  | 18               | 28                    | 7,9  | 11,1 | 7/32 |
| 3/8   | 16               | 32                    | 9,5  | 14,2 | 5/16 |
| 7/16  | 14               | 35                    | 11,1 | 15,9 | 5/16 |
| 1/2   | 13               | 38                    | 12,7 | 19   | 3/8  |
| 5/8   | 11               | 45                    | 15,9 | 22,2 | 1/2  |
| 3/4   | 10               | 50                    | 19   | 25,4 | 9/16 |
| 7/8   | 9                | 57                    | 22,2 | 28,5 | 9/16 |
| 1.IN. | 8                | 63                    | 25,4 | 33,3 | 5/8  |

- The mechanical properties corresponds much with the same property class 12.9 acc. to DIN ISO 898-1. Other properties acc. to ASTM A574.
- Marking of these screws is not mandatory.
- ATTENTION: as the product standard specifies thread tolerance 3A for thread sizes up to 1 inch, zinc plating can cause thread fit problems.

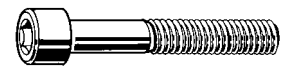
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| UNC    | hexagon socket   | St       | 12.9  |                   | Standard  | 07210 | 2-21 |
| UNC    | hexagon socket   | St       | 12.9  | Mech.zipl.        | Standard  | 07260 | 2-22 |

#### 07210 Hexagon socket head cap screw UNC 1936 series

X05A

**Thread** Unified National Coarse  
**Material** Steel  
**Class** 12.9  
**Packaging** Standard



| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒  | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|----|-------------------------------|
| NO.3X3/16   | 100 | <a href="#">07210.025.004</a> | 1/4X2.3/4  | 100 | <a href="#">07210.063.069</a> | 7/16X1.1/2 | 50 | <a href="#">07210.111.038</a> |
| NO.3X1/4    | 100 | <a href="#">07210.025.006</a> |            |     |                               | 7/16X1.3/4 | 50 | <a href="#">07210.111.044</a> |
| NO.3X3/8    | 100 | <a href="#">07210.025.009</a> | 5/16X1/2   | 100 | <a href="#">07210.079.012</a> | 7/16X2.IN. | 50 | <a href="#">07210.111.050</a> |
| NO.3X1/2    | 100 | <a href="#">07210.025.012</a> | 5/16X5/8   | 100 | <a href="#">07210.079.015</a> | 7/16X2.1/2 | 50 | <a href="#">07210.111.063</a> |
| NO.5X1/4    | 100 | <a href="#">07210.031.006</a> | 5/16X3/4   | 100 | <a href="#">07210.079.019</a> |            |    |                               |
| NO.5X3/8    | 100 | <a href="#">07210.031.009</a> | 5/16X1.IN. | 100 | <a href="#">07210.079.025</a> | 1/2X1.IN.  | 50 | <a href="#">07210.127.025</a> |
| NO.5X1/2    | 100 | <a href="#">07210.031.012</a> | 5/16X1.1/4 | 100 | <a href="#">07210.079.031</a> | 1/2X1.1/4  | 50 | <a href="#">07210.127.031</a> |
| NO.5X5/8    | 100 | <a href="#">07210.031.015</a> | 5/16X1.1/2 | 100 | <a href="#">07210.079.038</a> | 1/2X1.1/2  | 50 | <a href="#">07210.127.038</a> |
| NO.5X3/4    | 100 | <a href="#">07210.031.019</a> | 5/16X1.3/4 | 100 | <a href="#">07210.079.044</a> | 1/2X1.3/4  | 50 | <a href="#">07210.127.044</a> |
| NO.6X1/4    | 100 | <a href="#">07210.035.006</a> | 5/16X2.IN. | 100 | <a href="#">07210.079.050</a> | 1/2X2.IN.  | 50 | <a href="#">07210.127.050</a> |
| NO.10X3/8   | 100 | <a href="#">07210.048.009</a> | 5/16X2.1/4 | 100 | <a href="#">07210.079.057</a> | 1/2X2.1/4  | 25 | <a href="#">07210.127.057</a> |
| NO.10X1/2   | 100 | <a href="#">07210.048.012</a> | 5/16X2.1/2 | 100 | <a href="#">07210.079.063</a> | 1/2X2.1/2  | 25 | <a href="#">07210.127.063</a> |
| NO.10X5/8   | 100 | <a href="#">07210.048.015</a> | 5/16X3.IN. | 100 | <a href="#">07210.079.076</a> | 1/2X2.3/4  | 25 | <a href="#">07210.127.069</a> |
| NO.10X3/4   | 100 | <a href="#">07210.048.019</a> |            |     |                               | 1/2X3.IN.  | 25 | <a href="#">07210.127.076</a> |
| NO.10X1.IN. | 100 | <a href="#">07210.048.025</a> | 3/8X5/8    | 100 | <a href="#">07210.096.015</a> | 1/2X3.1/2  | 25 | <a href="#">07210.127.088</a> |
| NO.10X1.1/4 | 100 | <a href="#">07210.048.031</a> | 3/8X3/4    | 100 | <a href="#">07210.096.019</a> | 1/2X4.IN.  | 25 | <a href="#">07210.127.101</a> |
| NO.10X1.1/2 | 100 | <a href="#">07210.048.038</a> | 3/8X1.IN.  | 100 | <a href="#">07210.096.025</a> | 1/2X4.1/2  | 25 | <a href="#">07210.127.114</a> |
| NO.10X1.3/4 | 100 | <a href="#">07210.048.044</a> | 3/8X1.1/4  | 100 | <a href="#">07210.096.031</a> | 1/2X5.IN.  | 25 | <a href="#">07210.127.127</a> |
| NO.10X2.IN. | 100 | <a href="#">07210.048.050</a> | 3/8X1.1/2  | 100 | <a href="#">07210.096.038</a> |            |    |                               |
| 1/4X3/8     | 100 | <a href="#">07210.063.009</a> | 3/8X1.3/4  | 50  | <a href="#">07210.096.044</a> | 5/8X1.IN.  | 25 | <a href="#">07210.158.025</a> |
| 1/4X1/2     | 100 | <a href="#">07210.063.012</a> | 3/8X2.IN.  | 50  | <a href="#">07210.096.050</a> | 5/8X1.1/4  | 25 | <a href="#">07210.158.031</a> |
| 1/4X5/8     | 100 | <a href="#">07210.063.015</a> | 3/8X2.1/4  | 50  | <a href="#">07210.096.057</a> | 5/8X1.1/2  | 25 | <a href="#">07210.158.038</a> |
| 1/4X3/4     | 100 | <a href="#">07210.063.019</a> | 3/8X2.1/2  | 50  | <a href="#">07210.096.063</a> | 5/8X1.3/4  | 25 | <a href="#">07210.158.044</a> |
| 1/4X1.IN.   | 100 | <a href="#">07210.063.025</a> | 3/8X2.3/4  | 50  | <a href="#">07210.096.069</a> | 5/8X2.IN.  | 25 | <a href="#">07210.158.050</a> |
| 1/4X1.1/4   | 100 | <a href="#">07210.063.031</a> | 3/8X3.IN.  | 50  | <a href="#">07210.096.076</a> | 5/8X2.1/4  | 25 | <a href="#">07210.158.057</a> |
| 1/4X1.1/2   | 100 | <a href="#">07210.063.038</a> | 3/8X3.1/2  | 50  | <a href="#">07210.096.088</a> | 5/8X2.1/2  | 25 | <a href="#">07210.158.063</a> |
| 1/4X1.3/4   | 100 | <a href="#">07210.063.044</a> | 3/8X4.IN.  | 50  | <a href="#">07210.096.101</a> | 5/8X2.3/4  | 25 | <a href="#">07210.158.069</a> |
| 1/4X2.IN.   | 100 | <a href="#">07210.063.050</a> |            |     |                               | 5/8X3.IN.  | 25 | <a href="#">07210.158.076</a> |
| 1/4X2.1/4   | 100 | <a href="#">07210.063.057</a> | 7/16X1.1/4 | 100 | <a href="#">07210.111.031</a> | 5/8X3.1/2  | 25 | <a href="#">07210.158.088</a> |
| 1/4X2.1/2   | 100 | <a href="#">07210.063.063</a> |            |     |                               |            |    |                               |

**07210 Hexagon socket head cap screw UNC 1936 series**

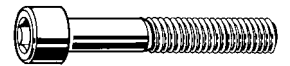
| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L       | ☒ | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-------------|---|-------------------------------|
| 5/8X4.IN. | 10 | <a href="#">07210.158.101</a> | 3/4X4.IN. | 10 | <a href="#">07210.191.101</a> | 1.IN.X1.1/2 | 5 | <a href="#">07210.254.038</a> |
| 5/8X4.1/2 | 10 | <a href="#">07210.158.114</a> | 3/4X4.1/2 | 10 | <a href="#">07210.191.114</a> | 1.IN.X2.IN. | 5 | <a href="#">07210.254.050</a> |
| 5/8X5.IN. | 10 | <a href="#">07210.158.127</a> | 3/4X5.IN. | 10 | <a href="#">07210.191.127</a> | 1.IN.X2.1/4 | 5 | <a href="#">07210.254.057</a> |
| 3/4X1.1/4 | 25 | <a href="#">07210.191.031</a> | 7/8X1.1/2 | 5  | <a href="#">07210.222.038</a> | 1.IN.X2.1/2 | 5 | <a href="#">07210.254.063</a> |
| 3/4X1.1/2 | 25 | <a href="#">07210.191.038</a> | 7/8X2.IN. | 5  | <a href="#">07210.222.050</a> | 1.IN.X2.3/4 | 5 | <a href="#">07210.254.069</a> |
| 3/4X1.3/4 | 25 | <a href="#">07210.191.044</a> | 7/8X2.1/4 | 5  | <a href="#">07210.222.057</a> | 1.IN.X3.IN. | 5 | <a href="#">07210.254.076</a> |
| 3/4X2.IN. | 25 | <a href="#">07210.191.050</a> | 7/8X2.1/2 | 5  | <a href="#">07210.222.063</a> | 1.IN.X3.1/2 | 5 | <a href="#">07210.254.088</a> |
| 3/4X2.1/4 | 25 | <a href="#">07210.191.057</a> | 7/8X3.IN. | 5  | <a href="#">07210.222.076</a> | 1.IN.X4.IN. | 5 | <a href="#">07210.254.101</a> |
| 3/4X2.1/2 | 25 | <a href="#">07210.191.063</a> | 7/8X3.1/2 | 5  | <a href="#">07210.222.088</a> | 1.IN.X4.1/2 | 5 | <a href="#">07210.254.114</a> |
| 3/4X2.3/4 | 10 | <a href="#">07210.191.069</a> | 7/8X4.IN. | 5  | <a href="#">07210.222.101</a> | 1.IN.X5.IN. | 5 | <a href="#">07210.254.127</a> |
| 3/4X3.IN. | 10 | <a href="#">07210.191.076</a> | 7/8X4.1/2 | 5  | <a href="#">07210.222.114</a> |             |   |                               |
| 3/4X3.1/2 | 10 | <a href="#">07210.191.088</a> | 7/8X5.IN. | 5  | <a href="#">07210.222.127</a> |             |   |                               |

2

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**07260 Hexagon socket head cap screw UNC 1936 series**
**X05A**

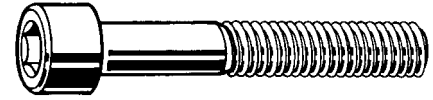
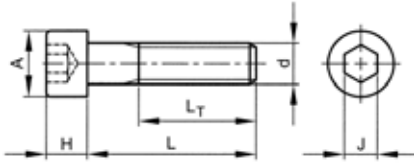
|                          |                         |
|--------------------------|-------------------------|
| <b>Thread</b>            | Unified National Coarse |
| <b>Material</b>          | Steel                   |
| <b>Class</b>             | 12.9                    |
| <b>Surface treatment</b> | Mechanical zinc plated  |
| <b>Packaging</b>         | Standard                |



| d x L      | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| 1/4X3/8    | 100 | <a href="#">07260.063.009</a> | 3/8X7/8   | 100 | <a href="#">07260.096.022</a> | 1/2X3/4   | 50 | <a href="#">07260.127.019</a> |
| 1/4X5/8    | 100 | <a href="#">07260.063.015</a> | 3/8X1.1/4 | 100 | <a href="#">07260.096.031</a> | 1/2X1.IN. | 50 | <a href="#">07260.127.025</a> |
| 1/4X1.1/4  | 100 | <a href="#">07260.063.031</a> | 3/8X1.1/2 | 100 | <a href="#">07260.096.038</a> | 1/2X1.1/4 | 50 | <a href="#">07260.127.031</a> |
|            |     |                               | 3/8X1.3/4 | 50  | <a href="#">07260.096.044</a> |           |    |                               |
| 5/16X1/2   | 100 | <a href="#">07260.079.012</a> |           |     |                               | 5/8X2.1/4 | 25 | <a href="#">07260.158.057</a> |
| 5/16X1.IN. | 100 | <a href="#">07260.079.025</a> | 1/2X1/2   | 50  | <a href="#">07260.127.012</a> |           |    |                               |
|            |     |                               | 1/2X5/8   | 50  | <a href="#">07260.127.015</a> |           |    |                               |

## Hexagon socket head cap screw UNF 1936 series

ANSI =B18.3 (1936)



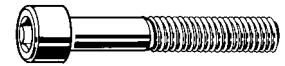
2

### Technical data

| d                     | 5/16 | 3/8  | 1/2  | 5/8  |
|-----------------------|------|------|------|------|
| Threads per inch      | 24   | 24   | 20   | 18   |
| L <sub>T</sub> (min.) | 28   | 32   | 38   | 45   |
| H                     | 7,9  | 9,5  | 12,7 | 15,9 |
| A                     | 11,1 | 14,2 | 19   | 22,2 |
| J                     | 7/32 | 5/16 | 3/8  | 1/2  |

- Depending on availability these articles can be supplied zinc plated as well as mechanical plated.
- The mechanical properties corresponds much with the same property class 12.9 acc. to DIN ISO 898-1. Other properties acc. to ASTM A574. Marking of these screws is not mandatory.
- ATTENTION: as the product standard specifies thread tolerance 3A for thread sizes up to 1 inch, zinc plating can cause thread fit problems.

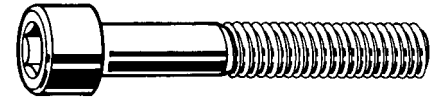
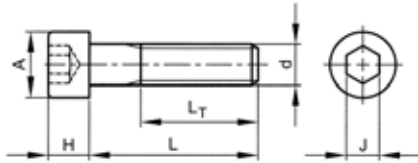
| 07250 Hexagon socket head cap screw UNF 1936 series |                        | X05A |
|---|------------------------|------|
| Thread  | Unified National Fine  |      |
| Material  | Steel                  |      |
| Class   | 12.9                   |      |
| Surface treatment                                   | Mechanical zinc plated |      |
| Packaging   | Standard               |      |



| d x L      | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| 5/16X7/8   | 100 | <a href="#">07250.079.022</a> | 3/8X1.1/2 | 100 | <a href="#">07250.096.038</a> | 1/2X1.3/4 | 50 | <a href="#">07250.127.044</a> |
| 5/16X1.IN. | 100 | <a href="#">07250.079.025</a> | 1/2X5/8   | 50  | <a href="#">07250.127.015</a> | 5/8X1.1/2 | 25 | <a href="#">07250.158.038</a> |
| 3/8X1.IN.  | 100 | <a href="#">07250.096.025</a> | 1/2X1.1/2 | 50  | <a href="#">07250.127.038</a> |           |    |                               |

## Hexagon socket head cap screw BSW

BS ≈2470



2

### Technical data

|                       |      |
|-----------------------|------|
| d                     | 1/2  |
| Threads per inch      | 12   |
| L <sub>T</sub> (min.) | 38   |
| H                     | 12,7 |
| A                     | 19   |
| J                     | 3/8  |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Depending on availability also class 10.9 can be supplied.
- Marking of these screws is not mandatory.
- Depending on availability the dimensions may deviate.

|                  |  |             |
|------------------|--|-------------|
| <b>07200</b>     | <b>Hexagon socket head cap screw BSW</b> | <b>X08A</b> |
| <b>Thread</b>    | British Standard Whitworth               |             |
| <b>Material</b>  | Steel                                    |             |
| <b>Class</b>     | 12.9                                     |             |
| <b>Packaging</b> | Standard                                 |             |

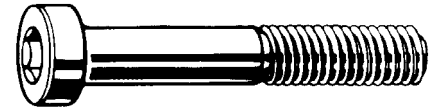
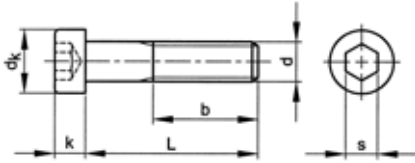


| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 1/2X3/4   | 50 | <a href="#">07200.127.020</a> | 1/2X2.IN. | 50 | <a href="#">07200.127.050</a> | 1/2X3.1/4 | 25 | <a href="#">07200.127.080</a> |
| 1/2X1.IN. | 50 | <a href="#">07200.127.025</a> | 1/2X2.1/4 | 25 | <a href="#">07200.127.060</a> | 1/2X3.1/2 | 25 | <a href="#">07200.127.090</a> |
| 1/2X1.1/4 | 50 | <a href="#">07200.127.030</a> | 1/2X2.1/2 | 25 | <a href="#">07200.127.065</a> | 1/2X4.IN. | 25 | <a href="#">07200.127.100</a> |
| 1/2X1.1/2 | 50 | <a href="#">07200.127.040</a> | 1/2X2.3/4 | 25 | <a href="#">07200.127.070</a> | 1/2X4.1/2 | 25 | <a href="#">07200.127.110</a> |
| 1/2X1.3/4 | 50 | <a href="#">07200.127.045</a> | 1/2X3.IN. | 25 | <a href="#">07200.127.075</a> |           |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket low head cap screw

DIN 7984  
NEN 1601



2

### Technical data

| d          | P    | b (min.) | dk  | k   | s   | Full thread L ≤ |
|------------|------|----------|-----|-----|-----|-----------------|
| M3         | 0,5  | 12       | 5,5 | 2   | 2   | 18              |
| M4         | 0,7  | 14       | 7   | 2,8 | 2,5 | 20              |
| M5         | 0,8  | 16       | 8,5 | 3,5 | 3   | 25              |
| M6         | 1    | 18       | 10  | 4   | 4   | 25              |
| M8         | 1,25 | 22       | 13  | 5   | 5   | 30              |
| M10        | 1,5  | 26       | 16  | 6   | 7   | 35              |
| M10 (#DIN) | 1,5  | 26       | 16  | 6   | 8   | -               |
| M12        | 1,75 | 30       | 18  | 7   | 8   | 45              |
| M16        | 2    | 38       | 24  | 9   | 12  | 55              |
| M16 (#DIN) | 2    | 38       | 24  | 10  | 12  | -               |
| M20        | 2,5  | 46       | 30  | 11  | 14  | 60              |
| M24        | 3    | 54       | 36  | 13  | 17  | 80              |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

### Article groups

| Thread | Driving features | Material  | Class      | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|------------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St        | 08.8/8.8   |                   | Standard  | 07080 | 2-25 |
| M      | hexagon socket   | St        | 08.8/8.8   | Zipl              | Standard  | 07090 | 2-26 |
| M      | hexagon socket   | St        | 010.9/10.9 |                   | Standard  | 07105 | 2-26 |
| M      | hexagon socket   | St.St. A2 |            |                   | Standard  | 51040 | 2-27 |

### 07080 Hexagon socket low head cap screw

D03A

**Thread** Metric thread  
**Material** Steel  
**Class** 08.8/8.8  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X6  | 200 | <a href="#">07080.040.006</a> | M6X22  | 200 | <a href="#">07080.060.022</a> | M10X35  | 100 | <a href="#">07080.100.035</a> |
| M4X8  | 200 | <a href="#">07080.040.008</a> | M6X25  | 200 | <a href="#">07080.060.025</a> | M10X40  | 100 | <a href="#">07080.100.040</a> |
| M4X10 | 200 | <a href="#">07080.040.010</a> | M6X30  | 200 | <a href="#">07080.060.030</a> | M10X45  | 100 | <a href="#">07080.100.045</a> |
| M4X12 | 200 | <a href="#">07080.040.012</a> | M6X35  | 200 | <a href="#">07080.060.035</a> | M10X50  | 100 | <a href="#">07080.100.050</a> |
| M4X16 | 200 | <a href="#">07080.040.016</a> | M6X40  | 200 | <a href="#">07080.060.040</a> | M10X60  | 100 | <a href="#">07080.100.060</a> |
| M4X20 | 200 | <a href="#">07080.040.020</a> | M6X45  | 200 | <a href="#">07080.060.045</a> | M10X70  | 100 | <a href="#">07080.100.070</a> |
| M4X25 | 200 | <a href="#">07080.040.025</a> | M6X50  | 200 | <a href="#">07080.060.050</a> | M10X80  | 100 | <a href="#">07080.100.080</a> |
| M4X30 | 200 | <a href="#">07080.040.030</a> | M6X60  | 200 | <a href="#">07080.060.060</a> |         |     |                               |
| M5X8  | 200 | <a href="#">07080.050.008</a> | M8X12  | 200 | <a href="#">07080.080.012</a> | M12X20  | 100 | <a href="#">07080.120.020</a> |
| M5X10 | 200 | <a href="#">07080.050.010</a> | M8X16  | 200 | <a href="#">07080.080.016</a> | M12X25  | 100 | <a href="#">07080.120.025</a> |
| M5X12 | 200 | <a href="#">07080.050.012</a> | M8X18  | 200 | <a href="#">07080.080.018</a> | M12X30  | 100 | <a href="#">07080.120.030</a> |
| M5X16 | 200 | <a href="#">07080.050.016</a> | M8X20  | 200 | <a href="#">07080.080.020</a> | M12X35  | 100 | <a href="#">07080.120.035</a> |
| M5X18 | 200 | <a href="#">07080.050.018</a> | M8X22  | 200 | <a href="#">07080.080.022</a> | M12X40  | 100 | <a href="#">07080.120.040</a> |
| M5X20 | 200 | <a href="#">07080.050.020</a> | M8X25  | 200 | <a href="#">07080.080.025</a> | M12X45  | 100 | <a href="#">07080.120.045</a> |
| M5X22 | 200 | <a href="#">07080.050.022</a> | M8X30  | 200 | <a href="#">07080.080.030</a> | M12X50  | 100 | <a href="#">07080.120.050</a> |
| M5X25 | 200 | <a href="#">07080.050.025</a> | M8X35  | 200 | <a href="#">07080.080.035</a> | M12X60  | 100 | <a href="#">07080.120.060</a> |
| M5X30 | 200 | <a href="#">07080.050.030</a> | M8X40  | 200 | <a href="#">07080.080.040</a> | M12X70  | 50  | <a href="#">07080.120.070</a> |
| M5X35 | 200 | <a href="#">07080.050.035</a> | M8X45  | 200 | <a href="#">07080.080.045</a> | M12X80  | 50  | <a href="#">07080.120.080</a> |
| M5X40 | 200 | <a href="#">07080.050.040</a> | M8X50  | 200 | <a href="#">07080.080.050</a> | M12X100 | 50  | <a href="#">07080.120.100</a> |
| M5X50 | 200 | <a href="#">07080.050.050</a> | M8X60  | 200 | <a href="#">07080.080.060</a> |         |     |                               |
| M6X8  | 200 | <a href="#">07080.060.008</a> | M8X70  | 200 | <a href="#">07080.080.070</a> | M16X25  | 50  | <a href="#">07080.160.025</a> |
| M6X10 | 200 | <a href="#">07080.060.010</a> |        |     |                               | M16X30  | 50  | <a href="#">07080.160.030</a> |
| M6X12 | 200 | <a href="#">07080.060.012</a> | M10X16 | 200 | <a href="#">07080.100.016</a> | M16X35  | 50  | <a href="#">07080.160.035</a> |
| M6X16 | 200 | <a href="#">07080.060.016</a> | M10X20 | 200 | <a href="#">07080.100.020</a> | M16X40  | 50  | <a href="#">07080.160.040</a> |
| M6X18 | 200 | <a href="#">07080.060.018</a> | M10X22 | 200 | <a href="#">07080.100.022</a> | M16X45  | 50  | <a href="#">07080.160.045</a> |
| M6X20 | 200 | <a href="#">07080.060.020</a> | M10X25 | 200 | <a href="#">07080.100.025</a> | M16X50  | 50  | <a href="#">07080.160.050</a> |
|       |     |                               | M10X30 | 200 | <a href="#">07080.100.030</a> | M16X55  | 50  | <a href="#">07080.160.055</a> |
|       |     |                               |        |     |                               | M16X60  | 50  | <a href="#">07080.160.060</a> |

2

**07080 Hexagon socket low head cap screw** ←

| d x L   | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|--------|----|-------------------------------|---------|----|-------------------------------|
| M16X70  | 25 | <a href="#">07080.160.070</a> | M20X40 | 25 | <a href="#">07080.200.040</a> | M24X45  | 25 | <a href="#">07080.240.045</a> |
| M16X80  | 25 | <a href="#">07080.160.080</a> | M20X50 | 25 | <a href="#">07080.200.050</a> | M24X50  | 25 | <a href="#">07080.240.050</a> |
| M16X90  | 25 | <a href="#">07080.160.090</a> | M20X60 | 25 | <a href="#">07080.200.060</a> | M24X60  | 25 | <a href="#">07080.240.060</a> |
| M16X100 | 25 | <a href="#">07080.160.100</a> | M20X70 | 25 | <a href="#">07080.200.070</a> | M24X80  | 25 | <a href="#">07080.240.080</a> |
| M16X120 | 50 | <a href="#">07080.160.120</a> | M20X80 | 25 | <a href="#">07080.200.080</a> | M24X90  | 25 | <a href="#">07080.240.090</a> |
|         |    |                               | M20X90 | 25 | <a href="#">07080.200.090</a> | M24X100 | 25 | <a href="#">07080.240.100</a> |
| M20X30  | 25 | <a href="#">07080.200.030</a> |        |    |                               |         |    |                               |
| M20X35  | 25 | <a href="#">07080.200.035</a> | M24X40 | 25 | <a href="#">07080.240.040</a> |         |    |                               |

**07090 Hexagon socket low head cap screw** D03A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 08.8/8.8      |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X6  | 200 | <a href="#">07090.040.006</a> | M8X10  | 200 | <a href="#">07090.080.010</a> | M12X40 | 100 | <a href="#">07090.120.040</a> |
| M4X8  | 200 | <a href="#">07090.040.008</a> | M8X12  | 200 | <a href="#">07090.080.012</a> | M12X45 | 100 | <a href="#">07090.120.045</a> |
| M4X10 | 200 | <a href="#">07090.040.010</a> | M8X16  | 200 | <a href="#">07090.080.016</a> | M12X50 | 100 | <a href="#">07090.120.050</a> |
| M4X12 | 200 | <a href="#">07090.040.012</a> | M8X20  | 200 | <a href="#">07090.080.020</a> | M12X60 | 100 | <a href="#">07090.120.060</a> |
| M4X16 | 200 | <a href="#">07090.040.016</a> | M8X25  | 200 | <a href="#">07090.080.025</a> | M12X80 | 50  | <a href="#">07090.120.080</a> |
| M4X20 | 200 | <a href="#">07090.040.020</a> | M8X30  | 200 | <a href="#">07090.080.030</a> |        |     |                               |
|       |     |                               | M8X35  | 200 | <a href="#">07090.080.035</a> | M16X25 | 50  | <a href="#">07090.160.025</a> |
| M5X8  | 200 | <a href="#">07090.050.008</a> | M8X40  | 200 | <a href="#">07090.080.040</a> | M16X30 | 50  | <a href="#">07090.160.030</a> |
| M5X10 | 200 | <a href="#">07090.050.010</a> | M8X45  | 200 | <a href="#">07090.080.045</a> | M16X35 | 50  | <a href="#">07090.160.035</a> |
| M5X12 | 200 | <a href="#">07090.050.012</a> | M8X50  | 200 | <a href="#">07090.080.050</a> | M16X40 | 50  | <a href="#">07090.160.040</a> |
| M5X16 | 200 | <a href="#">07090.050.016</a> | M8X60  | 200 | <a href="#">07090.080.060</a> | M16X50 | 50  | <a href="#">07090.160.050</a> |
| M5X20 | 200 | <a href="#">07090.050.020</a> |        |     |                               | M16X60 | 50  | <a href="#">07090.160.060</a> |
| M5X25 | 200 | <a href="#">07090.050.025</a> | M10X16 | 200 | <a href="#">07090.100.016</a> | M16X70 | 25  | <a href="#">07090.160.070</a> |
| M5X30 | 200 | <a href="#">07090.050.030</a> | M10X20 | 200 | <a href="#">07090.100.020</a> | M16X80 | 25  | <a href="#">07090.160.080</a> |
|       |     |                               | M10X25 | 200 | <a href="#">07090.100.025</a> |        |     |                               |
| M6X10 | 200 | <a href="#">07090.060.010</a> | M10X30 | 200 | <a href="#">07090.100.030</a> | M20X40 | 25  | <a href="#">07090.200.040</a> |
| M6X12 | 200 | <a href="#">07090.060.012</a> | M10X35 | 100 | <a href="#">07090.100.035</a> | M20X50 | 25  | <a href="#">07090.200.050</a> |
| M6X16 | 200 | <a href="#">07090.060.016</a> | M10X40 | 100 | <a href="#">07090.100.040</a> | M20X60 | 25  | <a href="#">07090.200.060</a> |
| M6X20 | 200 | <a href="#">07090.060.020</a> | M10X50 | 100 | <a href="#">07090.100.050</a> | M20X70 | 25  | <a href="#">07090.200.070</a> |
| M6X25 | 200 | <a href="#">07090.060.025</a> | M10X60 | 100 | <a href="#">07090.100.060</a> | M20X80 | 25  | <a href="#">07090.200.080</a> |
| M6X30 | 200 | <a href="#">07090.060.030</a> |        |     |                               |        |     |                               |
| M6X35 | 200 | <a href="#">07090.060.035</a> | M12X20 | 100 | <a href="#">07090.120.020</a> |        |     |                               |
| M6X40 | 200 | <a href="#">07090.060.040</a> | M12X25 | 100 | <a href="#">07090.120.025</a> |        |     |                               |
| M6X50 | 200 | <a href="#">07090.060.050</a> | M12X30 | 100 | <a href="#">07090.120.030</a> |        |     |                               |
|       |     |                               | M12X35 | 100 | <a href="#">07090.120.035</a> |        |     |                               |

**07105 Hexagon socket low head cap screw** D03A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 010.9/10.9    |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X8  | 200 | <a href="#">07105.040.008</a> | M8X12  | 200 | <a href="#">07105.080.012</a> | M12X45  | 100 | <a href="#">07105.120.045</a> |
| M4X10 | 200 | <a href="#">07105.040.010</a> | M8X16  | 200 | <a href="#">07105.080.016</a> | M12X50  | 50  | <a href="#">07105.120.050</a> |
| M4X12 | 200 | <a href="#">07105.040.012</a> | M8X20  | 200 | <a href="#">07105.080.020</a> | M12X60  | 50  | <a href="#">07105.120.060</a> |
| M4X16 | 200 | <a href="#">07105.040.016</a> | M8X25  | 200 | <a href="#">07105.080.025</a> |         |     |                               |
| M4X20 | 200 | <a href="#">07105.040.020</a> | M8X30  | 200 | <a href="#">07105.080.030</a> | M16X30  | 25  | <a href="#">07105.160.030</a> |
|       |     |                               | M8X35  | 200 | <a href="#">07105.080.035</a> | M16X40  | 25  | <a href="#">07105.160.040</a> |
| M5X10 | 200 | <a href="#">07105.050.010</a> | M8X40  | 200 | <a href="#">07105.080.040</a> | M16X45  | 25  | <a href="#">07105.160.045</a> |
| M5X12 | 200 | <a href="#">07105.050.012</a> | M8X50  | 200 | <a href="#">07105.080.050</a> | M16X50  | 25  | <a href="#">07105.160.050</a> |
| M5X16 | 200 | <a href="#">07105.050.016</a> |        |     |                               | M16X60  | 25  | <a href="#">07105.160.060</a> |
| M5X20 | 200 | <a href="#">07105.050.020</a> | M10X16 | 200 | <a href="#">07105.100.016</a> | M16X70  | 25  | <a href="#">07105.160.070</a> |
| M5X25 | 200 | <a href="#">07105.050.025</a> | M10X20 | 200 | <a href="#">07105.100.020</a> | M16X80  | 25  | <a href="#">07105.160.080</a> |
|       |     |                               | M10X25 | 200 | <a href="#">07105.100.025</a> |         |     |                               |
| M6X10 | 200 | <a href="#">07105.060.010</a> | M10X30 | 200 | <a href="#">07105.100.030</a> | M20X30  | 25  | <a href="#">07105.200.030</a> |
| M6X12 | 200 | <a href="#">07105.060.012</a> | M10X35 | 100 | <a href="#">07105.100.035</a> | M20X40  | 25  | <a href="#">07105.200.040</a> |
| M6X16 | 200 | <a href="#">07105.060.016</a> | M10X40 | 100 | <a href="#">07105.100.040</a> | M20X50  | 25  | <a href="#">07105.200.050</a> |
| M6X20 | 200 | <a href="#">07105.060.020</a> | M10X50 | 100 | <a href="#">07105.100.050</a> | M20X60  | 25  | <a href="#">07105.200.060</a> |
| M6X25 | 200 | <a href="#">07105.060.025</a> |        |     |                               | M20X70  | 25  | <a href="#">07105.200.070</a> |
| M6X30 | 200 | <a href="#">07105.060.030</a> | M12X20 | 100 | <a href="#">07105.120.020</a> | M20X80  | 25  | <a href="#">07105.200.080</a> |
| M6X35 | 200 | <a href="#">07105.060.035</a> | M12X25 | 100 | <a href="#">07105.120.025</a> | M20X90  | 25  | <a href="#">07105.200.090</a> |
| M6X40 | 200 | <a href="#">07105.060.040</a> | M12X30 | 100 | <a href="#">07105.120.030</a> | M20X100 | 25  | <a href="#">07105.200.100</a> |
|       |     |                               | M12X35 | 100 | <a href="#">07105.120.035</a> | M20X110 | 25  | <a href="#">07105.200.110</a> |
| M8X10 | 200 | <a href="#">07105.080.010</a> | M12X40 | 100 | <a href="#">07105.120.040</a> |         |     |                               |

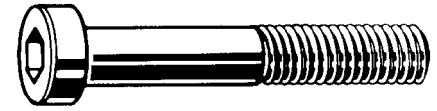
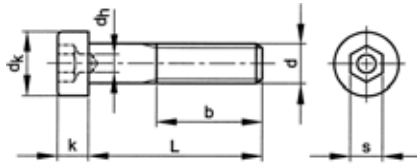
• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51040 Hexagon socket low head cap screw**
**Q05A**
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard


| d x L   | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|---------|------|-------------------------------|---------|-----|-------------------------------|-----------|----|-------------------------------|
| M3X5 *  | 1000 | <a href="#">51040.030.005</a> |         |     |                               | M10X45    | 50 | <a href="#">51040.100.045</a> |
| M3X8 *  | 1000 | <a href="#">51040.030.008</a> | M6X8 *  | 500 | <a href="#">51040.060.008</a> | M10X50    | 50 | <a href="#">51040.100.050</a> |
| M3X10 * | 1000 | <a href="#">51040.030.010</a> | M6X10   | 200 | <a href="#">51040.060.010</a> | M10X55 *  | 50 | <a href="#">51040.100.055</a> |
| M3X12 * | 1000 | <a href="#">51040.030.012</a> | M6X12   | 200 | <a href="#">51040.060.012</a> | M10X60    | 25 | <a href="#">51040.100.060</a> |
| M3X14 * | 1000 | <a href="#">51040.030.014</a> | M6X14 * | 200 | <a href="#">51040.060.014</a> | M10X70    | 25 | <a href="#">51040.100.070</a> |
| M3X16 * | 1000 | <a href="#">51040.030.016</a> | M6X16   | 200 | <a href="#">51040.060.016</a> | M10X80 *  | 50 | <a href="#">51040.100.080</a> |
| M3X18 * | 1000 | <a href="#">51040.030.018</a> | M6X18 * | 200 | <a href="#">51040.060.018</a> | M10X100 * | 50 | <a href="#">51040.100.100</a> |
| M3X25 * | 1000 | <a href="#">51040.030.025</a> | M6X20   | 200 | <a href="#">51040.060.020</a> |           |    |                               |
| M3X30 * | 1000 | <a href="#">51040.030.030</a> | M6X25   | 100 | <a href="#">51040.060.025</a> | M12X20    | 50 | <a href="#">51040.120.020</a> |
| M3X35 * | 500  | <a href="#">51040.030.035</a> | M6X30   | 100 | <a href="#">51040.060.030</a> | M12X25    | 50 | <a href="#">51040.120.025</a> |
| M3X40 * | 500  | <a href="#">51040.030.040</a> | M6X35   | 100 | <a href="#">51040.060.035</a> | M12X30    | 50 | <a href="#">51040.120.030</a> |
|         |      |                               | M6X40   | 100 | <a href="#">51040.060.040</a> | M12X35    | 50 | <a href="#">51040.120.035</a> |
| M4X6    | 200  | <a href="#">51040.040.006</a> | M6X45   | 100 | <a href="#">51040.060.045</a> | M12X40    | 25 | <a href="#">51040.120.040</a> |
| M4X8    | 200  | <a href="#">51040.040.008</a> | M6X50   | 100 | <a href="#">51040.060.050</a> | M12X45    | 25 | <a href="#">51040.120.045</a> |
| M4X10   | 200  | <a href="#">51040.040.010</a> | M6X55 * | 100 | <a href="#">51040.060.055</a> | M12X50    | 25 | <a href="#">51040.120.050</a> |
| M4X12   | 200  | <a href="#">51040.040.012</a> | M6X60 * | 100 | <a href="#">51040.060.060</a> | M12X55 *  | 50 | <a href="#">51040.120.055</a> |
| M4X14 * | 1000 | <a href="#">51040.040.014</a> | M6X70 * | 100 | <a href="#">51040.060.070</a> | M12X60    | 25 | <a href="#">51040.120.060</a> |
| M4X16   | 200  | <a href="#">51040.040.016</a> |         |     |                               | M12X70    | 25 | <a href="#">51040.120.070</a> |
| M4X20   | 200  | <a href="#">51040.040.020</a> | M8X12   | 100 | <a href="#">51040.080.012</a> | M12X80    | 25 | <a href="#">51040.120.080</a> |
| M4X25 * | 500  | <a href="#">51040.040.025</a> | M8X16   | 100 | <a href="#">51040.080.016</a> | M12X90 *  | 25 | <a href="#">51040.120.090</a> |
| M4X30   | 200  | <a href="#">51040.040.030</a> | M8X18 * | 200 | <a href="#">51040.080.018</a> | M12X100   | 25 | <a href="#">51040.120.100</a> |
| M4X35 * | 200  | <a href="#">51040.040.035</a> | M8X20   | 100 | <a href="#">51040.080.020</a> |           |    |                               |
| M4X40 * | 200  | <a href="#">51040.040.040</a> | M8X25   | 100 | <a href="#">51040.080.025</a> | M16X25 *  | 25 | <a href="#">51040.160.025</a> |
|         |      |                               | M8X30   | 100 | <a href="#">51040.080.030</a> | M16X30    | 10 | <a href="#">51040.160.030</a> |
| M5X6 *  | 500  | <a href="#">51040.050.006</a> | M8X35   | 100 | <a href="#">51040.080.035</a> | M16X35    | 10 | <a href="#">51040.160.035</a> |
| M5X8    | 200  | <a href="#">51040.050.008</a> | M8X40   | 100 | <a href="#">51040.080.040</a> | M16X40 *  | 25 | <a href="#">51040.160.040</a> |
| M5X10   | 200  | <a href="#">51040.050.010</a> | M8X45   | 50  | <a href="#">51040.080.045</a> | M16X45    | 10 | <a href="#">51040.160.045</a> |
| M5X12   | 200  | <a href="#">51040.050.012</a> | M8X50   | 50  | <a href="#">51040.080.050</a> | M16X50    | 10 | <a href="#">51040.160.050</a> |
| M5X14 * | 500  | <a href="#">51040.050.014</a> | M8X55 * | 100 | <a href="#">51040.080.055</a> | M16X55 *  | 25 | <a href="#">51040.160.055</a> |
| M5X16   | 200  | <a href="#">51040.050.016</a> | M8X60   | 50  | <a href="#">51040.080.060</a> | M16X60    | 10 | <a href="#">51040.160.060</a> |
| M5X18 * | 500  | <a href="#">51040.050.018</a> | M8X70 * | 50  | <a href="#">51040.080.070</a> | M16X80    | 5  | <a href="#">51040.160.080</a> |
| M5X20   | 200  | <a href="#">51040.050.020</a> | M8X80 * | 50  | <a href="#">51040.080.080</a> | M16X90 *  | 10 | <a href="#">51040.160.090</a> |
| M5X25   | 200  | <a href="#">51040.050.025</a> |         |     |                               | M16X100   | 5  | <a href="#">51040.160.100</a> |
| M5X30   | 200  | <a href="#">51040.050.030</a> | M10X16  | 100 | <a href="#">51040.100.016</a> |           |    |                               |
| M5X35 * | 200  | <a href="#">51040.050.035</a> | M10X20  | 100 | <a href="#">51040.100.020</a> | M20X50 *  | 25 | <a href="#">51040.200.050</a> |
| M5X40 * | 200  | <a href="#">51040.050.040</a> | M10X25  | 50  | <a href="#">51040.100.025</a> | M20X60    | 5  | <a href="#">51040.200.060</a> |
| M5X45 * | 200  | <a href="#">51040.050.045</a> | M10X30  | 50  | <a href="#">51040.100.030</a> |           |    |                               |
| M5X50   | 100  | <a href="#">51040.050.050</a> | M10X35  | 50  | <a href="#">51040.100.035</a> |           |    |                               |
| M5X60 * | 200  | <a href="#">51040.050.060</a> | M10X40  | 50  | <a href="#">51040.100.040</a> |           |    |                               |

## Hexagon socket low head cap screw with pilot recess for wrench key

DIN 6912



### Technical data

| d         | P    | b (min.): L≤125mm | b (min.): 125mm<L≤200mm | b (min.): L>200mm | dk  | dh  | k    | s  | Full thread L ≤ |
|-----------|------|-------------------|-------------------------|-------------------|-----|-----|------|----|-----------------|
| M3 (#DIN) | 0,5  | 12                | -                       | -                 | 5,5 | -   | 2    | 2  | 18              |
| M4        | 0,7  | 14                | -                       | -                 | 7   | 2   | 2,8  | 3  | 16              |
| M5        | 0,8  | 16                | -                       | -                 | 8,5 | 2,5 | 3,5  | 4  | 20              |
| M6        | 1    | 18                | -                       | -                 | 10  | 3   | 4    | 5  | 25              |
| M8        | 1,25 | 22                | -                       | -                 | 13  | 4   | 5    | 6  | 30              |
| M10       | 1,5  | 26                | 32                      | -                 | 16  | 5   | 6,5  | 8  | 35              |
| M12       | 1,75 | 30                | 36                      | -                 | 18  | 6   | 7,5  | 10 | 45              |
| M16       | 2    | 38                | 44                      | 57                | 24  | 8   | 10   | 14 | 50              |
| M20       | 2,5  | 46                | 52                      | 65                | 30  | 10  | 12   | 17 | 60              |
| M24       | 3    | 54                | 60                      | 73                | 36  | 12  | 14   | 19 | 80              |
| M36       | 4    | 78                | 84                      | 97                | 54  | 18  | 21,5 | 27 | 120             |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

### Article groups

| Thread | Driving features | Material  | Class    | Packaging | Code  | Page |
|--------|------------------|-----------|----------|-----------|-------|------|
| M      | hexagon socket   | St        | 08.8/8.8 | Standard  | 07030 | 2-28 |
| M      | hexagon socket   | St.St. A2 |          | Standard  | 51042 | 2-29 |
| M      | hexagon socket   | St.St. A4 |          | Standard  | 55042 | 2-29 |

### 07030 Hexagon socket low head cap screw with pilot recess for wrench key

D03A

|           |               |
|-----------|---------------|
| Thread    | Metric thread |
| Material  | Steel         |
| Class     | 08.8/8.8      |
| Packaging | Standard      |



| d x L | Art.number                        | d x L   | Art.number                        | d x L   | Art.number                       |
|-------|-----------------------------------|---------|-----------------------------------|---------|----------------------------------|
| M4X8  | 200 <a href="#">07030.040.008</a> | M8X25   | 200 <a href="#">07030.080.025</a> | M16X30  | 50 <a href="#">07030.160.030</a> |
| M4X10 | 200 <a href="#">07030.040.010</a> | M8X30   | 200 <a href="#">07030.080.030</a> | M16X35  | 50 <a href="#">07030.160.035</a> |
| M4X12 | 200 <a href="#">07030.040.012</a> | M8X35   | 200 <a href="#">07030.080.035</a> | M16X40  | 50 <a href="#">07030.160.040</a> |
| M4X16 | 200 <a href="#">07030.040.016</a> | M8X40   | 200 <a href="#">07030.080.040</a> | M16X45  | 50 <a href="#">07030.160.045</a> |
| M4X20 | 200 <a href="#">07030.040.020</a> | M8X45   | 200 <a href="#">07030.080.045</a> | M16X50  | 50 <a href="#">07030.160.050</a> |
| M4X25 | 200 <a href="#">07030.040.025</a> | M8X50   | 200 <a href="#">07030.080.050</a> | M16X60  | 50 <a href="#">07030.160.060</a> |
|       |                                   | M8X60   | 200 <a href="#">07030.080.060</a> | M16X70  | 50 <a href="#">07030.160.070</a> |
| M5X10 | 200 <a href="#">07030.050.010</a> |         |                                   | M16X80  | 50 <a href="#">07030.160.080</a> |
| M5X12 | 200 <a href="#">07030.050.012</a> | M10X20  | 200 <a href="#">07030.100.020</a> | M16X90  | 25 <a href="#">07030.160.090</a> |
| M5X16 | 200 <a href="#">07030.050.016</a> | M10X22  | 200 <a href="#">07030.100.022</a> | M16X100 | 25 <a href="#">07030.160.100</a> |
| M5X20 | 200 <a href="#">07030.050.020</a> | M10X25  | 200 <a href="#">07030.100.025</a> | M16X120 | 25 <a href="#">07030.160.120</a> |
| M5X25 | 200 <a href="#">07030.050.025</a> | M10X30  | 200 <a href="#">07030.100.030</a> |         |                                  |
| M5X30 | 200 <a href="#">07030.050.030</a> | M10X35  | 100 <a href="#">07030.100.035</a> | M20X40  | 25 <a href="#">07030.200.040</a> |
| M5X35 | 200 <a href="#">07030.050.035</a> | M10X40  | 100 <a href="#">07030.100.040</a> | M20X50  | 25 <a href="#">07030.200.050</a> |
| M5X40 | 200 <a href="#">07030.050.040</a> | M10X50  | 100 <a href="#">07030.100.050</a> | M20X60  | 25 <a href="#">07030.200.060</a> |
|       |                                   | M10X60  | 100 <a href="#">07030.100.060</a> | M20X70  | 25 <a href="#">07030.200.070</a> |
| M6X10 | 200 <a href="#">07030.060.010</a> | M10X70  | 100 <a href="#">07030.100.070</a> | M20X80  | 25 <a href="#">07030.200.080</a> |
| M6X12 | 200 <a href="#">07030.060.012</a> | M10X80  | 100 <a href="#">07030.100.080</a> | M20X90  | 25 <a href="#">07030.200.090</a> |
| M6X16 | 200 <a href="#">07030.060.016</a> | M10X100 | 100 <a href="#">07030.100.100</a> | M20X100 | 25 <a href="#">07030.200.100</a> |
| M6X20 | 200 <a href="#">07030.060.020</a> |         |                                   | M20X120 | 25 <a href="#">07030.200.120</a> |
| M6X25 | 200 <a href="#">07030.060.025</a> | M12X20  | 100 <a href="#">07030.120.020</a> | M20X140 | 25 <a href="#">07030.200.140</a> |
| M6X30 | 200 <a href="#">07030.060.030</a> | M12X25  | 100 <a href="#">07030.120.025</a> |         |                                  |
| M6X35 | 200 <a href="#">07030.060.035</a> | M12X30  | 100 <a href="#">07030.120.030</a> | M24X50  | 10 <a href="#">07030.240.050</a> |
| M6X40 | 200 <a href="#">07030.060.040</a> | M12X35  | 100 <a href="#">07030.120.035</a> | M24X60  | 10 <a href="#">07030.240.060</a> |
| M6X45 | 200 <a href="#">07030.060.045</a> | M12X40  | 100 <a href="#">07030.120.040</a> | M24X70  | 10 <a href="#">07030.240.070</a> |
| M6X50 | 200 <a href="#">07030.060.050</a> | M12X45  | 100 <a href="#">07030.120.045</a> | M24X80  | 10 <a href="#">07030.240.080</a> |
| M6X60 | 200 <a href="#">07030.060.060</a> | M12X50  | 100 <a href="#">07030.120.050</a> | M24X90  | 10 <a href="#">07030.240.090</a> |
|       |                                   | M12X60  | 100 <a href="#">07030.120.060</a> | M24X100 | 10 <a href="#">07030.240.100</a> |
| M8X12 | 200 <a href="#">07030.080.012</a> | M12X80  | 50 <a href="#">07030.120.080</a>  |         |                                  |
| M8X16 | 200 <a href="#">07030.080.016</a> | M12X90  | 50 <a href="#">07030.120.090</a>  |         |                                  |
| M8X20 | 200 <a href="#">07030.080.020</a> | M12X100 | 50 <a href="#">07030.120.100</a>  |         |                                  |



**07030 Hexagon socket low head cap screw with pilot recess for wrench key**

| d x L   | ☒  | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|---------|----|-------------------------------|-------|---|------------|-------|---|------------|
| M24X120 | 10 | <a href="#">07030.240.120</a> |       |   |            |       |   |            |

**51042 Hexagon socket low head cap screw with pilot recess for wrench key**
**Q05A**

Thread Metric thread  
 Material Stainless steel A2  
 Packaging Standard


**2**

| d x L   | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒  | Art.number                    |
|---------|------|-------------------------------|---------|-----|-------------------------------|----------|----|-------------------------------|
| M3X30 * | 1000 | <a href="#">51042.030.030</a> | M6X70   | 25  | <a href="#">51042.060.070</a> | M12X40   | 10 | <a href="#">51042.120.040</a> |
| M4X6 *  | 1000 | <a href="#">51042.040.006</a> | M6X80   | 25  | <a href="#">51042.060.080</a> | M12X45   | 10 | <a href="#">51042.120.045</a> |
| M4X8    | 100  | <a href="#">51042.040.008</a> |         |     |                               | M12X50   | 10 | <a href="#">51042.120.050</a> |
| M4X10   | 100  | <a href="#">51042.040.010</a> | M8X10   | 50  | <a href="#">51042.080.010</a> | M12X55   | 10 | <a href="#">51042.120.055</a> |
| M4X12   | 100  | <a href="#">51042.040.012</a> | M8X12   | 50  | <a href="#">51042.080.012</a> | M12X60   | 10 | <a href="#">51042.120.060</a> |
| M4X14 * | 1000 | <a href="#">51042.040.014</a> | M8X16   | 50  | <a href="#">51042.080.016</a> | M12X70   | 5  | <a href="#">51042.120.070</a> |
| M4X16   | 100  | <a href="#">51042.040.016</a> | M8X20   | 50  | <a href="#">51042.080.020</a> | M12X80   | 5  | <a href="#">51042.120.080</a> |
| M4X20   | 100  | <a href="#">51042.040.020</a> | M8X25   | 50  | <a href="#">51042.080.025</a> | M12X90   | 5  | <a href="#">51042.120.090</a> |
| M4X25   | 100  | <a href="#">51042.040.025</a> | M8X30   | 50  | <a href="#">51042.080.030</a> | M12X100  | 5  | <a href="#">51042.120.100</a> |
| M4X30   | 100  | <a href="#">51042.040.030</a> | M8X35   | 50  | <a href="#">51042.080.035</a> |          |    |                               |
| M4X35   | 100  | <a href="#">51042.040.035</a> | M8X40   | 50  | <a href="#">51042.080.040</a> | M16X25   | 10 | <a href="#">51042.160.025</a> |
| M4X40   | 100  | <a href="#">51042.040.040</a> | M8X45 * | 100 | <a href="#">51042.080.045</a> | M16X30   | 10 | <a href="#">51042.160.030</a> |
|         |      |                               | M8X50   | 25  | <a href="#">51042.080.050</a> | M16X35   | 5  | <a href="#">51042.160.035</a> |
| M5X8    | 100  | <a href="#">51042.050.008</a> | M8X55   | 25  | <a href="#">51042.080.055</a> | M16X40   | 5  | <a href="#">51042.160.040</a> |
| M5X10   | 100  | <a href="#">51042.050.010</a> | M8X60   | 25  | <a href="#">51042.080.060</a> | M16X45   | 5  | <a href="#">51042.160.045</a> |
| M5X12   | 100  | <a href="#">51042.050.012</a> | M8X65 * | 100 | <a href="#">51042.080.065</a> | M16X50   | 5  | <a href="#">51042.160.050</a> |
| M5X16   | 100  | <a href="#">51042.050.016</a> | M8X70   | 10  | <a href="#">51042.080.070</a> | M16X55   | 5  | <a href="#">51042.160.055</a> |
| M5X20   | 100  | <a href="#">51042.050.020</a> | M8X80   | 10  | <a href="#">51042.080.080</a> | M16X60   | 5  | <a href="#">51042.160.060</a> |
| M5X25   | 100  | <a href="#">51042.050.025</a> | M8X90 * | 50  | <a href="#">51042.080.090</a> | M16X70   | 5  | <a href="#">51042.160.070</a> |
| M5X30   | 100  | <a href="#">51042.050.030</a> | M8X100  | 10  | <a href="#">51042.080.100</a> | M16X80   | 3  | <a href="#">51042.160.080</a> |
| M5X35   | 50   | <a href="#">51042.050.035</a> |         |     |                               | M16X90   | 3  | <a href="#">51042.160.090</a> |
| M5X40   | 50   | <a href="#">51042.050.040</a> | M10X16  | 50  | <a href="#">51042.100.016</a> | M16X100  | 3  | <a href="#">51042.160.100</a> |
| M5X45   | 50   | <a href="#">51042.050.045</a> | M10X20  | 50  | <a href="#">51042.100.020</a> |          |    |                               |
| M5X50   | 50   | <a href="#">51042.050.050</a> | M10X25  | 25  | <a href="#">51042.100.025</a> | M20X35   | 3  | <a href="#">51042.200.035</a> |
|         |      |                               | M10X30  | 25  | <a href="#">51042.100.030</a> | M20X40   | 3  | <a href="#">51042.200.040</a> |
| M6X8    | 100  | <a href="#">51042.060.008</a> | M10X35  | 25  | <a href="#">51042.100.035</a> | M20X45   | 3  | <a href="#">51042.200.045</a> |
| M6X10   | 100  | <a href="#">51042.060.010</a> | M10X40  | 25  | <a href="#">51042.100.040</a> | M20X55 * | 25 | <a href="#">51042.200.055</a> |
| M6X12   | 100  | <a href="#">51042.060.012</a> | M10X50  | 25  | <a href="#">51042.100.050</a> | M20X60   | 3  | <a href="#">51042.200.060</a> |
| M6X14 * | 200  | <a href="#">51042.060.014</a> | M10X55  | 25  | <a href="#">51042.100.055</a> | M20X70   | 3  | <a href="#">51042.200.070</a> |
| M6X16   | 100  | <a href="#">51042.060.016</a> | M10X60  | 10  | <a href="#">51042.100.060</a> | M20X80   | 3  | <a href="#">51042.200.080</a> |
| M6X18 * | 200  | <a href="#">51042.060.018</a> | M10X70  | 10  | <a href="#">51042.100.070</a> | M20X90   | 3  | <a href="#">51042.200.090</a> |
| M6X20   | 100  | <a href="#">51042.060.020</a> | M10X80  | 10  | <a href="#">51042.100.080</a> | M20X100  | 3  | <a href="#">51042.200.100</a> |
| M6X25   | 50   | <a href="#">51042.060.025</a> | M10X90  | 10  | <a href="#">51042.100.090</a> |          |    |                               |
| M6X30   | 50   | <a href="#">51042.060.030</a> | M10X100 | 10  | <a href="#">51042.100.100</a> | M24X50   | 3  | <a href="#">51042.240.050</a> |
| M6X35   | 50   | <a href="#">51042.060.035</a> |         |     |                               | M24X55   | 3  | <a href="#">51042.240.055</a> |
| M6X40   | 50   | <a href="#">51042.060.040</a> | M12X16  | 25  | <a href="#">51042.120.016</a> | M24X60   | 3  | <a href="#">51042.240.060</a> |
| M6X45   | 50   | <a href="#">51042.060.045</a> | M12X20  | 25  | <a href="#">51042.120.020</a> | M24X70   | 3  | <a href="#">51042.240.070</a> |
| M6X50   | 50   | <a href="#">51042.060.050</a> | M12X25  | 25  | <a href="#">51042.120.025</a> |          |    |                               |
| M6X55   | 50   | <a href="#">51042.060.055</a> | M12X30  | 25  | <a href="#">51042.120.030</a> |          |    |                               |
| M6X60   | 25   | <a href="#">51042.060.060</a> | M12X35  | 25  | <a href="#">51042.120.035</a> |          |    |                               |

**55042 Hexagon socket low head cap screw with pilot recess for wrench key**
**Q45A**

Thread Metric thread  
 Material Stainless steel A4  
 Packaging Standard



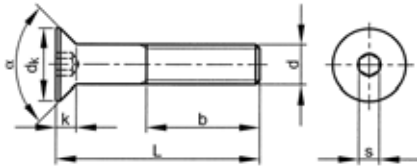
| d x L   | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|------|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M4X6 *  | 1000 | <a href="#">55042.040.006</a> | M6X8 *   | 500 | <a href="#">55042.060.008</a> | M8X20    | 50  | <a href="#">55042.080.020</a> |
| M4X10   | 100  | <a href="#">55042.040.010</a> | M6X12    | 100 | <a href="#">55042.060.012</a> | M8X25    | 50  | <a href="#">55042.080.025</a> |
| M4X12   | 100  | <a href="#">55042.040.012</a> | M6X14 *  | 200 | <a href="#">55042.060.014</a> | M8X30    | 50  | <a href="#">55042.080.030</a> |
| M4X16   | 100  | <a href="#">55042.040.016</a> | M6X16    | 100 | <a href="#">55042.060.016</a> | M8X35    | 50  | <a href="#">55042.080.035</a> |
| M4X20   | 100  | <a href="#">55042.040.020</a> | M6X18 *  | 200 | <a href="#">55042.060.018</a> | M8X40    | 50  | <a href="#">55042.080.040</a> |
| M4X25   | 100  | <a href="#">55042.040.025</a> | M6X20    | 100 | <a href="#">55042.060.020</a> | M8X45 *  | 100 | <a href="#">55042.080.045</a> |
| M4X30   | 100  | <a href="#">55042.040.030</a> | M6X25    | 50  | <a href="#">55042.060.025</a> | M8X50    | 25  | <a href="#">55042.080.050</a> |
| M4X35 * | 200  | <a href="#">55042.040.035</a> | M6X30    | 50  | <a href="#">55042.060.030</a> | M8X55 *  | 100 | <a href="#">55042.080.055</a> |
| M4X40 * | 200  | <a href="#">55042.040.040</a> | M6X35    | 50  | <a href="#">55042.060.035</a> | M8X60    | 25  | <a href="#">55042.080.060</a> |
| M4X50 * | 200  | <a href="#">55042.040.050</a> | M6X40    | 50  | <a href="#">55042.060.040</a> | M8X70 *  | 50  | <a href="#">55042.080.070</a> |
|         |      |                               | M6X45 *  | 100 | <a href="#">55042.060.045</a> | M8X80 *  | 50  | <a href="#">55042.080.080</a> |
| M5X8 *  | 500  | <a href="#">55042.050.008</a> | M6X50    | 50  | <a href="#">55042.060.050</a> | M8X90 *  | 50  | <a href="#">55042.080.090</a> |
| M5X10   | 100  | <a href="#">55042.050.010</a> | M6X55 *  | 100 | <a href="#">55042.060.055</a> | M8X120 * | 50  | <a href="#">55042.080.120</a> |
| M5X12   | 100  | <a href="#">55042.050.012</a> | M6X60 *  | 100 | <a href="#">55042.060.060</a> |          |     |                               |
| M5X16   | 100  | <a href="#">55042.050.016</a> | M6X70 *  | 100 | <a href="#">55042.060.070</a> | M10X16 * | 100 | <a href="#">55042.100.016</a> |
| M5X20   | 100  | <a href="#">55042.050.020</a> | M6X80 *  | 100 | <a href="#">55042.060.080</a> | M10X20   | 50  | <a href="#">55042.100.020</a> |
| M5X25   | 100  | <a href="#">55042.050.025</a> | M6X120 * | 100 | <a href="#">55042.060.120</a> | M10X25   | 25  | <a href="#">55042.100.025</a> |
| M5X30   | 100  | <a href="#">55042.050.030</a> |          |     |                               | M10X30   | 25  | <a href="#">55042.100.030</a> |
| M5X35   | 50   | <a href="#">55042.050.035</a> | M8X10 *  | 500 | <a href="#">55042.080.010</a> | M10X35   | 50  | <a href="#">55042.100.035</a> |
| M5X40   | 100  | <a href="#">55042.050.040</a> | M8X12 *  | 500 | <a href="#">55042.080.012</a> | M10X40   | 25  | <a href="#">55042.100.040</a> |
| M5X45 * | 200  | <a href="#">55042.050.045</a> | M8X16    | 50  | <a href="#">55042.080.016</a> | M10X45 * | 100 | <a href="#">55042.100.045</a> |
| M5X50 * | 200  | <a href="#">55042.050.050</a> |          |     |                               | M10X50   | 25  | <a href="#">55042.100.050</a> |

**55042 Hexagon socket low head cap screw with pilot recess for wrench key**

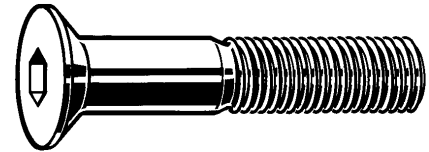
**2**

| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M10X55 *  | 50 | <a href="#">55042.100.055</a> | M12X50    | 10 | <a href="#">55042.120.050</a> | M16X90    | 5  | <a href="#">55042.160.090</a> |
| M10X60    | 10 | <a href="#">55042.100.060</a> | M12X55 *  | 50 | <a href="#">55042.120.055</a> | M16X100 * | 25 | <a href="#">55042.160.100</a> |
| M10X70 *  | 50 | <a href="#">55042.100.070</a> | M12X60    | 10 | <a href="#">55042.120.060</a> |           |    |                               |
| M10X80 *  | 50 | <a href="#">55042.100.080</a> | M12X70 *  | 50 | <a href="#">55042.120.070</a> | M20X35 *  | 25 | <a href="#">55042.200.035</a> |
| M10X90 *  | 50 | <a href="#">55042.100.090</a> | M12X80 *  | 25 | <a href="#">55042.120.080</a> | M20X40    | 3  | <a href="#">55042.200.040</a> |
| M10X100 * | 50 | <a href="#">55042.100.100</a> | M12X100 * | 25 | <a href="#">55042.120.100</a> | M20X50    | 3  | <a href="#">55042.200.050</a> |
|           |    |                               |           |    |                               | M20X60    | 3  | <a href="#">55042.200.060</a> |
| M12X16 *  | 50 | <a href="#">55042.120.016</a> | M16X25 *  | 25 | <a href="#">55042.160.025</a> | M20X70    | 3  | <a href="#">55042.200.070</a> |
| M12X20    | 25 | <a href="#">55042.120.020</a> | M16X30    | 10 | <a href="#">55042.160.030</a> | M20X80    | 3  | <a href="#">55042.200.080</a> |
| M12X25    | 25 | <a href="#">55042.120.025</a> | M16X35    | 5  | <a href="#">55042.160.035</a> | M20X90    | 3  | <a href="#">55042.200.090</a> |
| M12X30    | 25 | <a href="#">55042.120.030</a> | M16X50    | 5  | <a href="#">55042.160.050</a> | M20X100   | 3  | <a href="#">55042.200.100</a> |
| M12X35    | 25 | <a href="#">55042.120.035</a> | M16X55 *  | 25 | <a href="#">55042.160.055</a> |           |    |                               |
| M12X40    | 10 | <a href="#">55042.120.040</a> | M16X70    | 10 | <a href="#">55042.160.070</a> |           |    |                               |
| M12X45 *  | 50 | <a href="#">55042.120.045</a> | M16X80    | 3  | <a href="#">55042.160.080</a> |           |    |                               |

## Hexagon socket countersunk head screw



ISO 10642  
DIN 7991  
NEN 2359  
BS 4168-8



2

### Technical data

| d         | P    | b  | dk    | k (max.) | α   | s   | Full thread L ≤ |
|-----------|------|----|-------|----------|-----|-----|-----------------|
| M3        | 0,5  | 18 | 6,72  | 1,86     | 90° | 2   | 25              |
| M4        | 0,7  | 20 | 8,96  | 2,48     | 90° | 2,5 | 25              |
| M5        | 0,8  | 22 | 11,2  | 3,2      | 90° | 3   | 30              |
| M6        | 1    | 24 | 13,44 | 3,72     | 90° | 4   | 35              |
| M8        | 1,25 | 28 | 17,92 | 4,96     | 90° | 5   | 45              |
| M10       | 1,5  | 32 | 22,4  | 6,2      | 90° | 6   | 50              |
| M12       | 1,75 | 36 | 26,88 | 7,4      | 90° | 8   | 60              |
| M14       | 2    | 40 | 30,8  | 8,4      | 90° | 10  | 65              |
| M16       | 2    | 44 | 33,6  | 8,8      | 90° | 10  | 70              |
| M18 (DIN) | 2,5  | 42 | 33    | 8        | 90° | 12  | 60              |
| M20       | 2,5  | 52 | 40,32 | 10,16    | 90° | 12  | 90              |
| M24 (DIN) | 3    | 54 | 39    | 14       | 60° | 14  | 90              |

- All dimensions are guide values and may deviate dependent on the manufacturer.
- Due to the unfavourable geometry of the head, these fasteners have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability need to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by marking the steel grade only and leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the latter indications can occur side by side for some time.

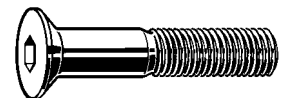
### Article groups

| Thread | Driving features | Material      | Class      | Surface treatment | Packaging | Code  | Page |
|--------|------------------|---------------|------------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St            | 08.8/8.8   | Zipl              | Standard  | 07470 | 2-31 |
| M      | hexagon socket   | St            | 010.9/10.9 |                   | Standard  | 07400 | 2-32 |
| M      | hexagon socket   | St            | 010.9/10.9 | FLZNNC-NC6        | Standard  | 07407 | 2-33 |
| M      | hexagon socket   | St.St. A2     |            |                   | Standard  | 51060 | 2-33 |
| M      | hexagon socket   | St.St. A4     |            |                   | Standard  | 55060 | 2-34 |
| M      | hexagon socket   | Al Sopral P40 |            |                   | Standard  | 45008 | 2-35 |
| M      | hexagon socket   | Al Sopral P60 |            |                   | Standard  | 45208 | 2-35 |

#### 07470 Hexagon socket countersunk head screw

D02A

**Thread** Metric thread  
**Material** Steel  
**Class** 08.8/8.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



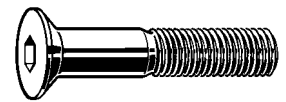
| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">07470.030.006</a> |       |     |                               | M6X45  | 200 | <a href="#">07470.060.045</a> |
| M3X8  | 200 | <a href="#">07470.030.008</a> | M5X8  | 200 | <a href="#">07470.050.008</a> | M6X50  | 200 | <a href="#">07470.060.050</a> |
| M3X10 | 200 | <a href="#">07470.030.010</a> | M5X10 | 200 | <a href="#">07470.050.010</a> | M6X60  | 200 | <a href="#">07470.060.060</a> |
| M3X12 | 200 | <a href="#">07470.030.012</a> | M5X12 | 200 | <a href="#">07470.050.012</a> | M6X70  | 200 | <a href="#">07470.060.070</a> |
| M3X16 | 200 | <a href="#">07470.030.016</a> | M5X16 | 200 | <a href="#">07470.050.016</a> | M6X80  | 100 | <a href="#">07470.060.080</a> |
| M3X20 | 200 | <a href="#">07470.030.020</a> | M5X20 | 200 | <a href="#">07470.050.020</a> |        |     |                               |
| M3X25 | 200 | <a href="#">07470.030.025</a> | M5X25 | 200 | <a href="#">07470.050.025</a> | M8X10  | 200 | <a href="#">07470.080.010</a> |
| M3X30 | 200 | <a href="#">07470.030.030</a> | M5X30 | 200 | <a href="#">07470.050.030</a> | M8X12  | 200 | <a href="#">07470.080.012</a> |
| M3X40 | 200 | <a href="#">07470.030.040</a> | M5X35 | 200 | <a href="#">07470.050.035</a> | M8X16  | 200 | <a href="#">07470.080.016</a> |
| M3X50 | 200 | <a href="#">07470.030.050</a> | M5X40 | 200 | <a href="#">07470.050.040</a> | M8X20  | 200 | <a href="#">07470.080.020</a> |
|       |     |                               | M5X45 | 200 | <a href="#">07470.050.045</a> | M8X25  | 200 | <a href="#">07470.080.025</a> |
| M4X6  | 200 | <a href="#">07470.040.006</a> | M5X50 | 200 | <a href="#">07470.050.050</a> | M8X30  | 200 | <a href="#">07470.080.030</a> |
| M4X8  | 200 | <a href="#">07470.040.008</a> | M5X60 | 200 | <a href="#">07470.050.060</a> | M8X35  | 200 | <a href="#">07470.080.035</a> |
| M4X10 | 200 | <a href="#">07470.040.010</a> | M5X70 | 200 | <a href="#">07470.050.070</a> | M8X40  | 200 | <a href="#">07470.080.040</a> |
| M4X12 | 200 | <a href="#">07470.040.012</a> |       |     |                               | M8X45  | 200 | <a href="#">07470.080.045</a> |
| M4X16 | 200 | <a href="#">07470.040.016</a> | M6X10 | 200 | <a href="#">07470.060.010</a> | M8X50  | 200 | <a href="#">07470.080.050</a> |
| M4X20 | 200 | <a href="#">07470.040.020</a> | M6X12 | 200 | <a href="#">07470.060.012</a> | M8X55  | 200 | <a href="#">07470.080.055</a> |
| M4X25 | 200 | <a href="#">07470.040.025</a> | M6X16 | 200 | <a href="#">07470.060.016</a> | M8X60  | 200 | <a href="#">07470.080.060</a> |
| M4X30 | 200 | <a href="#">07470.040.030</a> | M6X20 | 200 | <a href="#">07470.060.020</a> | M8X65  | 200 | <a href="#">07470.080.065</a> |
| M4X35 | 200 | <a href="#">07470.040.035</a> | M6X25 | 200 | <a href="#">07470.060.025</a> | M8X70  | 200 | <a href="#">07470.080.070</a> |
| M4X40 | 200 | <a href="#">07470.040.040</a> | M6X30 | 200 | <a href="#">07470.060.030</a> | M8X80  | 200 | <a href="#">07470.080.080</a> |
| M4X50 | 200 | <a href="#">07470.040.050</a> | M6X35 | 200 | <a href="#">07470.060.035</a> |        |     |                               |
| M4X60 | 200 | <a href="#">07470.040.060</a> | M6X40 | 200 | <a href="#">07470.060.040</a> | M10X16 | 200 | <a href="#">07470.100.016</a> |

**07470 Hexagon socket countersunk head screw**

| d x L   | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| M10X20  | 200 | <a href="#">07470.100.020</a> | M12X20 | 100 | <a href="#">07470.120.020</a> | M16X45  | 50 | <a href="#">07470.160.045</a> |
| M10X25  | 200 | <a href="#">07470.100.025</a> | M12X25 | 100 | <a href="#">07470.120.025</a> | M16X50  | 50 | <a href="#">07470.160.050</a> |
| M10X30  | 200 | <a href="#">07470.100.030</a> | M12X30 | 100 | <a href="#">07470.120.030</a> | M16X55  | 50 | <a href="#">07470.160.055</a> |
| M10X35  | 100 | <a href="#">07470.100.035</a> | M12X35 | 100 | <a href="#">07470.120.035</a> | M16X60  | 50 | <a href="#">07470.160.060</a> |
| M10X40  | 100 | <a href="#">07470.100.040</a> | M12X40 | 100 | <a href="#">07470.120.040</a> | M16X70  | 25 | <a href="#">07470.160.070</a> |
| M10X45  | 100 | <a href="#">07470.100.045</a> | M12X45 | 100 | <a href="#">07470.120.045</a> | M16X80  | 25 | <a href="#">07470.160.080</a> |
| M10X50  | 100 | <a href="#">07470.100.050</a> | M12X50 | 100 | <a href="#">07470.120.050</a> |         |    |                               |
| M10X55  | 100 | <a href="#">07470.100.055</a> | M12X55 | 100 | <a href="#">07470.120.055</a> | M20X40  | 25 | <a href="#">07470.200.040</a> |
| M10X60  | 100 | <a href="#">07470.100.060</a> | M12X60 | 100 | <a href="#">07470.120.060</a> | M20X50  | 25 | <a href="#">07470.200.050</a> |
| M10X70  | 100 | <a href="#">07470.100.070</a> | M12X70 | 50  | <a href="#">07470.120.070</a> | M20X60  | 25 | <a href="#">07470.200.060</a> |
| M10X80  | 100 | <a href="#">07470.100.080</a> | M12X80 | 50  | <a href="#">07470.120.080</a> | M20X70  | 25 | <a href="#">07470.200.070</a> |
| M10X90  | 100 | <a href="#">07470.100.090</a> |        |     |                               | M20X80  | 25 | <a href="#">07470.200.080</a> |
| M10X100 | 50  | <a href="#">07470.100.100</a> | M16X30 | 50  | <a href="#">07470.160.030</a> | M20X100 | 25 | <a href="#">07470.200.100</a> |
| M10X120 | 50  | <a href="#">07470.100.120</a> | M16X35 | 50  | <a href="#">07470.160.035</a> |         |    |                               |
|         |     |                               | M16X40 | 50  | <a href="#">07470.160.040</a> |         |    |                               |

**07400 Hexagon socket countersunk head screw**
**D01A**

**Thread** Metric thread  
**Material** Steel  
**Class** 010.9/10.9  
**Packaging** Standard  
**ISO** ≈10642  
**DIN** ≈7991  
**NEN** ≈2359  
**BS** ≈4168-8



| d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|-------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M3X5  | 200 | <a href="#">07400.030.005</a> | M6X100  | 200 | <a href="#">07400.060.100</a> | M14X50  | 25 | <a href="#">07400.140.050</a> |
| M3X6  | 200 | <a href="#">07400.030.006</a> |         |     |                               | M14X60  | 25 | <a href="#">07400.140.060</a> |
| M3X8  | 200 | <a href="#">07400.030.008</a> | M8X10   | 200 | <a href="#">07400.080.010</a> | M14X70  | 25 | <a href="#">07400.140.070</a> |
| M3X10 | 200 | <a href="#">07400.030.010</a> | M8X12   | 200 | <a href="#">07400.080.012</a> | M14X80  | 25 | <a href="#">07400.140.080</a> |
| M3X12 | 200 | <a href="#">07400.030.012</a> | M8X16   | 200 | <a href="#">07400.080.016</a> | M14X90  | 25 | <a href="#">07400.140.090</a> |
| M3X16 | 200 | <a href="#">07400.030.016</a> | M8X20   | 200 | <a href="#">07400.080.020</a> | M14X100 | 25 | <a href="#">07400.140.100</a> |
| M3X20 | 200 | <a href="#">07400.030.020</a> | M8X22   | 200 | <a href="#">07400.080.022</a> |         |    |                               |
| M3X25 | 200 | <a href="#">07400.030.025</a> | M8X25   | 200 | <a href="#">07400.080.025</a> | M16X20  | 50 | <a href="#">07400.160.020</a> |
| M3X30 | 200 | <a href="#">07400.030.030</a> | M8X30   | 200 | <a href="#">07400.080.030</a> | M16X25  | 50 | <a href="#">07400.160.025</a> |
| M3X40 | 200 | <a href="#">07400.030.040</a> | M8X35   | 200 | <a href="#">07400.080.035</a> | M16X30  | 50 | <a href="#">07400.160.030</a> |
| M3X50 | 200 | <a href="#">07400.030.050</a> | M8X40   | 200 | <a href="#">07400.080.040</a> | M16X35  | 50 | <a href="#">07400.160.035</a> |
|       |     |                               | M8X45   | 200 | <a href="#">07400.080.045</a> | M16X40  | 50 | <a href="#">07400.160.040</a> |
| M4X6  | 200 | <a href="#">07400.040.006</a> | M8X50   | 200 | <a href="#">07400.080.050</a> | M16X45  | 50 | <a href="#">07400.160.045</a> |
| M4X8  | 200 | <a href="#">07400.040.008</a> | M8X55   | 200 | <a href="#">07400.080.055</a> | M16X50  | 50 | <a href="#">07400.160.050</a> |
| M4X10 | 200 | <a href="#">07400.040.010</a> | M8X60   | 100 | <a href="#">07400.080.060</a> | M16X55  | 50 | <a href="#">07400.160.055</a> |
| M4X12 | 200 | <a href="#">07400.040.012</a> | M8X70   | 100 | <a href="#">07400.080.070</a> | M16X60  | 50 | <a href="#">07400.160.060</a> |
| M4X14 | 200 | <a href="#">07400.040.014</a> | M8X80   | 100 | <a href="#">07400.080.080</a> | M16X70  | 25 | <a href="#">07400.160.070</a> |
| M4X16 | 200 | <a href="#">07400.040.016</a> | M8X90   | 100 | <a href="#">07400.080.090</a> | M16X80  | 25 | <a href="#">07400.160.080</a> |
| M4X20 | 200 | <a href="#">07400.040.020</a> | M8X100  | 100 | <a href="#">07400.080.100</a> | M16X90  | 25 | <a href="#">07400.160.090</a> |
| M4X25 | 200 | <a href="#">07400.040.025</a> |         |     |                               | M16X100 | 25 | <a href="#">07400.160.100</a> |
| M4X30 | 200 | <a href="#">07400.040.030</a> | M10X16  | 200 | <a href="#">07400.100.016</a> | M16X110 | 25 | <a href="#">07400.160.110</a> |
| M4X35 | 200 | <a href="#">07400.040.035</a> | M10X20  | 200 | <a href="#">07400.100.020</a> | M16X120 | 25 | <a href="#">07400.160.120</a> |
| M4X40 | 200 | <a href="#">07400.040.040</a> | M10X25  | 200 | <a href="#">07400.100.025</a> | M16X130 | 25 | <a href="#">07400.160.130</a> |
| M4X50 | 200 | <a href="#">07400.040.050</a> | M10X30  | 200 | <a href="#">07400.100.030</a> | M16X140 | 25 | <a href="#">07400.160.140</a> |
| M4X60 | 200 | <a href="#">07400.040.060</a> | M10X35  | 100 | <a href="#">07400.100.035</a> | M16X160 | 25 | <a href="#">07400.160.160</a> |
| M4X70 | 200 | <a href="#">07400.040.070</a> | M10X40  | 100 | <a href="#">07400.100.040</a> |         |    |                               |
|       |     |                               | M10X45  | 100 | <a href="#">07400.100.045</a> | M18X50  | 25 | <a href="#">07400.180.050</a> |
| M5X8  | 200 | <a href="#">07400.050.008</a> | M10X50  | 100 | <a href="#">07400.100.050</a> | M18X60  | 25 | <a href="#">07400.180.060</a> |
| M5X10 | 200 | <a href="#">07400.050.010</a> | M10X55  | 100 | <a href="#">07400.100.055</a> | M18X70  | 25 | <a href="#">07400.180.070</a> |
| M5X12 | 200 | <a href="#">07400.050.012</a> | M10X60  | 100 | <a href="#">07400.100.060</a> | M18X80  | 25 | <a href="#">07400.180.080</a> |
| M5X16 | 200 | <a href="#">07400.050.016</a> | M10X65  | 100 | <a href="#">07400.100.065</a> | M18X90  | 25 | <a href="#">07400.180.090</a> |
| M5X18 | 200 | <a href="#">07400.050.018</a> | M10X70  | 100 | <a href="#">07400.100.070</a> | M18X100 | 25 | <a href="#">07400.180.100</a> |
| M5X20 | 200 | <a href="#">07400.050.020</a> | M10X75  | 100 | <a href="#">07400.100.075</a> |         |    |                               |
| M5X22 | 200 | <a href="#">07400.050.022</a> | M10X80  | 100 | <a href="#">07400.100.080</a> | M20X30  | 10 | <a href="#">07400.200.030</a> |
| M5X25 | 200 | <a href="#">07400.050.025</a> | M10X90  | 100 | <a href="#">07400.100.090</a> | M20X35  | 10 | <a href="#">07400.200.035</a> |
| M5X30 | 200 | <a href="#">07400.050.030</a> | M10X100 | 50  | <a href="#">07400.100.100</a> | M20X40  | 10 | <a href="#">07400.200.040</a> |
| M5X35 | 200 | <a href="#">07400.050.035</a> | M10X120 | 50  | <a href="#">07400.100.120</a> | M20X50  | 10 | <a href="#">07400.200.050</a> |
| M5X40 | 200 | <a href="#">07400.050.040</a> |         |     |                               | M20X55  | 25 | <a href="#">07400.200.055</a> |
| M5X45 | 200 | <a href="#">07400.050.045</a> | M12X20  | 100 | <a href="#">07400.120.020</a> | M20X60  | 10 | <a href="#">07400.200.060</a> |
| M5X50 | 200 | <a href="#">07400.050.050</a> | M12X25  | 100 | <a href="#">07400.120.025</a> | M20X70  | 10 | <a href="#">07400.200.070</a> |
| M5X60 | 200 | <a href="#">07400.050.060</a> | M12X30  | 100 | <a href="#">07400.120.030</a> | M20X80  | 10 | <a href="#">07400.200.080</a> |
| M5X70 | 200 | <a href="#">07400.050.070</a> | M12X35  | 100 | <a href="#">07400.120.035</a> | M20X90  | 10 | <a href="#">07400.200.090</a> |
|       |     |                               | M12X40  | 100 | <a href="#">07400.120.040</a> | M20X100 | 10 | <a href="#">07400.200.100</a> |
| M6X8  | 200 | <a href="#">07400.060.008</a> | M12X45  | 100 | <a href="#">07400.120.045</a> | M20X110 | 10 | <a href="#">07400.200.110</a> |
| M6X10 | 200 | <a href="#">07400.060.010</a> | M12X50  | 100 | <a href="#">07400.120.050</a> | M20X120 | 10 | <a href="#">07400.200.120</a> |
| M6X12 | 200 | <a href="#">07400.060.012</a> | M12X55  | 100 | <a href="#">07400.120.055</a> | M20X140 | 10 | <a href="#">07400.200.140</a> |
| M6X14 | 200 | <a href="#">07400.060.014</a> | M12X60  | 100 | <a href="#">07400.120.060</a> | M20X150 | 10 | <a href="#">07400.200.150</a> |
| M6X16 | 200 | <a href="#">07400.060.016</a> | M12X70  | 100 | <a href="#">07400.120.070</a> | M20X160 | 10 | <a href="#">07400.200.160</a> |
| M6X18 | 200 | <a href="#">07400.060.018</a> | M12X80  | 100 | <a href="#">07400.120.080</a> | M20X180 | 10 | <a href="#">07400.200.180</a> |
| M6X20 | 200 | <a href="#">07400.060.020</a> | M12X90  | 50  | <a href="#">07400.120.090</a> | M20X200 | 10 | <a href="#">07400.200.200</a> |
| M6X25 | 200 | <a href="#">07400.060.025</a> | M12X100 | 50  | <a href="#">07400.120.100</a> |         |    |                               |
| M6X30 | 200 | <a href="#">07400.060.030</a> | M12X110 | 50  | <a href="#">07400.120.110</a> | M24X50  | 10 | <a href="#">07400.240.050</a> |
| M6X35 | 200 | <a href="#">07400.060.035</a> | M12X120 | 50  | <a href="#">07400.120.120</a> | M24X60  | 10 | <a href="#">07400.240.060</a> |
| M6X40 | 200 | <a href="#">07400.060.040</a> | M12X130 | 50  | <a href="#">07400.120.130</a> | M24X70  | 10 | <a href="#">07400.240.070</a> |
| M6X45 | 200 | <a href="#">07400.060.045</a> | M12X140 | 50  | <a href="#">07400.120.140</a> | M24X80  | 10 | <a href="#">07400.240.080</a> |
| M6X50 | 200 | <a href="#">07400.060.050</a> |         |     |                               | M24X90  | 10 | <a href="#">07400.240.090</a> |
| M6X55 | 200 | <a href="#">07400.060.055</a> | M14X25  | 25  | <a href="#">07400.140.025</a> | M24X100 | 10 | <a href="#">07400.240.100</a> |
| M6X60 | 200 | <a href="#">07400.060.060</a> | M14X30  | 25  | <a href="#">07400.140.030</a> | M24X110 | 10 | <a href="#">07400.240.110</a> |
| M6X70 | 200 | <a href="#">07400.060.070</a> | M14X35  | 25  | <a href="#">07400.140.035</a> | M24X120 | 10 | <a href="#">07400.240.120</a> |
| M6X80 | 200 | <a href="#">07400.060.080</a> | M14X40  | 25  | <a href="#">07400.140.040</a> | M24X140 | 10 | <a href="#">07400.240.140</a> |
| M6X90 | 200 | <a href="#">07400.060.090</a> | M14X45  | 50  | <a href="#">07400.140.045</a> | M24X160 | 10 | <a href="#">07400.240.160</a> |

| 07400 Hexagon socket countersunk head screw |    |                               |       |   |            |       |   |            |
|---|----|-------------------------------|-------|---|------------|-------|---|------------|
| d x L                                       | ☒  | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
| M24X180                                     | 10 | <a href="#">07400.240.180</a> |       |   |            |       |   |            |
| M24X200                                     | 10 | <a href="#">07400.240.200</a> |       |   |            |       |   |            |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 07407 Hexagon socket countersunk head screw |   | D01A |
|---|---|------|
| <b>Thread</b>                               | Metric thread                           |      |
| <b>Material</b>                             | Steel                                   |      |
| <b>Class</b>                                | 010.9/10.9                              |      |
| <b>Surface treatment</b>                    | Zinc flake Cr6+ free - ISO 10683 flZnnc |      |
| <b>Packaging</b>                            | Standard                                |      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X16 | 200 | <a href="#">07407.060.016</a> | M10X20 | 200 | <a href="#">07407.100.020</a> | M12X80 | 100 | <a href="#">07407.120.080</a> |
| M6X20 | 200 | <a href="#">07407.060.020</a> | M10X25 | 200 | <a href="#">07407.100.025</a> | M16X25 | 50  | <a href="#">07407.160.025</a> |
| M6X25 | 200 | <a href="#">07407.060.025</a> | M10X30 | 200 | <a href="#">07407.100.030</a> | M16X30 | 50  | <a href="#">07407.160.030</a> |
| M6X30 | 200 | <a href="#">07407.060.030</a> | M10X35 | 200 | <a href="#">07407.100.035</a> | M16X40 | 50  | <a href="#">07407.160.040</a> |
| M6X40 | 200 | <a href="#">07407.060.040</a> | M10X40 | 200 | <a href="#">07407.100.040</a> | M16X50 | 50  | <a href="#">07407.160.050</a> |
|       |     |                               | M10X50 | 100 | <a href="#">07407.100.050</a> | M16X60 | 50  | <a href="#">07407.160.060</a> |
|       |     |                               | M10X60 | 100 | <a href="#">07407.100.060</a> |        |     |                               |
| M8X16 | 200 | <a href="#">07407.080.016</a> | M12X30 | 100 | <a href="#">07407.120.030</a> | M20X50 | 10  | <a href="#">07407.200.050</a> |
| M8X20 | 200 | <a href="#">07407.080.020</a> | M12X40 | 100 | <a href="#">07407.120.040</a> | M20X60 | 10  | <a href="#">07407.200.060</a> |
| M8X25 | 200 | <a href="#">07407.080.025</a> | M12X50 | 100 | <a href="#">07407.120.050</a> | M20X70 | 10  | <a href="#">07407.200.070</a> |
| M8X30 | 200 | <a href="#">07407.080.030</a> | M12X60 | 100 | <a href="#">07407.120.060</a> |        |     |                               |
| M8X35 | 200 | <a href="#">07407.080.035</a> | M12X70 | 100 | <a href="#">07407.120.070</a> |        |     |                               |
| M8X40 | 200 | <a href="#">07407.080.040</a> |        |     |                               |        |     |                               |

- A ISO 10683 Zinc Flake surface coating eliminates the possibilities of damage which can arise due to hydrogen embrittlement.

| 51060 Hexagon socket countersunk head screw |                    | Q05A |
|---|--------------------|------|
| <b>Thread</b>                               | Metric thread      |      |
| <b>Material</b>                             | Stainless steel A2 |      |
| <b>Packaging</b>                            | Standard           |      |



| d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| M3X6    | 200 | <a href="#">51060.030.006</a> | M5X60    | 100 | <a href="#">51060.050.060</a> | M8X120 *  | 50  | <a href="#">51060.080.120</a> |
| M3X8    | 200 | <a href="#">51060.030.008</a> | M5X70 *  | 100 | <a href="#">51060.050.070</a> | M8X130 *  | 50  | <a href="#">51060.080.130</a> |
| M3X10   | 200 | <a href="#">51060.030.010</a> |          |     |                               | M8X140 *  | 50  | <a href="#">51060.080.140</a> |
| M3X12   | 200 | <a href="#">51060.030.012</a> | M6X8     | 200 | <a href="#">51060.060.008</a> | M8X150 *  | 50  | <a href="#">51060.080.150</a> |
| M3X14   | 200 | <a href="#">51060.030.014</a> | M6X10    | 200 | <a href="#">51060.060.010</a> | M8X160 *  | 50  | <a href="#">51060.080.160</a> |
| M3X16   | 200 | <a href="#">51060.030.016</a> | M6X12    | 200 | <a href="#">51060.060.012</a> | M8X180 *  | 25  | <a href="#">51060.080.180</a> |
| M3X18   | 200 | <a href="#">51060.030.018</a> | M6X14    | 200 | <a href="#">51060.060.014</a> | M8X200 *  | 25  | <a href="#">51060.080.200</a> |
| M3X20   | 200 | <a href="#">51060.030.020</a> | M6X16    | 200 | <a href="#">51060.060.016</a> |           |     |                               |
| M3X25   | 200 | <a href="#">51060.030.025</a> | M6X18    | 200 | <a href="#">51060.060.018</a> | M10X16    | 100 | <a href="#">51060.100.016</a> |
| M3X40   | 200 | <a href="#">51060.030.040</a> | M6X20    | 200 | <a href="#">51060.060.020</a> | M10X18    | 100 | <a href="#">51060.100.018</a> |
| M3X45 * | 500 | <a href="#">51060.030.045</a> | M6X22 *  | 200 | <a href="#">51060.060.022</a> | M10X20    | 100 | <a href="#">51060.100.020</a> |
| M3X50 * | 200 | <a href="#">51060.030.050</a> | M6X25    | 200 | <a href="#">51060.060.025</a> | M10X25    | 100 | <a href="#">51060.100.025</a> |
|         |     |                               | M6X30    | 200 | <a href="#">51060.060.030</a> | M10X30    | 100 | <a href="#">51060.100.030</a> |
| M4X6    | 200 | <a href="#">51060.040.006</a> | M6X35    | 200 | <a href="#">51060.060.035</a> | M10X35    | 100 | <a href="#">51060.100.035</a> |
| M4X8    | 200 | <a href="#">51060.040.008</a> | M6X40    | 200 | <a href="#">51060.060.040</a> | M10X40    | 100 | <a href="#">51060.100.040</a> |
| M4X10   | 200 | <a href="#">51060.040.010</a> | M6X45    | 100 | <a href="#">51060.060.045</a> | M10X45    | 100 | <a href="#">51060.100.045</a> |
| M4X12   | 200 | <a href="#">51060.040.012</a> | M6X50    | 100 | <a href="#">51060.060.050</a> | M10X50    | 100 | <a href="#">51060.100.050</a> |
| M4X14   | 200 | <a href="#">51060.040.014</a> | M6X55    | 100 | <a href="#">51060.060.055</a> | M10X55    | 100 | <a href="#">51060.100.055</a> |
| M4X16   | 200 | <a href="#">51060.040.016</a> | M6X60    | 100 | <a href="#">51060.060.060</a> | M10X60    | 50  | <a href="#">51060.100.060</a> |
| M4X18   | 200 | <a href="#">51060.040.018</a> | M6X65 *  | 100 | <a href="#">51060.060.065</a> | M10X65 *  | 50  | <a href="#">51060.100.065</a> |
| M4X20   | 200 | <a href="#">51060.040.020</a> | M6X70    | 100 | <a href="#">51060.060.070</a> | M10X70    | 50  | <a href="#">51060.100.070</a> |
| M4X25   | 200 | <a href="#">51060.040.025</a> | M6X80    | 100 | <a href="#">51060.060.080</a> | M10X80    | 50  | <a href="#">51060.100.080</a> |
| M4X30   | 200 | <a href="#">51060.040.030</a> | M6X90 *  | 100 | <a href="#">51060.060.090</a> | M10X90    | 50  | <a href="#">51060.100.090</a> |
| M4X35   | 200 | <a href="#">51060.040.035</a> |          |     |                               | M10X100   | 50  | <a href="#">51060.100.100</a> |
| M4X40   | 200 | <a href="#">51060.040.040</a> | M8X10    | 200 | <a href="#">51060.080.010</a> | M10X110 * | 50  | <a href="#">51060.100.110</a> |
| M4X45 * | 200 | <a href="#">51060.040.045</a> | M8X12    | 200 | <a href="#">51060.080.012</a> | M10X120   | 50  | <a href="#">51060.100.120</a> |
| M4X50   | 200 | <a href="#">51060.040.050</a> | M8X14 *  | 200 | <a href="#">51060.080.014</a> | M10X130 * | 50  | <a href="#">51060.100.130</a> |
| M4X60 * | 100 | <a href="#">51060.040.060</a> | M8X16    | 200 | <a href="#">51060.080.016</a> | M10X140 * | 50  | <a href="#">51060.100.140</a> |
|         |     |                               | M8X18    | 200 | <a href="#">51060.080.018</a> | M10X150 * | 50  | <a href="#">51060.100.150</a> |
| M5X6 *  | 500 | <a href="#">51060.050.006</a> | M8X20    | 200 | <a href="#">51060.080.020</a> | M10X180 * | 25  | <a href="#">51060.100.180</a> |
| M5X8    | 200 | <a href="#">51060.050.008</a> | M8X25    | 100 | <a href="#">51060.080.025</a> | M10X200 * | 25  | <a href="#">51060.100.200</a> |
| M5X10   | 200 | <a href="#">51060.050.010</a> | M8X30    | 100 | <a href="#">51060.080.030</a> |           |     |                               |
| M5X12   | 200 | <a href="#">51060.050.012</a> | M8X35    | 100 | <a href="#">51060.080.035</a> | M12X16 *  | 50  | <a href="#">51060.120.016</a> |
| M5X14   | 200 | <a href="#">51060.050.014</a> | M8X40    | 100 | <a href="#">51060.080.040</a> | M12X20    | 50  | <a href="#">51060.120.020</a> |
| M5X16   | 200 | <a href="#">51060.050.016</a> | M8X45    | 100 | <a href="#">51060.080.045</a> | M12X25    | 50  | <a href="#">51060.120.025</a> |
| M5X18   | 200 | <a href="#">51060.050.018</a> | M8X50    | 100 | <a href="#">51060.080.050</a> | M12X30    | 50  | <a href="#">51060.120.030</a> |
| M5X20   | 200 | <a href="#">51060.050.020</a> | M8X55    | 100 | <a href="#">51060.080.055</a> | M12X35    | 50  | <a href="#">51060.120.035</a> |
| M5X25   | 200 | <a href="#">51060.050.025</a> | M8X60    | 100 | <a href="#">51060.080.060</a> | M12X40    | 50  | <a href="#">51060.120.040</a> |
| M5X30   | 200 | <a href="#">51060.050.030</a> | M8X65 *  | 100 | <a href="#">51060.080.065</a> | M12X45    | 50  | <a href="#">51060.120.045</a> |
| M5X35   | 200 | <a href="#">51060.050.035</a> | M8X70    | 50  | <a href="#">51060.080.070</a> | M12X50    | 50  | <a href="#">51060.120.050</a> |
| M5X40   | 200 | <a href="#">51060.050.040</a> | M8X80    | 50  | <a href="#">51060.080.080</a> | M12X55    | 50  | <a href="#">51060.120.055</a> |
| M5X45   | 200 | <a href="#">51060.050.045</a> | M8X90    | 50  | <a href="#">51060.080.090</a> | M12X60    | 50  | <a href="#">51060.120.060</a> |
| M5X50   | 100 | <a href="#">51060.050.050</a> | M8X100   | 50  | <a href="#">51060.080.100</a> | M12X65 *  | 50  | <a href="#">51060.120.065</a> |
| M5X55 * | 200 | <a href="#">51060.050.055</a> | M8X110 * | 50  | <a href="#">51060.080.110</a> | M12X70    | 25  | <a href="#">51060.120.070</a> |

2

**51060 Hexagon socket countersunk head screw**

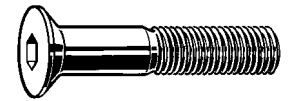
| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M12X80    | 25 | <a href="#">51060.120.080</a> | M16X90    | 25 | <a href="#">51060.160.090</a> | M20X130 * | 10 | <a href="#">51060.200.130</a> |
| M12X90    | 25 | <a href="#">51060.120.090</a> | M16X100   | 10 | <a href="#">51060.160.100</a> | M20X140 * | 10 | <a href="#">51060.200.140</a> |
| M12X100   | 25 | <a href="#">51060.120.100</a> | M16X110   | 10 | <a href="#">51060.160.110</a> | M20X150 * | 10 | <a href="#">51060.200.150</a> |
| M12X110 * | 25 | <a href="#">51060.120.110</a> | M16X120   | 10 | <a href="#">51060.160.120</a> |           |    |                               |
| M12X130 * | 25 | <a href="#">51060.120.130</a> | M16X130   | 10 | <a href="#">51060.160.130</a> | M24X50    | 10 | <a href="#">51060.240.050</a> |
| M12X140 * | 25 | <a href="#">51060.120.140</a> | M16X140 * | 25 | <a href="#">51060.160.140</a> | M24X60    | 10 | <a href="#">51060.240.060</a> |
| M12X160 * | 25 | <a href="#">51060.120.160</a> | M16X150 * | 25 | <a href="#">51060.160.150</a> | M24X70    | 10 | <a href="#">51060.240.070</a> |
|           |    |                               |           |    |                               | M24X80    | 10 | <a href="#">51060.240.080</a> |
| M16X25    | 25 | <a href="#">51060.160.025</a> | M20X45 *  | 25 | <a href="#">51060.200.045</a> | M24X80    | 10 | <a href="#">51060.240.080</a> |
| M16X30    | 25 | <a href="#">51060.160.030</a> | M20X50    | 10 | <a href="#">51060.200.050</a> | M24X90    | 10 | <a href="#">51060.240.090</a> |
| M16X35    | 25 | <a href="#">51060.160.035</a> | M20X55    | 10 | <a href="#">51060.200.055</a> | M24X100   | 10 | <a href="#">51060.240.100</a> |
| M16X40    | 25 | <a href="#">51060.160.040</a> | M20X60    | 5  | <a href="#">51060.200.060</a> | M24X110   | 10 | <a href="#">51060.240.110</a> |
| M16X45    | 25 | <a href="#">51060.160.045</a> | M20X70    | 10 | <a href="#">51060.200.070</a> | M24X120   | 10 | <a href="#">51060.240.120</a> |
| M16X50    | 25 | <a href="#">51060.160.050</a> | M20X80    | 10 | <a href="#">51060.200.080</a> | M24X130   | 10 | <a href="#">51060.240.130</a> |
| M16X60    | 25 | <a href="#">51060.160.060</a> | M20X90    | 10 | <a href="#">51060.200.090</a> | M24X140   | 10 | <a href="#">51060.240.140</a> |
| M16X65 *  | 25 | <a href="#">51060.160.065</a> | M20X100   | 10 | <a href="#">51060.200.100</a> | M24X150   | 10 | <a href="#">51060.240.150</a> |
| M16X70    | 25 | <a href="#">51060.160.070</a> | M20X110 * | 25 | <a href="#">51060.200.110</a> |           |    |                               |
| M16X80    | 25 | <a href="#">51060.160.080</a> | M20X120 * | 10 | <a href="#">51060.200.120</a> |           |    |                               |

• Sizes with a diameter > M24 and sizes with a length > 8xd are minimal property class 50.

**55060 Hexagon socket countersunk head screw**

Q45A

**Thread** Metric thread  
**Material** Stainless steel A4  
**Packaging** Standard

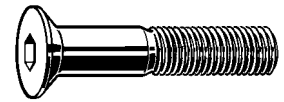


| d x L   | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|---------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| M3X6    | 200 | <a href="#">55060.030.006</a> | M6X60     | 100 | <a href="#">55060.060.060</a> | M10X200 * | 25 | <a href="#">55060.100.200</a> |
| M3X8    | 200 | <a href="#">55060.030.008</a> | M6X70     | 100 | <a href="#">55060.060.070</a> | M12X20    | 50 | <a href="#">55060.120.020</a> |
| M3X10   | 200 | <a href="#">55060.030.010</a> | M6X80     | 100 | <a href="#">55060.060.080</a> | M12X25    | 50 | <a href="#">55060.120.025</a> |
| M3X12   | 200 | <a href="#">55060.030.012</a> | M6X90 *   | 100 | <a href="#">55060.060.090</a> | M12X30    | 50 | <a href="#">55060.120.030</a> |
| M3X14   | 200 | <a href="#">55060.030.014</a> |           |     |                               | M12X35    | 50 | <a href="#">55060.120.035</a> |
| M3X16   | 200 | <a href="#">55060.030.016</a> | M8X10     | 200 | <a href="#">55060.080.010</a> | M12X40    | 50 | <a href="#">55060.120.040</a> |
| M3X18   | 200 | <a href="#">55060.030.018</a> | M8X12     | 200 | <a href="#">55060.080.012</a> | M12X45    | 50 | <a href="#">55060.120.045</a> |
| M3X20   | 200 | <a href="#">55060.030.020</a> | M8X14 *   | 200 | <a href="#">55060.080.014</a> | M12X50    | 50 | <a href="#">55060.120.050</a> |
| M3X25   | 200 | <a href="#">55060.030.025</a> | M8X16     | 200 | <a href="#">55060.080.016</a> | M12X55    | 50 | <a href="#">55060.120.055</a> |
|         |     |                               | M8X18     | 200 | <a href="#">55060.080.018</a> | M12X60    | 50 | <a href="#">55060.120.060</a> |
| M4X6    | 200 | <a href="#">55060.040.006</a> | M8X20     | 200 | <a href="#">55060.080.020</a> | M12X65 *  | 50 | <a href="#">55060.120.065</a> |
| M4X8    | 200 | <a href="#">55060.040.008</a> | M8X25     | 100 | <a href="#">55060.080.025</a> | M12X70    | 25 | <a href="#">55060.120.070</a> |
| M4X10   | 200 | <a href="#">55060.040.010</a> | M8X30     | 100 | <a href="#">55060.080.030</a> | M12X80    | 25 | <a href="#">55060.120.080</a> |
| M4X12   | 200 | <a href="#">55060.040.012</a> | M8X35     | 100 | <a href="#">55060.080.035</a> | M12X90    | 25 | <a href="#">55060.120.090</a> |
| M4X14   | 200 | <a href="#">55060.040.014</a> | M8X40     | 100 | <a href="#">55060.080.040</a> | M12X100   | 25 | <a href="#">55060.120.100</a> |
| M4X16   | 200 | <a href="#">55060.040.016</a> | M8X45     | 100 | <a href="#">55060.080.045</a> | M12X110 * | 25 | <a href="#">55060.120.110</a> |
| M4X18   | 200 | <a href="#">55060.040.018</a> | M8X50     | 100 | <a href="#">55060.080.050</a> | M12X120 * | 25 | <a href="#">55060.120.120</a> |
| M4X20   | 200 | <a href="#">55060.040.020</a> | M8X55     | 100 | <a href="#">55060.080.055</a> | M12X130 * | 25 | <a href="#">55060.120.130</a> |
| M4X25   | 200 | <a href="#">55060.040.025</a> | M8X60     | 100 | <a href="#">55060.080.060</a> | M12X150 * | 25 | <a href="#">55060.120.150</a> |
| M4X30   | 200 | <a href="#">55060.040.030</a> | M8X65 *   | 100 | <a href="#">55060.080.065</a> |           |    |                               |
| M4X35   | 200 | <a href="#">55060.040.035</a> | M8X70     | 50  | <a href="#">55060.080.070</a> | M16X30    | 25 | <a href="#">55060.160.030</a> |
| M4X40   | 200 | <a href="#">55060.040.040</a> | M8X80     | 50  | <a href="#">55060.080.080</a> | M16X35    | 25 | <a href="#">55060.160.035</a> |
| M4X45 * | 200 | <a href="#">55060.040.045</a> | M8X90     | 50  | <a href="#">55060.080.090</a> | M16X40    | 25 | <a href="#">55060.160.040</a> |
| M4X50   | 200 | <a href="#">55060.040.050</a> | M8X100    | 50  | <a href="#">55060.080.100</a> | M16X45    | 25 | <a href="#">55060.160.045</a> |
|         |     |                               | M8X110 *  | 50  | <a href="#">55060.080.110</a> | M16X50    | 25 | <a href="#">55060.160.050</a> |
| M5X8    | 200 | <a href="#">55060.050.008</a> | M8X120 *  | 50  | <a href="#">55060.080.120</a> | M16X55 *  | 25 | <a href="#">55060.160.055</a> |
| M5X10   | 200 | <a href="#">55060.050.010</a> | M8X130 *  | 50  | <a href="#">55060.080.130</a> | M16X60    | 25 | <a href="#">55060.160.060</a> |
| M5X12   | 200 | <a href="#">55060.050.012</a> | M8X140 *  | 50  | <a href="#">55060.080.140</a> | M16X65 *  | 25 | <a href="#">55060.160.065</a> |
| M5X14   | 200 | <a href="#">55060.050.014</a> | M8X150 *  | 50  | <a href="#">55060.080.150</a> | M16X70    | 25 | <a href="#">55060.160.070</a> |
| M5X16   | 200 | <a href="#">55060.050.016</a> | M8X160 *  | 50  | <a href="#">55060.080.160</a> | M16X80    | 25 | <a href="#">55060.160.080</a> |
| M5X18   | 200 | <a href="#">55060.050.018</a> | M8X180 *  | 25  | <a href="#">55060.080.180</a> | M16X90    | 25 | <a href="#">55060.160.090</a> |
| M5X20   | 200 | <a href="#">55060.050.020</a> | M8X200 *  | 25  | <a href="#">55060.080.200</a> | M16X100   | 10 | <a href="#">55060.160.100</a> |
| M5X25   | 200 | <a href="#">55060.050.025</a> |           |     |                               | M16X110 * | 25 | <a href="#">55060.160.110</a> |
| M5X30   | 200 | <a href="#">55060.050.030</a> | M10X16    | 100 | <a href="#">55060.100.016</a> | M16X120 * | 25 | <a href="#">55060.160.120</a> |
| M5X35   | 200 | <a href="#">55060.050.035</a> | M10X18    | 100 | <a href="#">55060.100.018</a> | M16X130 * | 25 | <a href="#">55060.160.130</a> |
| M5X40   | 200 | <a href="#">55060.050.040</a> | M10X20    | 100 | <a href="#">55060.100.020</a> | M16X140 * | 25 | <a href="#">55060.160.140</a> |
| M5X45   | 200 | <a href="#">55060.050.045</a> | M10X25    | 100 | <a href="#">55060.100.025</a> | M16X150 * | 25 | <a href="#">55060.160.150</a> |
| M5X50   | 200 | <a href="#">55060.050.050</a> | M10X30    | 100 | <a href="#">55060.100.030</a> |           |    |                               |
| M5X55 * | 200 | <a href="#">55060.050.055</a> | M10X35    | 100 | <a href="#">55060.100.035</a> | M20X40    | 10 | <a href="#">55060.200.040</a> |
| M5X60 * | 200 | <a href="#">55060.050.060</a> | M10X40    | 100 | <a href="#">55060.100.040</a> | M20X45    | 10 | <a href="#">55060.200.045</a> |
|         |     |                               | M10X45    | 100 | <a href="#">55060.100.045</a> | M20X50    | 10 | <a href="#">55060.200.050</a> |
| M6X8    | 200 | <a href="#">55060.060.008</a> | M10X50    | 100 | <a href="#">55060.100.050</a> | M20X55    | 10 | <a href="#">55060.200.055</a> |
| M6X10   | 200 | <a href="#">55060.060.010</a> | M10X55    | 100 | <a href="#">55060.100.055</a> | M20X60    | 10 | <a href="#">55060.200.060</a> |
| M6X12   | 200 | <a href="#">55060.060.012</a> | M10X60    | 50  | <a href="#">55060.100.060</a> | M20X70    | 10 | <a href="#">55060.200.070</a> |
| M6X14 * | 200 | <a href="#">55060.060.014</a> | M10X65 *  | 50  | <a href="#">55060.100.065</a> | M20X80 *  | 25 | <a href="#">55060.200.080</a> |
| M6X16   | 200 | <a href="#">55060.060.016</a> | M10X70    | 50  | <a href="#">55060.100.070</a> | M20X90    | 10 | <a href="#">55060.200.090</a> |
| M6X18   | 200 | <a href="#">55060.060.018</a> | M10X80    | 50  | <a href="#">55060.100.080</a> | M20X100   | 10 | <a href="#">55060.200.100</a> |
| M6X20   | 200 | <a href="#">55060.060.020</a> | M10X90    | 50  | <a href="#">55060.100.090</a> | M20X110 * | 25 | <a href="#">55060.200.110</a> |
| M6X25   | 200 | <a href="#">55060.060.025</a> | M10X100   | 10  | <a href="#">55060.100.100</a> | M20X120 * | 10 | <a href="#">55060.200.120</a> |
| M6X30   | 200 | <a href="#">55060.060.030</a> | M10X110 * | 50  | <a href="#">55060.100.110</a> | M20X140 * | 10 | <a href="#">55060.200.140</a> |
| M6X35   | 200 | <a href="#">55060.060.035</a> | M10X120   | 50  | <a href="#">55060.100.120</a> | M20X150 * | 10 | <a href="#">55060.200.150</a> |
| M6X40   | 200 | <a href="#">55060.060.040</a> | M10X130 * | 50  | <a href="#">55060.100.130</a> |           |    |                               |
| M6X45   | 100 | <a href="#">55060.060.045</a> | M10X140 * | 50  | <a href="#">55060.100.140</a> |           |    |                               |
| M6X50   | 100 | <a href="#">55060.060.050</a> | M10X150 * | 50  | <a href="#">55060.100.150</a> |           |    |                               |
| M6X55   | 100 | <a href="#">55060.060.055</a> | M10X180 * | 25  | <a href="#">55060.100.180</a> |           |    |                               |

• Sizes with a diameter > M24 and sizes with a length > 8xd are minimal property class 50.

**45008 Hexagon socket countersunk head screw W010**

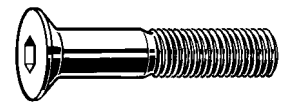
**Thread** Metric thread  
**Material** Aluminium Sopral P40  
**Packaging** Standard  
**ISO** ≈10642  
**DIN** ≈7991  
**NEN** ≈2359  
**BS** ≈4168-8



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X8  | 200 | <a href="#">45008.030.008</a> |       |     |                               | M4X16 | 200 | <a href="#">45008.040.016</a> |
| M3X12 | 200 | <a href="#">45008.030.012</a> | M4X10 | 200 | <a href="#">45008.040.010</a> |       |     |                               |
| M3X16 | 200 | <a href="#">45008.030.016</a> |       |     |                               |       |     |                               |

**45208 Hexagon socket countersunk head screw W010**

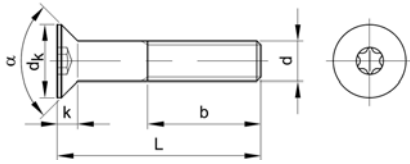
**Thread** Metric thread  
**Material** Aluminium Sopral P60  
**Packaging** Standard  
**ISO** ≈10642  
**DIN** ≈7991  
**NEN** ≈2359  
**BS** ≈4168-8



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M5X20 | 200 | <a href="#">45208.050.020</a> | M6X25 | 200 | <a href="#">45208.060.025</a> | M8X20 | 200 | <a href="#">45208.080.020</a> |
| M6X10 | 200 | <a href="#">45208.060.010</a> |       |     |                               |       |     |                               |

## Hexalobular socket countersunk head screw

2



ISO ≈10642  
 DIN ≈7991  
 NF ≈E25-107



### Technical data

|                 | M4    | M5    | M6    | M8    |
|-----------------|-------|-------|-------|-------|
| <b>d</b>        | M4    | M5    | M6    | M8    |
| <b>P</b>        | 0,7   | 0,8   | 1     | 1,25  |
| <b>dk</b>       | 8     | 10    | 12    | 16    |
| <b>k (max.)</b> | 2,3   | 2,8   | 3,3   | 4,4   |
| <b>α</b>        | 90°   | 90°   | 90°   | 90°   |
| <b>Socket</b>   | No.20 | No.25 | No.30 | No.40 |
| <b>b</b>        | 14    | 16    | 18    | 22    |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

| 07450 Hexalobular socket countersunk head screw |               | D02A |
|---|---------------|------|
| <b>Thread</b>                                   | Metric thread |      |
| <b>Material</b>                                 | Steel         |      |
| <b>Class</b>                                    | 08.8/8.8      |      |
| <b>Surface treatment</b>                        | Zinc plated   |      |
| <b>Packaging</b>                                | Standard      |      |

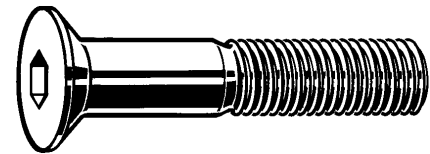
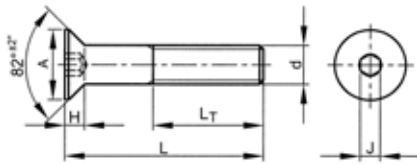


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M4X10 | 200 | <a href="#">07450.040.010</a> | M5X30 | 200 | <a href="#">07450.050.030</a> | M6X40 | 200 | <a href="#">07450.060.040</a> |
| M4X12 | 200 | <a href="#">07450.040.012</a> | M5X35 | 100 | <a href="#">07450.050.035</a> | M8X16 | 200 | <a href="#">07450.080.016</a> |
| M4X16 | 200 | <a href="#">07450.040.016</a> | M5X40 | 100 | <a href="#">07450.050.040</a> | M8X20 | 200 | <a href="#">07450.080.020</a> |
| M4X20 | 200 | <a href="#">07450.040.020</a> | M6X10 | 200 | <a href="#">07450.060.010</a> | M8X25 | 200 | <a href="#">07450.080.025</a> |
| M4X25 | 200 | <a href="#">07450.040.025</a> | M6X12 | 200 | <a href="#">07450.060.012</a> | M8X30 | 200 | <a href="#">07450.080.030</a> |
| M5X10 | 200 | <a href="#">07450.050.010</a> | M6X16 | 200 | <a href="#">07450.060.016</a> | M8X35 | 100 | <a href="#">07450.080.035</a> |
| M5X12 | 200 | <a href="#">07450.050.012</a> | M6X20 | 200 | <a href="#">07450.060.020</a> | M8X40 | 100 | <a href="#">07450.080.040</a> |
| M5X16 | 200 | <a href="#">07450.050.016</a> | M6X25 | 200 | <a href="#">07450.060.025</a> | M8X45 | 100 | <a href="#">07450.080.045</a> |
| M5X20 | 200 | <a href="#">07450.050.020</a> | M6X30 | 200 | <a href="#">07450.060.030</a> | M8X50 | 100 | <a href="#">07450.080.050</a> |
| M5X25 | 200 | <a href="#">07450.050.025</a> | M6X35 | 200 | <a href="#">07450.060.035</a> |       |     |                               |



## Hexagon socket countersunk head screw UNC

ANSI =B18.3  
BS ≈2470



2

### Technical data

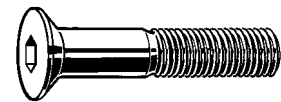
| d     | Threads per inch | L <sub>T</sub> (min.) | H    | A    | J     |
|-------|------------------|-----------------------|------|------|-------|
| No.2  | 56               | 16                    | 1,63 | 5    | 0,050 |
| No.4  | 40               | 19                    | 2,11 | 6,48 | 1/16  |
| No.5  | 40               | 19                    | 2,29 | 7,14 | 5/64  |
| No.6  | 32               | 19                    | 2,45 | 7,8  | 5/64  |
| No.8  | 32               | 22                    | 2,84 | 9,12 | 3/32  |
| No.10 | 24               | 22                    | 3,2  | 10,4 | 1/8   |
| 1/4   | 20               | 25                    | 4,1  | 13,4 | 5/32  |
| 5/16  | 18               | 28                    | 5    | 16,6 | 3/16  |
| 3/8   | 16               | 32                    | 5,9  | 19,8 | 7/32  |
| 1/2   | 13               | 38                    | 6,4  | 23,8 | 5/16  |
| 5/8   | 11               | 45                    | 8,2  | 30,1 | 3/8   |

- The mechanical properties corresponds much with the same property class 10.9 acc. to DIN ISO 898-1. Due to the unfavourable geometry of the head the tensile strength of these screws is not determined by the cross section of the thread, consequently these screws are permitted to be only partially prestressed. When these steel 10.9 fasteners needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 10.9 --> 010.9.
- Marking of these screws is not mandatory.
- ATTENTION: as the product standard specifies thread tolerance 3A for thread sizes up to 1 inch, zinc plating can cause thread fit problems.

#### 07610 Hexagon socket countersunk head screw UNC

X05A

**Thread** Unified National Coarse  
**Material** Steel  
**Class** 010.9/10.9  
**Packaging** Standard

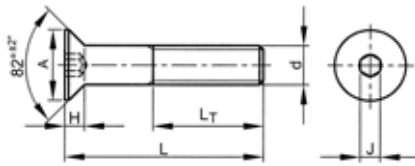


| d x L     | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| NO.2X3/16 | 100 | <a href="#">07610.021.004</a> | NO.8X1/2    | 100 | <a href="#">07610.041.012</a> | 5/16X1.1/4 | 100 | <a href="#">07610.079.031</a> |
| NO.2X1/4  | 100 | <a href="#">07610.021.006</a> | NO.8X5/8    | 100 | <a href="#">07610.041.015</a> | 5/16X1.1/2 | 100 | <a href="#">07610.079.038</a> |
| NO.2X3/8  | 100 | <a href="#">07610.021.009</a> | NO.8X3/4    | 100 | <a href="#">07610.041.019</a> |            |     |                               |
| NO.2X1/2  | 100 | <a href="#">07610.021.012</a> | NO.8X1.IN.  | 100 | <a href="#">07610.041.025</a> | 3/8X3/4    | 100 | <a href="#">07610.096.019</a> |
| NO.4X3/16 | 100 | <a href="#">07610.028.004</a> | NO.10X1/2   | 100 | <a href="#">07610.048.012</a> | 3/8X1.IN.  | 100 | <a href="#">07610.096.025</a> |
| NO.4X1/4  | 100 | <a href="#">07610.028.006</a> | NO.10X3/4   | 100 | <a href="#">07610.048.019</a> | 3/8X1.1/4  | 100 | <a href="#">07610.096.031</a> |
| NO.4X3/8  | 100 | <a href="#">07610.028.009</a> | NO.10X1.IN. | 100 | <a href="#">07610.048.025</a> | 3/8X1.1/2  | 100 | <a href="#">07610.096.038</a> |
| NO.4X1/2  | 100 | <a href="#">07610.028.012</a> | NO.10X1.1/4 | 100 | <a href="#">07610.048.031</a> |            |     |                               |
| NO.4X3/4  | 100 | <a href="#">07610.028.019</a> | NO.10X1.1/2 | 100 | <a href="#">07610.048.038</a> | 1/2X1.IN.  | 50  | <a href="#">07610.127.025</a> |
| NO.5X1/4  | 100 | <a href="#">07610.031.006</a> | 1/4X1/2     | 100 | <a href="#">07610.063.012</a> | 1/2X1.1/4  | 50  | <a href="#">07610.127.031</a> |
| NO.5X3/8  | 100 | <a href="#">07610.031.009</a> | 1/4-20X5/8  | 100 | <a href="#">07610.063.015</a> | 1/2X1.1/2  | 50  | <a href="#">07610.127.038</a> |
| NO.5X1/2  | 100 | <a href="#">07610.031.012</a> | 1/4X3/4     | 100 | <a href="#">07610.063.019</a> | 1/2X1.3/4  | 50  | <a href="#">07610.127.044</a> |
| NO.5X5/8  | 100 | <a href="#">07610.031.015</a> | 1/4X1.IN.   | 100 | <a href="#">07610.063.025</a> | 1/2X2.IN.  | 50  | <a href="#">07610.127.050</a> |
| NO.5X3/4  | 100 | <a href="#">07610.031.019</a> | 1/4X1.1/4   | 100 | <a href="#">07610.063.031</a> |            |     |                               |
| NO.6X1/4  | 100 | <a href="#">07610.035.006</a> | 1/4X1.1/2   | 100 | <a href="#">07610.063.038</a> |            |     |                               |
| NO.6X3/8  | 100 | <a href="#">07610.035.009</a> |             |     |                               | 5/8X1.1/4  | 25  | <a href="#">07610.158.031</a> |
| NO.6X1/2  | 100 | <a href="#">07610.035.012</a> | 5/16X5/8    | 100 | <a href="#">07610.079.015</a> | 5/8X1.1/2  | 25  | <a href="#">07610.158.038</a> |
| NO.6X5/8  | 100 | <a href="#">07610.035.015</a> | 5/16X3/4    | 100 | <a href="#">07610.079.019</a> | 5/8X1.3/4  | 25  | <a href="#">07610.158.044</a> |
| NO.6X3/4  | 100 | <a href="#">07610.035.019</a> | 5/16X1.IN.  | 100 | <a href="#">07610.079.025</a> | 5/8X2.IN.  | 25  | <a href="#">07610.158.050</a> |
| NO.8X3/8  | 100 | <a href="#">07610.041.009</a> |             |     |                               |            |     |                               |

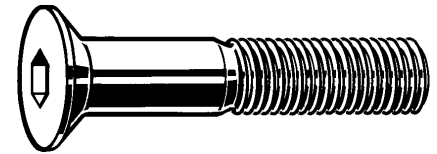
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket countersunk head screw UNF

2



ANSI ≈B18.3  
BS ≈2470



### Technical data

| d     | Threads per inch | L <sub>T</sub> (min.) | H   | A     | J    |
|-------|------------------|-----------------------|-----|-------|------|
| No.10 | 32               | 22                    | -   | 10,44 | 1/8  |
| 1/4   | 28               | 25                    | 4,1 | 13,4  | 5/32 |
| 5/16  | 24               | 28                    | 5   | 16,6  | 3/16 |
| 3/8   | 24               | 32                    | 5,9 | 19,8  | 7/32 |
| 1/2   | 20               | 38                    | 6,4 | 23,8  | 5/16 |
| 5/8   | 18               | 45                    | 8,2 | 30,1  | 3/8  |

- The mechanical properties corresponds much with the same property class 10.9 acc. to DIN ISO 898-1. Other properties acc. to ASTM A574.
- Due to the unfavourable geometry of the head the tensile strength of these screws is not determined by the cross section of the thread, consequently these screws are permitted to be only partially prestressed. When these steel 10.9 fasteners needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 10.9 --> 010.9.
- Marking of these screws is not mandatory.
- ATTENTION: as the product standard specifies thread tolerance 3A for thread sizes up to 1 inch, zinc plating can cause thread fit problems.

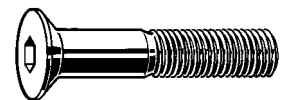
### Article groups

| Thread | Driving features | Material | Class      | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|------------|-------------------|-----------|-------|------|
| UNF    | hexagon socket   | St       | 010.9/10.9 | Mech.zipl.        | Standard  | 07560 | 2-38 |
| UNF    | hexagon socket   | St       | 010.9/10.9 |                   | Standard  | 07580 | 2-38 |

#### 07560 Hexagon socket countersunk head screw UNF

X05A

|                          |                        |
|--------------------------|------------------------|
| <b>Thread</b>            | Unified National Fine  |
| <b>Material</b>          | Steel                  |
| <b>Class</b>             | 010.9/10.9             |
| <b>Surface treatment</b> | Mechanical zinc plated |
| <b>Packaging</b>         | Standard               |

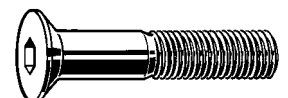


| d x L      | ⊠   | Art.number                    | d x L     | ⊠   | Art.number                    | d x L     | ⊠  | Art.number                    |
|------------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| 1/4X3/4    | 100 | <a href="#">07560.063.019</a> | 3/8X1.IN. | 100 | <a href="#">07560.096.025</a> | 5/8X2.IN. | 25 | <a href="#">07560.158.050</a> |
| 5/16X1.IN. | 100 | <a href="#">07560.079.025</a> | 1/2X1.1/4 | 50  | <a href="#">07560.127.031</a> |           |    |                               |

#### 07580 Hexagon socket countersunk head screw UNF

X05A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | 010.9/10.9            |
| <b>Packaging</b> | Standard              |

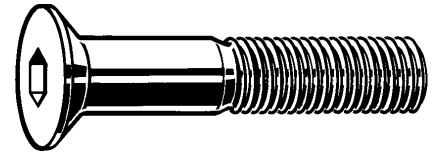
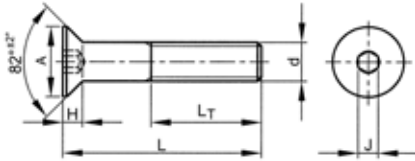


| d x L     | ⊠   | Art.number                    | d x L     | ⊠  | Art.number                    | d x L     | ⊠  | Art.number                    |
|-----------|-----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 1/4X7/8   | 100 | <a href="#">07580.063.022</a> | 5/8X2.1/4 | 25 | <a href="#">07580.158.057</a> | 5/8X2.1/2 | 25 | <a href="#">07580.158.063</a> |
| 5/8X1.1/2 | 25  | <a href="#">07580.158.038</a> |           |    |                               |           |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket countersunk head screw BSW

BS ≈2470



2

### Technical data

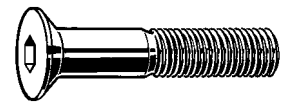
|                       |      |      |
|-----------------------|------|------|
| d                     | 3/16 | 1/2  |
| Threads per inch      | 24   | 12   |
| L <sub>T</sub> (min.) | 22   | 38   |
| H                     | 3,2  | 6,4  |
| A                     | 10,4 | 23,8 |
| J                     | 1/8  | 5/16 |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Depending on availability also class 12.9 can be supplied. Due to the unfavourable geometry of the head the tensile strength of these screws is not determined by the cross section of the thread, consequently these screws are permitted to be only partially restressed. Consequently these screws are permitted to be only partially prestressed.
- Marking of these screws is not mandatory.
- Depending on availability the dimensions may deviate.

### 07600 Hexagon socket countersunk head screw BSW

X08A

|           |                            |
|-----------|----------------------------|
| Thread    | British Standard Whitworth |
| Material  | Steel                      |
| Class     | 10.9                       |
| Packaging | Standard                   |

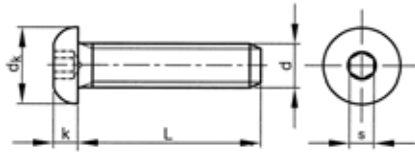


| d x L    | ☒  | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|----------|----|-------------------------------|-------|---|------------|-------|---|------------|
| 1/2X25MM | 50 | <a href="#">07600.127.025</a> |       |   |            |       |   |            |
| 1/2X30MM | 50 | <a href="#">07600.127.031</a> |       |   |            |       |   |            |
| 1/2X38MM | 50 | <a href="#">07600.127.038</a> |       |   |            |       |   |            |

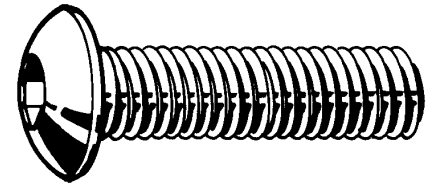
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket button head screw

2



ISO ≈7380  
 ANSI ≈B18.3.4M  
 NF ≈E25-126  
 BS ≈4168-6



### Technical data

| d   | P    | dk (max.) | k (max.) | s   | Full thread L ≤ |
|-----|------|-----------|----------|-----|-----------------|
| M3  | 0,5  | 5,7       | 1,65     | 2   | 12              |
| M4  | 0,7  | 7,6       | 2,2      | 2,5 | 16              |
| M5  | 0,8  | 9,5       | 2,75     | 3   | 30              |
| M6  | 1    | 10,5      | 3,3      | 4   | 30              |
| M8  | 1,25 | 14        | 4,4      | 5   | 40              |
| M10 | 1,5  | 17,5      | 5,5      | 6   | 40              |
| M12 | 1,75 | 21        | 6,6      | 8   | 50              |
| M16 | 2    | 28        | 8,8      | 10  | 45              |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

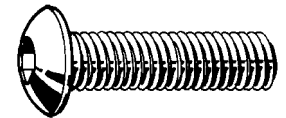
### Article groups

| Thread | Driving features | Material  | Class      | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|------------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St        | 010.9/10.9 |                   | Standard  | 07150 | 2-40 |
| M      | hexagon socket   | St        | 010.9/10.9 | Zipl              | Standard  | 07151 | 2-41 |
| M      | hexagon socket   | St.St. A2 |            |                   | Standard  | 51030 | 2-41 |
| M      | hexagon socket   | St.St. A4 |            |                   | Standard  | 55030 | 2-42 |

### 07150 Hexagon socket button head screw

D04A

**Thread** Metric thread  
**Material** Steel  
**Class** 010.9/10.9  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">07150.030.006</a> | M5X60 | 200 | <a href="#">07150.050.060</a> | M8X55   | 200 | <a href="#">07150.080.055</a> |
| M3X8  | 200 | <a href="#">07150.030.008</a> | M5X70 | 200 | <a href="#">07150.050.070</a> | M8X60   | 200 | <a href="#">07150.080.060</a> |
| M3X10 | 200 | <a href="#">07150.030.010</a> |       |     |                               | M8X70   | 200 | <a href="#">07150.080.070</a> |
| M3X12 | 200 | <a href="#">07150.030.012</a> | M6X6  | 200 | <a href="#">07150.060.006</a> | M8X80   | 200 | <a href="#">07150.080.080</a> |
| M3X16 | 200 | <a href="#">07150.030.016</a> | M6X8  | 200 | <a href="#">07150.060.008</a> | M8X90   | 100 | <a href="#">07150.080.090</a> |
| M3X20 | 200 | <a href="#">07150.030.020</a> | M6X10 | 200 | <a href="#">07150.060.010</a> | M8X100  | 100 | <a href="#">07150.080.100</a> |
| M3X25 | 200 | <a href="#">07150.030.025</a> | M6X12 | 200 | <a href="#">07150.060.012</a> |         |     |                               |
| M3X30 | 200 | <a href="#">07150.030.030</a> | M6X14 | 200 | <a href="#">07150.060.014</a> | M10X12  | 200 | <a href="#">07150.100.012</a> |
|       |     |                               | M6X16 | 200 | <a href="#">07150.060.016</a> | M10X16  | 200 | <a href="#">07150.100.016</a> |
| M4X6  | 200 | <a href="#">07150.040.006</a> | M6X20 | 200 | <a href="#">07150.060.020</a> | M10X20  | 200 | <a href="#">07150.100.020</a> |
| M4X8  | 200 | <a href="#">07150.040.008</a> | M6X25 | 200 | <a href="#">07150.060.025</a> | M10X25  | 200 | <a href="#">07150.100.025</a> |
| M4X10 | 200 | <a href="#">07150.040.010</a> | M6X30 | 200 | <a href="#">07150.060.030</a> | M10X30  | 200 | <a href="#">07150.100.030</a> |
| M4X12 | 200 | <a href="#">07150.040.012</a> | M6X35 | 200 | <a href="#">07150.060.035</a> | M10X35  | 100 | <a href="#">07150.100.035</a> |
| M4X16 | 200 | <a href="#">07150.040.016</a> | M6X40 | 200 | <a href="#">07150.060.040</a> | M10X40  | 100 | <a href="#">07150.100.040</a> |
| M4X20 | 200 | <a href="#">07150.040.020</a> | M6X45 | 200 | <a href="#">07150.060.045</a> | M10X45  | 100 | <a href="#">07150.100.045</a> |
| M4X25 | 200 | <a href="#">07150.040.025</a> | M6X50 | 200 | <a href="#">07150.060.050</a> | M10X50  | 100 | <a href="#">07150.100.050</a> |
| M4X30 | 200 | <a href="#">07150.040.030</a> | M6X55 | 200 | <a href="#">07150.060.055</a> | M10X55  | 100 | <a href="#">07150.100.055</a> |
| M4X35 | 200 | <a href="#">07150.040.035</a> | M6X60 | 200 | <a href="#">07150.060.060</a> | M10X60  | 100 | <a href="#">07150.100.060</a> |
| M4X40 | 200 | <a href="#">07150.040.040</a> | M6X70 | 200 | <a href="#">07150.060.070</a> | M10X70  | 100 | <a href="#">07150.100.070</a> |
| M4X50 | 200 | <a href="#">07150.040.050</a> |       |     |                               | M10X80  | 100 | <a href="#">07150.100.080</a> |
|       |     |                               | M8X8  | 200 | <a href="#">07150.080.008</a> | M10X90  | 100 | <a href="#">07150.100.090</a> |
| M5X6  | 200 | <a href="#">07150.050.006</a> | M8X10 | 200 | <a href="#">07150.080.010</a> | M10X100 | 100 | <a href="#">07150.100.100</a> |
| M5X8  | 200 | <a href="#">07150.050.008</a> | M8X12 | 200 | <a href="#">07150.080.012</a> |         |     |                               |
| M5X10 | 200 | <a href="#">07150.050.010</a> | M8X14 | 200 | <a href="#">07150.080.014</a> | M12X20  | 100 | <a href="#">07150.120.020</a> |
| M5X12 | 200 | <a href="#">07150.050.012</a> | M8X16 | 200 | <a href="#">07150.080.016</a> | M12X25  | 100 | <a href="#">07150.120.025</a> |
| M5X16 | 200 | <a href="#">07150.050.016</a> | M8X18 | 200 | <a href="#">07150.080.018</a> | M12X30  | 100 | <a href="#">07150.120.030</a> |
| M5X20 | 200 | <a href="#">07150.050.020</a> | M8X20 | 200 | <a href="#">07150.080.020</a> | M12X35  | 100 | <a href="#">07150.120.035</a> |
| M5X25 | 200 | <a href="#">07150.050.025</a> | M8X25 | 200 | <a href="#">07150.080.025</a> | M12X40  | 100 | <a href="#">07150.120.040</a> |
| M5X30 | 200 | <a href="#">07150.050.030</a> | M8X30 | 200 | <a href="#">07150.080.030</a> | M12X45  | 100 | <a href="#">07150.120.045</a> |
| M5X35 | 200 | <a href="#">07150.050.035</a> | M8X35 | 200 | <a href="#">07150.080.035</a> | M12X50  | 100 | <a href="#">07150.120.050</a> |
| M5X40 | 200 | <a href="#">07150.050.040</a> | M8X40 | 200 | <a href="#">07150.080.040</a> | M12X55  | 100 | <a href="#">07150.120.055</a> |
| M5X45 | 200 | <a href="#">07150.050.045</a> | M8X45 | 200 | <a href="#">07150.080.045</a> | M12X60  | 100 | <a href="#">07150.120.060</a> |
| M5X50 | 200 | <a href="#">07150.050.050</a> | M8X50 | 200 | <a href="#">07150.080.050</a> | M12X70  | 100 | <a href="#">07150.120.070</a> |

**07150 Hexagon socket button head screw**

| d x L   | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|---------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M12X80  | 50 | <a href="#">07150.120.080</a> | M16X30 | 50 | <a href="#">07150.160.030</a> | M16X80 | 25 | <a href="#">07150.160.080</a> |
| M12X90  | 50 | <a href="#">07150.120.090</a> | M16X35 | 50 | <a href="#">07150.160.035</a> |        |    |                               |
| M12X100 | 50 | <a href="#">07150.120.100</a> | M16X40 | 50 | <a href="#">07150.160.040</a> |        |    |                               |
| M12X110 | 50 | <a href="#">07150.120.110</a> | M16X45 | 50 | <a href="#">07150.160.045</a> |        |    |                               |
| M12X120 | 50 | <a href="#">07150.120.120</a> | M16X60 | 50 | <a href="#">07150.160.060</a> |        |    |                               |
|         |    |                               | M16X70 | 50 | <a href="#">07150.160.070</a> |        |    |                               |

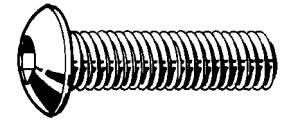
• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

2

**07151 Hexagon socket button head screw**

D04A

**Thread** Metric thread  
**Material** Steel  
**Class** 010.9/10.9  
**Surface treatment** Zinc plated  
**Packaging** Standard



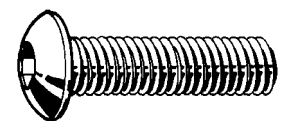
| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X5  | 200 | <a href="#">07151.030.005</a> | M5X70  | 200 | <a href="#">07151.050.070</a> | M10X12  | 200 | <a href="#">07151.100.012</a> |
| M3X6  | 200 | <a href="#">07151.030.006</a> | M6X6   | 200 | <a href="#">07151.060.006</a> | M10X16  | 200 | <a href="#">07151.100.016</a> |
| M3X8  | 200 | <a href="#">07151.030.008</a> | M6X8   | 200 | <a href="#">07151.060.008</a> | M10X20  | 200 | <a href="#">07151.100.020</a> |
| M3X10 | 200 | <a href="#">07151.030.010</a> | M6X10  | 200 | <a href="#">07151.060.010</a> | M10X25  | 200 | <a href="#">07151.100.025</a> |
| M3X12 | 200 | <a href="#">07151.030.012</a> | M6X12  | 200 | <a href="#">07151.060.012</a> | M10X30  | 200 | <a href="#">07151.100.030</a> |
| M3X16 | 200 | <a href="#">07151.030.016</a> | M6X16  | 200 | <a href="#">07151.060.016</a> | M10X35  | 100 | <a href="#">07151.100.035</a> |
| M3X20 | 200 | <a href="#">07151.030.020</a> | M6X20  | 200 | <a href="#">07151.060.020</a> | M10X40  | 100 | <a href="#">07151.100.040</a> |
| M3X25 | 200 | <a href="#">07151.030.025</a> | M6X25  | 200 | <a href="#">07151.060.025</a> | M10X45  | 100 | <a href="#">07151.100.045</a> |
| M3X30 | 200 | <a href="#">07151.030.030</a> | M6X30  | 200 | <a href="#">07151.060.030</a> | M10X50  | 100 | <a href="#">07151.100.050</a> |
| M4X6  | 200 | <a href="#">07151.040.006</a> | M6X35  | 200 | <a href="#">07151.060.035</a> | M10X55  | 100 | <a href="#">07151.100.055</a> |
| M4X8  | 200 | <a href="#">07151.040.008</a> | M6X40  | 200 | <a href="#">07151.060.040</a> | M10X60  | 100 | <a href="#">07151.100.060</a> |
| M4X10 | 200 | <a href="#">07151.040.010</a> | M6X45  | 200 | <a href="#">07151.060.045</a> | M10X70  | 100 | <a href="#">07151.100.070</a> |
| M4X12 | 200 | <a href="#">07151.040.012</a> | M6X50  | 200 | <a href="#">07151.060.050</a> | M10X80  | 100 | <a href="#">07151.100.080</a> |
| M4X16 | 200 | <a href="#">07151.040.016</a> | M6X55  | 200 | <a href="#">07151.060.055</a> | M10X90  | 100 | <a href="#">07151.100.090</a> |
| M4X20 | 200 | <a href="#">07151.040.020</a> | M6X60  | 200 | <a href="#">07151.060.060</a> | M10X100 | 100 | <a href="#">07151.100.100</a> |
| M4X25 | 200 | <a href="#">07151.040.025</a> | M6X70  | 200 | <a href="#">07151.060.070</a> |         |     |                               |
| M4X30 | 200 | <a href="#">07151.040.030</a> |        |     |                               | M12X16  | 100 | <a href="#">07151.120.016</a> |
| M4X35 | 200 | <a href="#">07151.040.035</a> | M8X8   | 200 | <a href="#">07151.080.008</a> | M12X20  | 100 | <a href="#">07151.120.020</a> |
| M4X40 | 200 | <a href="#">07151.040.040</a> | M8X10  | 200 | <a href="#">07151.080.010</a> | M12X25  | 100 | <a href="#">07151.120.025</a> |
| M4X50 | 200 | <a href="#">07151.040.050</a> | M8X12  | 200 | <a href="#">07151.080.012</a> | M12X30  | 100 | <a href="#">07151.120.030</a> |
|       |     |                               | M8X16  | 200 | <a href="#">07151.080.016</a> | M12X35  | 100 | <a href="#">07151.120.035</a> |
| M5X6  | 200 | <a href="#">07151.050.006</a> | M8X20  | 200 | <a href="#">07151.080.020</a> | M12X40  | 100 | <a href="#">07151.120.040</a> |
| M5X8  | 200 | <a href="#">07151.050.008</a> | M8X25  | 200 | <a href="#">07151.080.025</a> | M12X45  | 100 | <a href="#">07151.120.045</a> |
| M5X10 | 200 | <a href="#">07151.050.010</a> | M8X30  | 200 | <a href="#">07151.080.030</a> | M12X50  | 100 | <a href="#">07151.120.050</a> |
| M5X12 | 200 | <a href="#">07151.050.012</a> | M8X35  | 200 | <a href="#">07151.080.035</a> | M12X55  | 100 | <a href="#">07151.120.055</a> |
| M5X16 | 200 | <a href="#">07151.050.016</a> | M8X40  | 200 | <a href="#">07151.080.040</a> | M12X60  | 100 | <a href="#">07151.120.060</a> |
| M5X20 | 200 | <a href="#">07151.050.020</a> | M8X45  | 200 | <a href="#">07151.080.045</a> | M12X70  | 100 | <a href="#">07151.120.070</a> |
| M5X25 | 200 | <a href="#">07151.050.025</a> | M8X50  | 200 | <a href="#">07151.080.050</a> | M12X80  | 50  | <a href="#">07151.120.080</a> |
| M5X30 | 200 | <a href="#">07151.050.030</a> | M8X55  | 200 | <a href="#">07151.080.055</a> | M12X90  | 50  | <a href="#">07151.120.090</a> |
| M5X35 | 200 | <a href="#">07151.050.035</a> | M8X60  | 200 | <a href="#">07151.080.060</a> | M12X100 | 50  | <a href="#">07151.120.100</a> |
| M5X40 | 200 | <a href="#">07151.050.040</a> | M8X70  | 200 | <a href="#">07151.080.070</a> | M12X110 | 50  | <a href="#">07151.120.110</a> |
| M5X45 | 200 | <a href="#">07151.050.045</a> | M8X80  | 100 | <a href="#">07151.080.080</a> | M12X120 | 50  | <a href="#">07151.120.120</a> |
| M5X50 | 200 | <a href="#">07151.050.050</a> | M8X90  | 100 | <a href="#">07151.080.090</a> |         |     |                               |
| M5X60 | 200 | <a href="#">07151.050.060</a> | M8X100 | 100 | <a href="#">07151.080.100</a> |         |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51030 Hexagon socket button head screw**

Q05A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



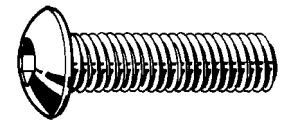
| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X4 *  | 500 | <a href="#">51030.030.004</a> | M4X25   | 50  | <a href="#">51030.040.025</a> | M5X55 * | 500 | <a href="#">51030.050.055</a> |
| M3X5    | 50  | <a href="#">51030.030.005</a> | M4X30   | 50  | <a href="#">51030.040.030</a> | M5X60 * | 200 | <a href="#">51030.050.060</a> |
| M3X6    | 50  | <a href="#">51030.030.006</a> | M4X35   | 50  | <a href="#">51030.040.035</a> |         |     |                               |
| M3X8    | 50  | <a href="#">51030.030.008</a> | M4X40 * | 500 | <a href="#">51030.040.040</a> | M6X6    | 25  | <a href="#">51030.060.006</a> |
| M3X10   | 50  | <a href="#">51030.030.010</a> |         |     |                               | M6X8    | 25  | <a href="#">51030.060.008</a> |
| M3X12   | 50  | <a href="#">51030.030.012</a> | M5X6    | 50  | <a href="#">51030.050.006</a> | M6X10   | 25  | <a href="#">51030.060.010</a> |
| M3X16   | 50  | <a href="#">51030.030.016</a> | M5X8    | 50  | <a href="#">51030.050.008</a> | M6X12   | 25  | <a href="#">51030.060.012</a> |
| M3X20   | 50  | <a href="#">51030.030.020</a> | M5X10   | 50  | <a href="#">51030.050.010</a> | M6X14 * | 500 | <a href="#">51030.060.014</a> |
| M3X25   | 50  | <a href="#">51030.030.025</a> | M5X12   | 50  | <a href="#">51030.050.012</a> | M6X16   | 25  | <a href="#">51030.060.016</a> |
| M3X35 * | 500 | <a href="#">51030.030.035</a> | M5X14 * | 500 | <a href="#">51030.050.014</a> | M6X20   | 25  | <a href="#">51030.060.020</a> |
| M3X40 * | 500 | <a href="#">51030.030.040</a> | M5X16   | 50  | <a href="#">51030.050.016</a> | M6X25   | 25  | <a href="#">51030.060.025</a> |
|         |     |                               | M5X20   | 50  | <a href="#">51030.050.020</a> | M6X30   | 25  | <a href="#">51030.060.030</a> |
| M4X6    | 50  | <a href="#">51030.040.006</a> | M5X25   | 25  | <a href="#">51030.050.025</a> | M6X35   | 25  | <a href="#">51030.060.035</a> |
| M4X8    | 50  | <a href="#">51030.040.008</a> | M5X30   | 25  | <a href="#">51030.050.030</a> | M6X40   | 25  | <a href="#">51030.060.040</a> |
| M4X10   | 50  | <a href="#">51030.040.010</a> | M5X35   | 25  | <a href="#">51030.050.035</a> | M6X45   | 25  | <a href="#">51030.060.045</a> |
| M4X12   | 50  | <a href="#">51030.040.012</a> | M5X40   | 25  | <a href="#">51030.050.040</a> | M6X50   | 25  | <a href="#">51030.060.050</a> |
| M4X16   | 50  | <a href="#">51030.040.016</a> | M5X45   | 25  | <a href="#">51030.050.045</a> | M6X55   | 25  | <a href="#">51030.060.055</a> |
| M4X20   | 50  | <a href="#">51030.040.020</a> | M5X50   | 25  | <a href="#">51030.050.050</a> | M6X60   | 25  | <a href="#">51030.060.060</a> |

**51030 Hexagon socket button head screw**

| d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M6X70 * | 200 | <a href="#">51030.060.070</a> | M8X60    | 25  | <a href="#">51030.080.060</a> | M10X80 * | 100 | <a href="#">51030.100.080</a> |
| M6X80 * | 200 | <a href="#">51030.060.080</a> | M8X80 *  | 200 | <a href="#">51030.080.080</a> |          |     |                               |
| M8X8    | 25  | <a href="#">51030.080.008</a> | M10X12   | 25  | <a href="#">51030.100.012</a> | M12X20   | 10  | <a href="#">51030.120.020</a> |
| M8X10   | 25  | <a href="#">51030.080.010</a> | M10X16   | 25  | <a href="#">51030.100.016</a> | M12X25   | 10  | <a href="#">51030.120.025</a> |
| M8X12   | 25  | <a href="#">51030.080.012</a> | M10X20   | 25  | <a href="#">51030.100.020</a> | M12X30   | 10  | <a href="#">51030.120.030</a> |
| M8X16   | 25  | <a href="#">51030.080.016</a> | M10X25   | 25  | <a href="#">51030.100.025</a> | M12X35   | 10  | <a href="#">51030.120.035</a> |
| M8X20   | 25  | <a href="#">51030.080.020</a> | M10X30   | 25  | <a href="#">51030.100.030</a> | M12X40   | 10  | <a href="#">51030.120.040</a> |
| M8X25   | 25  | <a href="#">51030.080.025</a> | M10X35   | 25  | <a href="#">51030.100.035</a> | M12X45   | 10  | <a href="#">51030.120.045</a> |
| M8X30   | 25  | <a href="#">51030.080.030</a> | M10X40   | 25  | <a href="#">51030.100.040</a> | M12X50   | 10  | <a href="#">51030.120.050</a> |
| M8X35   | 25  | <a href="#">51030.080.035</a> | M10X45   | 10  | <a href="#">51030.100.045</a> | M12X55   | 10  | <a href="#">51030.120.055</a> |
| M8X40   | 25  | <a href="#">51030.080.040</a> | M10X50   | 10  | <a href="#">51030.100.050</a> | M12X60   | 10  | <a href="#">51030.120.060</a> |
| M8X45   | 25  | <a href="#">51030.080.045</a> | M10X55   | 10  | <a href="#">51030.100.055</a> | M12X70   | 10  | <a href="#">51030.120.070</a> |
| M8X50   | 25  | <a href="#">51030.080.050</a> | M10X60   | 10  | <a href="#">51030.100.060</a> |          |     |                               |
| M8X55   | 25  | <a href="#">51030.080.055</a> | M10X70 * | 100 | <a href="#">51030.100.070</a> |          |     |                               |

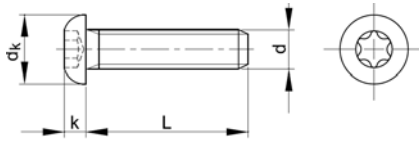
**55030 Hexagon socket button head screw**
**Q45A**

**Thread** Metric thread  
**Material** Stainless steel A4  
**Packaging** Standard

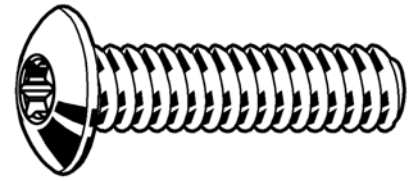


| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X5 *  | 500 | <a href="#">55030.030.005</a> | M5X16   | 50  | <a href="#">55030.050.016</a> | M8X16    | 25  | <a href="#">55030.080.016</a> |
| M3X6    | 50  | <a href="#">55030.030.006</a> | M5X20   | 50  | <a href="#">55030.050.020</a> | M8X20    | 25  | <a href="#">55030.080.020</a> |
| M3X8    | 50  | <a href="#">55030.030.008</a> | M5X25   | 25  | <a href="#">55030.050.025</a> | M8X25    | 25  | <a href="#">55030.080.025</a> |
| M3X10   | 50  | <a href="#">55030.030.010</a> | M5X30   | 25  | <a href="#">55030.050.030</a> | M8X30    | 25  | <a href="#">55030.080.030</a> |
| M3X12   | 50  | <a href="#">55030.030.012</a> | M5X35   | 25  | <a href="#">55030.050.035</a> | M8X35    | 25  | <a href="#">55030.080.035</a> |
| M3X16   | 50  | <a href="#">55030.030.016</a> | M5X40   | 25  | <a href="#">55030.050.040</a> | M8X40    | 25  | <a href="#">55030.080.040</a> |
| M3X20   | 50  | <a href="#">55030.030.020</a> | M5X45   | 25  | <a href="#">55030.050.045</a> | M8X45    | 25  | <a href="#">55030.080.045</a> |
| M3X25   | 50  | <a href="#">55030.030.025</a> | M5X50   | 25  | <a href="#">55030.050.050</a> | M8X50    | 25  | <a href="#">55030.080.050</a> |
| M3X30 * | 500 | <a href="#">55030.030.030</a> | M5X60 * | 200 | <a href="#">55030.050.060</a> | M8X55    | 25  | <a href="#">55030.080.055</a> |
| M3X40 * | 500 | <a href="#">55030.030.040</a> |         |     |                               | M8X60    | 25  | <a href="#">55030.080.060</a> |
| M4X6    | 50  | <a href="#">55030.040.006</a> | M6X8    | 25  | <a href="#">55030.060.008</a> | M10X16   | 25  | <a href="#">55030.100.016</a> |
| M4X8    | 50  | <a href="#">55030.040.008</a> | M6X10   | 25  | <a href="#">55030.060.010</a> | M10X20   | 25  | <a href="#">55030.100.020</a> |
| M4X10   | 50  | <a href="#">55030.040.010</a> | M6X12   | 25  | <a href="#">55030.060.012</a> | M10X25   | 25  | <a href="#">55030.100.025</a> |
| M4X12   | 50  | <a href="#">55030.040.012</a> | M6X16   | 25  | <a href="#">55030.060.016</a> | M10X30   | 25  | <a href="#">55030.100.030</a> |
| M4X16   | 50  | <a href="#">55030.040.016</a> | M6X20   | 25  | <a href="#">55030.060.020</a> | M10X35   | 25  | <a href="#">55030.100.035</a> |
| M4X20   | 50  | <a href="#">55030.040.020</a> | M6X25   | 25  | <a href="#">55030.060.025</a> | M10X40   | 25  | <a href="#">55030.100.040</a> |
| M4X25   | 50  | <a href="#">55030.040.025</a> | M6X30   | 25  | <a href="#">55030.060.030</a> | M10X45   | 10  | <a href="#">55030.100.045</a> |
| M4X30   | 50  | <a href="#">55030.040.030</a> | M6X35   | 25  | <a href="#">55030.060.035</a> | M10X50   | 10  | <a href="#">55030.100.050</a> |
| M4X35 * | 500 | <a href="#">55030.040.035</a> | M6X40   | 25  | <a href="#">55030.060.040</a> | M10X55   | 10  | <a href="#">55030.100.055</a> |
| M4X40 * | 500 | <a href="#">55030.040.040</a> | M6X45   | 25  | <a href="#">55030.060.045</a> | M10X60   | 10  | <a href="#">55030.100.060</a> |
| M5X6 *  | 500 | <a href="#">55030.050.006</a> | M6X50   | 25  | <a href="#">55030.060.050</a> | M12X20 * | 100 | <a href="#">55030.120.020</a> |
| M5X8    | 50  | <a href="#">55030.050.008</a> | M6X55   | 25  | <a href="#">55030.060.055</a> | M12X60 * | 100 | <a href="#">55030.120.060</a> |
| M5X10   | 50  | <a href="#">55030.050.010</a> | M6X60   | 25  | <a href="#">55030.060.060</a> |          |     |                               |
| M5X12   | 50  | <a href="#">55030.050.012</a> | M8X10   | 25  | <a href="#">55030.080.010</a> |          |     |                               |
|         |     |                               | M8X12   | 25  | <a href="#">55030.080.012</a> |          |     |                               |

## Hexalobular socket button head screw



ISO ≈7380  
ANSI ≈ B18.3.4M  
NF ≈E25-126  
BS ≈4168-6



2

### Technical data

| d                     | M4    | M5    | M6    | M8    |
|-----------------------|-------|-------|-------|-------|
| P                     | 0,7   | 0,8   | 1     | 1,25  |
| d <sub>k</sub> (max.) | 7,6   | 9,5   | 10,5  | 14    |
| k (max.)              | 2,2   | 2,75  | 3,3   | 4,4   |
| Socket                | No.20 | No.25 | No.30 | No.40 |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

### 07290 Hexalobular socket button head screw

D04A

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Class             | 010.9/10.9    |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |

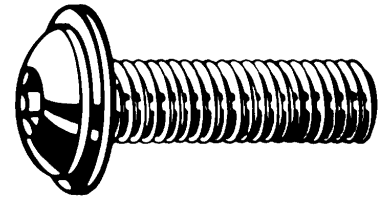
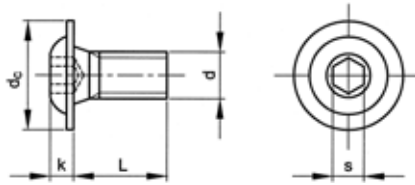


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M4X10 | 200 | <a href="#">07290.040.010</a> | M5X25 | 200 | <a href="#">07290.050.025</a> | M8X16 | 200 | <a href="#">07290.080.016</a> |
| M4X12 | 200 | <a href="#">07290.040.012</a> |       |     |                               | M8X20 | 200 | <a href="#">07290.080.020</a> |
| M4X16 | 200 | <a href="#">07290.040.016</a> | M6X10 | 200 | <a href="#">07290.060.010</a> | M8X25 | 200 | <a href="#">07290.080.025</a> |
| M4X20 | 200 | <a href="#">07290.040.020</a> | M6X12 | 200 | <a href="#">07290.060.012</a> | M8X30 | 200 | <a href="#">07290.080.030</a> |
|       |     |                               | M6X16 | 200 | <a href="#">07290.060.016</a> | M8X35 | 200 | <a href="#">07290.080.035</a> |
| M5X10 | 200 | <a href="#">07290.050.010</a> | M6X20 | 200 | <a href="#">07290.060.020</a> | M8X40 | 200 | <a href="#">07290.080.040</a> |
| M5X12 | 200 | <a href="#">07290.050.012</a> | M6X25 | 200 | <a href="#">07290.060.025</a> |       |     |                               |
| M5X16 | 200 | <a href="#">07290.050.016</a> |       |     |                               |       |     |                               |
| M5X20 | 200 | <a href="#">07290.050.020</a> | M8X12 | 200 | <a href="#">07290.080.012</a> |       |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket button head screw with flange

2



### Technical data

| d   | P    | d <sub>c</sub> (max.) | k (max.) | s   | Full thread L ≤ |
|-----|------|-----------------------|----------|-----|-----------------|
| M3  | 0,5  | 6,9                   | 1,65     | 2   | 12              |
| M4  | 0,7  | 9,4                   | 2,2      | 2,5 | 16              |
| M5  | 0,8  | 11,8                  | 2,75     | 3   | 30              |
| M6  | 1    | 13,6                  | 3,3      | 4   | 30              |
| M8  | 1,25 | 17,8                  | 4,4      | 5   | 40              |
| M10 | 1,5  | 21,9                  | 5,5      | 6   | 40              |
| M12 | 1,75 | 24                    | 6,6      | 8   | 50              |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

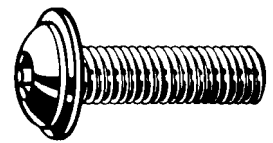
### Article groups

| Thread | Driving features | Material  | Class      | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|------------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St        | 010.9/10.9 | Zipl              | Standard  | 07141 | 2-44 |
| M      | hexagon socket   | St.St. A2 |            |                   | Standard  | 51028 | 2-45 |

#### 07141 Hexagon socket button head screw with flange

D04A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 010.9/10.9    |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



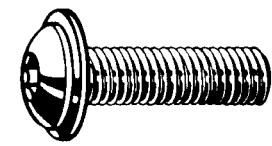
| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">07141.030.006</a> | M5X25 | 200 | <a href="#">07141.050.025</a> | M8X45  | 200 | <a href="#">07141.080.045</a> |
| M3X8  | 200 | <a href="#">07141.030.008</a> | M5X30 | 200 | <a href="#">07141.050.030</a> | M8X50  | 200 | <a href="#">07141.080.050</a> |
| M3X10 | 200 | <a href="#">07141.030.010</a> | M5X40 | 200 | <a href="#">07141.050.040</a> | M8X60  | 200 | <a href="#">07141.080.060</a> |
| M3X12 | 200 | <a href="#">07141.030.012</a> | M5X45 | 200 | <a href="#">07141.050.045</a> |        |     |                               |
| M3X16 | 200 | <a href="#">07141.030.016</a> | M5X50 | 200 | <a href="#">07141.050.050</a> |        |     |                               |
| M3X20 | 200 | <a href="#">07141.030.020</a> |       |     |                               | M10X16 | 200 | <a href="#">07141.100.016</a> |
| M3X25 | 200 | <a href="#">07141.030.025</a> | M6X8  | 200 | <a href="#">07141.060.008</a> | M10X20 | 200 | <a href="#">07141.100.020</a> |
| M3X30 | 200 | <a href="#">07141.030.030</a> | M6X10 | 200 | <a href="#">07141.060.010</a> | M10X25 | 200 | <a href="#">07141.100.025</a> |
|       |     |                               | M6X12 | 200 | <a href="#">07141.060.012</a> | M10X30 | 200 | <a href="#">07141.100.030</a> |
| M4X6  | 200 | <a href="#">07141.040.006</a> | M6X16 | 200 | <a href="#">07141.060.016</a> | M10X35 | 100 | <a href="#">07141.100.035</a> |
| M4X8  | 200 | <a href="#">07141.040.008</a> | M6X20 | 200 | <a href="#">07141.060.020</a> | M10X40 | 100 | <a href="#">07141.100.040</a> |
| M4X10 | 200 | <a href="#">07141.040.010</a> | M6X25 | 200 | <a href="#">07141.060.025</a> | M10X45 | 100 | <a href="#">07141.100.045</a> |
| M4X12 | 200 | <a href="#">07141.040.012</a> | M6X30 | 200 | <a href="#">07141.060.030</a> | M10X50 | 100 | <a href="#">07141.100.050</a> |
| M4X16 | 200 | <a href="#">07141.040.016</a> | M6X35 | 200 | <a href="#">07141.060.035</a> | M10X60 | 100 | <a href="#">07141.100.060</a> |
| M4X20 | 200 | <a href="#">07141.040.020</a> | M6X40 | 200 | <a href="#">07141.060.040</a> |        |     |                               |
| M4X25 | 200 | <a href="#">07141.040.025</a> | M6X50 | 200 | <a href="#">07141.060.050</a> | M12X20 | 100 | <a href="#">07141.120.020</a> |
| M4X30 | 200 | <a href="#">07141.040.030</a> | M6X60 | 200 | <a href="#">07141.060.060</a> | M12X25 | 100 | <a href="#">07141.120.025</a> |
| M4X40 | 200 | <a href="#">07141.040.040</a> |       |     |                               | M12X30 | 100 | <a href="#">07141.120.030</a> |
| M4X45 | 200 | <a href="#">07141.040.045</a> | M8X10 | 200 | <a href="#">07141.080.010</a> | M12X35 | 100 | <a href="#">07141.120.035</a> |
|       |     |                               | M8X12 | 200 | <a href="#">07141.080.012</a> | M12X40 | 100 | <a href="#">07141.120.040</a> |
| M5X6  | 200 | <a href="#">07141.050.006</a> | M8X16 | 200 | <a href="#">07141.080.016</a> | M12X45 | 100 | <a href="#">07141.120.045</a> |
| M5X8  | 200 | <a href="#">07141.050.008</a> | M8X20 | 200 | <a href="#">07141.080.020</a> | M12X50 | 100 | <a href="#">07141.120.050</a> |
| M5X10 | 200 | <a href="#">07141.050.010</a> | M8X25 | 200 | <a href="#">07141.080.025</a> | M12X60 | 100 | <a href="#">07141.120.060</a> |
| M5X12 | 200 | <a href="#">07141.050.012</a> | M8X30 | 200 | <a href="#">07141.080.030</a> | M12X70 | 100 | <a href="#">07141.120.070</a> |
| M5X16 | 200 | <a href="#">07141.050.016</a> | M8X35 | 200 | <a href="#">07141.080.035</a> | M12X80 | 50  | <a href="#">07141.120.080</a> |
| M5X20 | 200 | <a href="#">07141.050.020</a> | M8X40 | 200 | <a href="#">07141.080.040</a> |        |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



**51028 Hexagon socket button head screw with flange** R09A

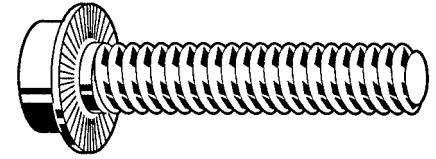
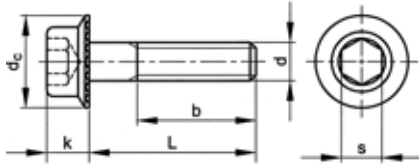
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X6    | 50  | <a href="#">51028.030.006</a> | M5X12   | 50  | <a href="#">51028.050.012</a> | M6X60 *  | 100 | <a href="#">51028.060.060</a> |
| M3X8    | 50  | <a href="#">51028.030.008</a> | M5X16   | 50  | <a href="#">51028.050.016</a> | M8X10    | 25  | <a href="#">51028.080.010</a> |
| M3X10   | 50  | <a href="#">51028.030.010</a> | M5X18 * | 500 | <a href="#">51028.050.018</a> | M8X12    | 25  | <a href="#">51028.080.012</a> |
| M3X12   | 50  | <a href="#">51028.030.012</a> | M5X20   | 50  | <a href="#">51028.050.020</a> | M8X16    | 25  | <a href="#">51028.080.016</a> |
| M3X16   | 50  | <a href="#">51028.030.016</a> | M5X22 * | 500 | <a href="#">51028.050.022</a> | M8X18 *  | 200 | <a href="#">51028.080.018</a> |
| M3X18 * | 500 | <a href="#">51028.030.018</a> | M5X25   | 25  | <a href="#">51028.050.025</a> | M8X20    | 25  | <a href="#">51028.080.020</a> |
| M3X20   | 50  | <a href="#">51028.030.020</a> | M5X30   | 25  | <a href="#">51028.050.030</a> | M8X25    | 25  | <a href="#">51028.080.025</a> |
| M3X22 * | 500 | <a href="#">51028.030.022</a> | M5X35 * | 200 | <a href="#">51028.050.035</a> | M8X30    | 25  | <a href="#">51028.080.030</a> |
| M3X25 * | 500 | <a href="#">51028.030.025</a> | M5X40 * | 200 | <a href="#">51028.050.040</a> | M8X35    | 25  | <a href="#">51028.080.035</a> |
| M4X6    | 50  | <a href="#">51028.040.006</a> | M6X8    | 25  | <a href="#">51028.060.008</a> | M8X40    | 25  | <a href="#">51028.080.040</a> |
| M4X8    | 50  | <a href="#">51028.040.008</a> | M6X10   | 25  | <a href="#">51028.060.010</a> | M8X45 *  | 100 | <a href="#">51028.080.045</a> |
| M4X10   | 50  | <a href="#">51028.040.010</a> | M6X12   | 25  | <a href="#">51028.060.012</a> | M8X50 *  | 100 | <a href="#">51028.080.050</a> |
| M4X12   | 50  | <a href="#">51028.040.012</a> | M6X16   | 25  | <a href="#">51028.060.016</a> | M10X16   | 25  | <a href="#">51028.100.016</a> |
| M4X14 * | 500 | <a href="#">51028.040.014</a> | M6X18 * | 200 | <a href="#">51028.060.018</a> | M10X20   | 25  | <a href="#">51028.100.020</a> |
| M4X16   | 50  | <a href="#">51028.040.016</a> | M6X20   | 25  | <a href="#">51028.060.020</a> | M10X25   | 25  | <a href="#">51028.100.025</a> |
| M4X20   | 50  | <a href="#">51028.040.020</a> | M6X22 * | 200 | <a href="#">51028.060.022</a> | M10X30   | 10  | <a href="#">51028.100.030</a> |
| M4X22 * | 500 | <a href="#">51028.040.022</a> | M6X25   | 25  | <a href="#">51028.060.025</a> | M10X35   | 10  | <a href="#">51028.100.035</a> |
| M4X25   | 50  | <a href="#">51028.040.025</a> | M6X30   | 25  | <a href="#">51028.060.030</a> | M10X40   | 10  | <a href="#">51028.100.040</a> |
| M4X30   | 50  | <a href="#">51028.040.030</a> | M6X35   | 25  | <a href="#">51028.060.035</a> | M10X45 * | 100 | <a href="#">51028.100.045</a> |
| M5X5 *  | 500 | <a href="#">51028.050.005</a> | M6X40   | 25  | <a href="#">51028.060.040</a> | M10X50 * | 50  | <a href="#">51028.100.050</a> |
| M5X8    | 50  | <a href="#">51028.050.008</a> | M6X45 * | 100 | <a href="#">51028.060.045</a> |          |     |                               |
| M5X10   | 50  | <a href="#">51028.050.010</a> | M6X50 * | 100 | <a href="#">51028.060.050</a> |          |     |                               |
|         |     |                               | M6X55 * | 100 | <a href="#">51028.060.055</a> |          |     |                               |

## Self-locking hexagon socket head cap screw with flange

2



### Technical data

|                       | M5  | M6   | M8   | M10  | M12  |
|-----------------------|-----|------|------|------|------|
| d                     |     |      |      |      |      |
| P                     | 0,8 | 1    | 1,25 | 1,5  | 1,75 |
| b                     | 22  | 24   | 28   | 32   | 36   |
| d <sub>c</sub> (max.) | 11  | 13,5 | 17   | 19,5 | 22,5 |
| k (max.)              | 5   | 6    | 8    | 10   | 12   |
| s                     | 4   | 5    | 6    | 8    | 10   |
| Full thread L ≤       | -   | 25   | 30   | 35   | 35   |

- RIPP self-locking hexagon bolts with flange are designated with the property class 100 with a min. tensile strength of 1040 N/mm<sup>2</sup>, they are casehardened and therefore cannot be classified in the usual class 10.9.

Special features of RIPP self-locking hexagon bolts with flange:

- the serrated flange eliminates surface damage during assembly, prevents self-loosening and reduces relaxation
- the flange enables built up forces under the bolt head to be spread over a larger area, consequently resulting in a lower surface pressure
- large holes (oversized) and/or tooling holes can be covered by the flange
- a washer and/or a locking element is not necessary

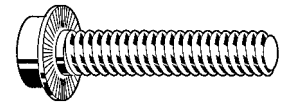
ASSEMBLY PRE-LOAD F<sub>M</sub> in kN and TIGHTENING TORQUE M<sub>A</sub> in Nm

| Class | Mating material                     | M5             |                | M6             |                | M8             |                | M10            |                | M12            |                |
|-------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|       |                                     | F <sub>M</sub> | M <sub>A</sub> | F <sub>M</sub> | M <sub>A</sub> | F <sub>M</sub> | M <sub>A</sub> | F <sub>M</sub> | M <sub>A</sub> | F <sub>M</sub> | M <sub>A</sub> |
| 100   | Steel (Rm < 800 N/mm <sup>2</sup> ) | 9              | 13             | 12,6           | 24             | 23,2           | 45             | 37             | 90             | 54             | 150            |
|       | Steel (Rm ≥ 800 N/mm <sup>2</sup> ) | 9              | 11             | 12,6           | 20             | 23,2           | 42             | 37             | 85             | 54             | 140            |
|       | Malleable iron                      | 9              | 10             | 12,6           | 19             | 23,2           | 39             | 37             | 80             | 54             | 120            |

### 07095 RIPP Self-locking hexagon socket head cap screw with flange

D93A

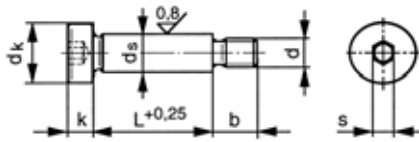
|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 100           |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒      | Art.number                    |                               |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|--------|-------------------------------|-------------------------------|
| M5X10 | 500 | <a href="#">07095.050.010</a> | M8X12  | 200 | <a href="#">07095.080.012</a> | M12X20 | 100    | <a href="#">07095.120.020</a> |                               |
| M5X12 | 500 | <a href="#">07095.050.012</a> | M8X16  | 200 | <a href="#">07095.080.016</a> |        | M12X25 | 100                           | <a href="#">07095.120.025</a> |
| M5X16 | 500 | <a href="#">07095.050.016</a> | M8X20  | 200 | <a href="#">07095.080.020</a> |        | M12X30 | 100                           | <a href="#">07095.120.030</a> |
| M5X20 | 500 | <a href="#">07095.050.020</a> | M8X25  | 200 | <a href="#">07095.080.025</a> |        | M12X35 | 100                           | <a href="#">07095.120.035</a> |
| M6X10 | 500 | <a href="#">07095.060.010</a> | M8X30  | 200 | <a href="#">07095.080.030</a> |        | M12X40 | 100                           | <a href="#">07095.120.040</a> |
| M6X12 | 500 | <a href="#">07095.060.012</a> | M8X40  | 200 | <a href="#">07095.080.040</a> |        | M12X45 | 100                           | <a href="#">07095.120.045</a> |
| M6X16 | 500 | <a href="#">07095.060.016</a> | M10X20 | 200 | <a href="#">07095.100.020</a> |        | M12X50 | 100                           | <a href="#">07095.120.050</a> |
| M6X20 | 500 | <a href="#">07095.060.020</a> | M10X25 | 200 | <a href="#">07095.100.025</a> |        |        |                               |                               |
| M6X25 | 500 | <a href="#">07095.060.025</a> | M10X30 | 200 | <a href="#">07095.100.030</a> |        |        |                               |                               |
| M6X30 | 500 | <a href="#">07095.060.030</a> | M10X35 | 100 | <a href="#">07095.100.035</a> |        |        |                               |                               |
|       |     |                               | M10X40 | 100 | <a href="#">07095.100.040</a> |        |        |                               |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket head shoulder screw f9



ISO ≈7379  
ANSI ≈B18.3.3M  
BS ≈4168-7



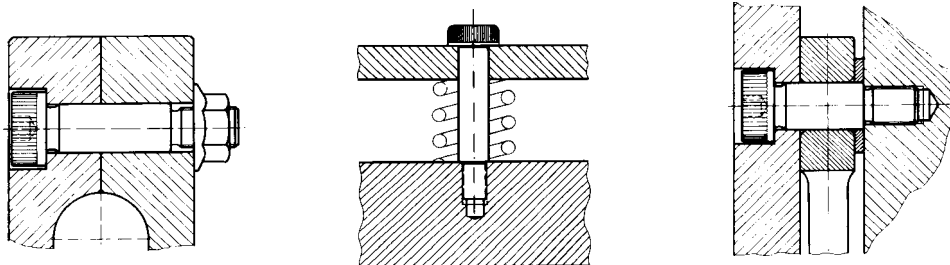
2

### Technical data

| d                     | M5    | M6    | M8    | M10    | M12    | M16    | M20    |
|-----------------------|-------|-------|-------|--------|--------|--------|--------|
| P                     | 0,8   | 1     | 1,25  | 1,5    | 1,75   | 2      | 2,5    |
| d <sub>s</sub> (nom.) | 6     | 8     | 10    | 12     | 16     | 20     | 24     |
| Tolerance f9 (max.)   | 5,990 | 7,987 | 9,987 | 11,984 | 15,984 | 19,980 | 23,980 |
| Tolerance f9 (min.)   | 5,960 | 7,951 | 9,951 | 11,941 | 15,941 | 19,928 | 23,928 |
| b                     | 9,5   | 11    | 13    | 16     | 18     | 22     | 27     |
| d <sub>k</sub> (max.) | 10,22 | 13,27 | 16,27 | 18,27  | 24,33  | 30,33  | 36,39  |
| k (max.)              | 4,5   | 5,5   | 7     | 9      | 11     | 14     | 16     |
| s                     | 3     | 4     | 5     | 6      | 8      | 10     | 12     |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

### Example of application



### Article groups

| Thread | Driving features | Material  | Class      | Packaging | Code  | Page |
|--------|------------------|-----------|------------|-----------|-------|------|
| M      | hexagon socket   | St        | 012.9/12.9 | Standard  | 07111 | 2-47 |
| M      | hexagon socket   | St.St. A2 |            | Standard  | 51044 | 2-48 |

### 07111 Hexagon socket head shoulder screw f9

D93A

**Thread** Metric thread  
**Material** Steel  
**Class** 012.9/12.9  
**Packaging** Standard



| (d) ds x L | ✉  | Art.number                    | (d) ds x L | ✉  | Art.number                    | (d) ds x L | ✉  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| M5 6X6     | 50 | <a href="#">07111.050.006</a> | M6 8X30    | 50 | <a href="#">07111.060.030</a> | M8 10X60   | 50 | <a href="#">07111.080.060</a> |
| M5 6X8     | 50 | <a href="#">07111.050.008</a> | M6 8X35    | 50 | <a href="#">07111.060.035</a> | M8 10X70   | 50 | <a href="#">07111.080.070</a> |
| M5 6X10    | 50 | <a href="#">07111.050.010</a> | M6 8X40    | 50 | <a href="#">07111.060.040</a> | M8 10X80   | 50 | <a href="#">07111.080.080</a> |
| M5 6X12    | 50 | <a href="#">07111.050.012</a> | M6 8X45    | 50 | <a href="#">07111.060.045</a> | M8 10X90   | 50 | <a href="#">07111.080.090</a> |
| M5 6X16    | 50 | <a href="#">07111.050.016</a> | M6 8X50    | 50 | <a href="#">07111.060.050</a> | M8 10X100  | 25 | <a href="#">07111.080.100</a> |
| M5 6X20    | 50 | <a href="#">07111.050.020</a> | M6 8X60    | 50 | <a href="#">07111.060.060</a> | M8 10X120  | 25 | <a href="#">07111.080.120</a> |
| M5 6X25    | 50 | <a href="#">07111.050.025</a> | M6 8X70    | 50 | <a href="#">07111.060.070</a> |            |    |                               |
| M5 6X30    | 50 | <a href="#">07111.050.030</a> |            |    |                               | M10 12X12  | 25 | <a href="#">07111.100.012</a> |
| M5 6X35    | 50 | <a href="#">07111.050.035</a> | M8 10X10   | 50 | <a href="#">07111.080.010</a> | M10 12X16  | 25 | <a href="#">07111.100.016</a> |
| M5 6X40    | 50 | <a href="#">07111.050.040</a> | M8 10X12   | 50 | <a href="#">07111.080.012</a> | M10 12X20  | 25 | <a href="#">07111.100.020</a> |
| M5 6X45    | 50 | <a href="#">07111.050.045</a> | M8 10X16   | 50 | <a href="#">07111.080.016</a> | M10 12X25  | 25 | <a href="#">07111.100.025</a> |
| M5 6X50    | 50 | <a href="#">07111.050.050</a> | M8 10X20   | 50 | <a href="#">07111.080.020</a> | M10 12X30  | 25 | <a href="#">07111.100.030</a> |
|            |    |                               | M8 10X25   | 50 | <a href="#">07111.080.025</a> | M10 12X35  | 25 | <a href="#">07111.100.035</a> |
| M6 8X8     | 50 | <a href="#">07111.060.008</a> | M8 10X30   | 50 | <a href="#">07111.080.030</a> | M10 12X40  | 25 | <a href="#">07111.100.040</a> |
| M6 8X10    | 50 | <a href="#">07111.060.010</a> | M8 10X35   | 50 | <a href="#">07111.080.035</a> | M10 12X45  | 25 | <a href="#">07111.100.045</a> |
| M6 8X12    | 50 | <a href="#">07111.060.012</a> | M8 10X40   | 50 | <a href="#">07111.080.040</a> | M10 12X50  | 25 | <a href="#">07111.100.050</a> |
| M6 8X16    | 50 | <a href="#">07111.060.016</a> | M8 10X45   | 50 | <a href="#">07111.080.045</a> | M10 12X55  | 25 | <a href="#">07111.100.055</a> |
| M6 8X20    | 50 | <a href="#">07111.060.020</a> | M8 10X50   | 50 | <a href="#">07111.080.050</a> | M10 12X60  | 25 | <a href="#">07111.100.060</a> |
| M6 8X25    | 50 | <a href="#">07111.060.025</a> | M8 10X55   | 50 | <a href="#">07111.080.055</a> | M10 12X70  | 25 | <a href="#">07111.100.070</a> |

**07111 Hexagon socket head shoulder screw f9**

| (d) ds x L | ☒  | Art.number                    | (d) ds x L | ☒  | Art.number                    | (d) ds x L | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| M10 12X80  | 25 | <a href="#">07111.100.080</a> | M12 16X70  | 25 | <a href="#">07111.120.070</a> | M16 20X80  | 10 | <a href="#">07111.160.080</a> |
| M10 12X90  | 25 | <a href="#">07111.100.090</a> | M12 16X80  | 25 | <a href="#">07111.120.080</a> | M16 20X90  | 10 | <a href="#">07111.160.090</a> |
| M10 12X100 | 25 | <a href="#">07111.100.100</a> | M12 16X90  | 25 | <a href="#">07111.120.090</a> | M16 20X100 | 10 | <a href="#">07111.160.100</a> |
| M10 12X120 | 25 | <a href="#">07111.100.120</a> | M12 16X100 | 25 | <a href="#">07111.120.100</a> | M16 20X120 | 10 | <a href="#">07111.160.120</a> |
| M12 16X20  | 25 | <a href="#">07111.120.020</a> | M12 16X120 | 25 | <a href="#">07111.120.120</a> | M20 24X50  | 5  | <a href="#">07111.200.050</a> |
| M12 16X25  | 25 | <a href="#">07111.120.025</a> | M16 20X30  | 10 | <a href="#">07111.160.030</a> | M20 24X55  | 5  | <a href="#">07111.200.055</a> |
| M12 16X30  | 25 | <a href="#">07111.120.030</a> | M16 20X35  | 10 | <a href="#">07111.160.035</a> | M20 24X60  | 5  | <a href="#">07111.200.060</a> |
| M12 16X35  | 25 | <a href="#">07111.120.035</a> | M16 20X40  | 10 | <a href="#">07111.160.040</a> | M20 24X70  | 5  | <a href="#">07111.200.070</a> |
| M12 16X40  | 25 | <a href="#">07111.120.040</a> | M16 20X45  | 10 | <a href="#">07111.160.045</a> | M20 24X80  | 5  | <a href="#">07111.200.080</a> |
| M12 16X45  | 25 | <a href="#">07111.120.045</a> | M16 20X50  | 10 | <a href="#">07111.160.050</a> | M20 24X90  | 5  | <a href="#">07111.200.090</a> |
| M12 16X50  | 25 | <a href="#">07111.120.050</a> | M16 20X55  | 10 | <a href="#">07111.160.055</a> | M20 24X100 | 5  | <a href="#">07111.200.100</a> |
| M12 16X55  | 25 | <a href="#">07111.120.055</a> | M16 20X60  | 10 | <a href="#">07111.160.060</a> | M20 24X120 | 5  | <a href="#">07111.200.120</a> |
| M12 16X60  | 25 | <a href="#">07111.120.060</a> | M16 20X70  | 10 | <a href="#">07111.160.070</a> |            |    |                               |

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- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51044 Hexagon socket head shoulder screw f9**
**Q05A**

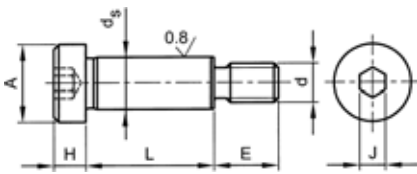
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| (d) ds x L | ☒  | Art.number                    | (d) ds x L | ☒  | Art.number                    | (d) ds x L  | ☒ | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|-------------|---|-------------------------------|
| (M5)6X10   | 10 | <a href="#">51044.050.010</a> | (M8)10X20  | 10 | <a href="#">51044.080.020</a> | (M10)12X80  | 5 | <a href="#">51044.100.080</a> |
| (M5)6X12   | 10 | <a href="#">51044.050.012</a> | (M8)10X25  | 10 | <a href="#">51044.080.025</a> | (M10)12X100 | 5 | <a href="#">51044.100.100</a> |
| (M5)6X16   | 10 | <a href="#">51044.050.016</a> | (M8)10X30  | 10 | <a href="#">51044.080.030</a> |             |   |                               |
| (M5)6X20   | 10 | <a href="#">51044.050.020</a> | (M8)10X40  | 10 | <a href="#">51044.080.040</a> | (M12)16X30  | 5 | <a href="#">51044.120.030</a> |
| (M5)6X25   | 10 | <a href="#">51044.050.025</a> | (M8)10X50  | 10 | <a href="#">51044.080.050</a> | (M12)16X40  | 5 | <a href="#">51044.120.040</a> |
| (M5)6X30   | 10 | <a href="#">51044.050.030</a> | (M8)10X60  | 10 | <a href="#">51044.080.060</a> | (M12)16X50  | 5 | <a href="#">51044.120.050</a> |
| (M5)6X40   | 10 | <a href="#">51044.050.040</a> | (M8)10X70  | 10 | <a href="#">51044.080.070</a> | (M12)16X60  | 5 | <a href="#">51044.120.060</a> |
|            |    |                               | (M8)10X80  | 10 | <a href="#">51044.080.080</a> | (M12)16X70  | 5 | <a href="#">51044.120.070</a> |
| (M6)8X12   | 10 | <a href="#">51044.060.012</a> |            |    |                               | (M12)16X80  | 5 | <a href="#">51044.120.080</a> |
| (M6)8X16   | 10 | <a href="#">51044.060.016</a> | (M10)12X16 | 5  | <a href="#">51044.100.016</a> | (M12)16X100 | 5 | <a href="#">51044.120.100</a> |
| (M6)8X20   | 10 | <a href="#">51044.060.020</a> | (M10)12X20 | 5  | <a href="#">51044.100.020</a> |             |   |                               |
| (M6)8X25   | 10 | <a href="#">51044.060.025</a> | (M10)12X25 | 5  | <a href="#">51044.100.025</a> | (M16)20X40  | 3 | <a href="#">51044.160.040</a> |
| (M6)8X30   | 10 | <a href="#">51044.060.030</a> | (M10)12X30 | 5  | <a href="#">51044.100.030</a> | (M16)20X50  | 3 | <a href="#">51044.160.050</a> |
| (M6)8X40   | 10 | <a href="#">51044.060.040</a> | (M10)12X40 | 5  | <a href="#">51044.100.040</a> | (M16)20X60  | 3 | <a href="#">51044.160.060</a> |
| (M6)8X50   | 10 | <a href="#">51044.060.050</a> | (M10)12X50 | 5  | <a href="#">51044.100.050</a> | (M16)20X70  | 3 | <a href="#">51044.160.070</a> |
|            |    |                               | (M10)12X60 | 5  | <a href="#">51044.100.060</a> | (M16)20X80  | 3 | <a href="#">51044.160.080</a> |
| (M8)10X16  | 10 | <a href="#">51044.080.016</a> | (M10)12X70 | 5  | <a href="#">51044.100.070</a> |             |   |                               |

## Hexagon socket head shoulder screw UNC

ANSI B18.3  
BS 2470

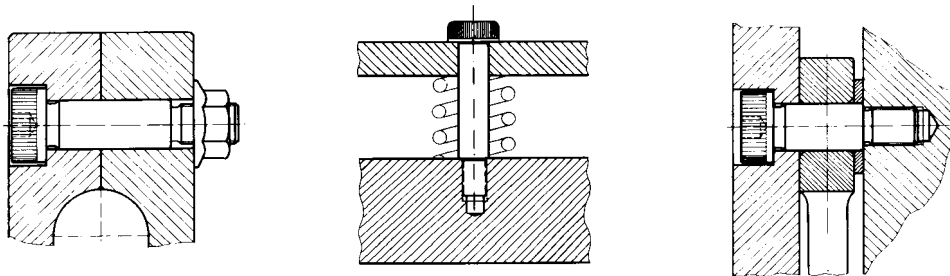


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### Technical data

| d                               | No.10 | 1/4   | 5/16  | 3/8    | 1/2    | 5/8    |
|---------------------------------|-------|-------|-------|--------|--------|--------|
| Threads per inch                | 24    | 20    | 18    | 16     | 13     | 11     |
| d <sub>s</sub> (nom.)           | 1/4   | 5/16  | 3/8   | 1/2    | 5/8    | 3/4    |
| Tolerance d <sub>s</sub> (min.) | 6,299 | 7,887 | 9,474 | 12,649 | 15,824 | 18,999 |
| Tolerance d <sub>s</sub> (max.) | 6,248 | 7,836 | 9,423 | 12,598 | 15,773 | 18,948 |
| E                               | 9,5   | 11,1  | 12,7  | 15,9   | 19,05  | 22,2   |
| A (max.)                        | 9,5   | 11,1  | 14,3  | 19,05  | 22,2   | 24,4   |
| H (max.)                        | 4,75  | 5,56  | 6,35  | 7,95   | 9,5    | 12,5   |
| J                               | 1/8   | 5/32  | 3/16  | 1/4    | 5/16   | 3/8    |

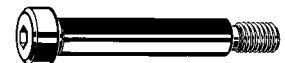
### Example of application



### 07116 Hexagon socket head shoulder screw UNC

X05A

Thread Unified National Coarse  
Material Steel  
Class 12.9  
Packaging Standard

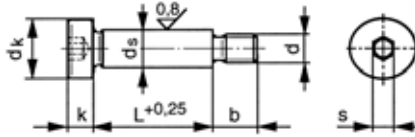


| (d) ds x L      | ☒  | Art.number                    | (d) ds x L      | ☒  | Art.number                    | (d) ds x L     | ☒ | Art.number                    |
|-----------------|----|-------------------------------|-----------------|----|-------------------------------|----------------|---|-------------------------------|
| (NO10)1/4X3/4   | 25 | <a href="#">07116.048.019</a> | (5/16)3/8X1.1/2 | 10 | <a href="#">07116.079.038</a> | (1/2)5/8X1.1/2 | 5 | <a href="#">07116.127.038</a> |
| (NO10)1/4X1.IN. | 25 | <a href="#">07116.048.025</a> | (5/16)3/8X1.3/4 | 10 | <a href="#">07116.079.044</a> | (1/2)5/8X2.IN. | 5 | <a href="#">07116.127.050</a> |
| (NO10)1/4X1.1/4 | 25 | <a href="#">07116.048.031</a> | (5/16)3/8X2.IN. | 10 | <a href="#">07116.079.050</a> | (1/2)5/8X2.1/2 | 5 | <a href="#">07116.127.063</a> |
| (NO10)1/4X1.1/2 | 10 | <a href="#">07116.048.038</a> | (5/16)3/8X2.1/2 | 10 | <a href="#">07116.079.063</a> | (1/2)5/8X3.IN. | 5 | <a href="#">07116.127.076</a> |
| (NO10)1/4X2.IN. | 10 | <a href="#">07116.048.050</a> | (5/16)3/8X3.IN. | 10 | <a href="#">07116.079.076</a> | (1/2)5/8X3.1/2 | 3 | <a href="#">07116.127.088</a> |
| (1/4)5/16X1.IN. | 25 | <a href="#">07116.063.025</a> |                 |    |                               | (1/2)5/8X4.IN. | 3 | <a href="#">07116.127.101</a> |
| (1/4)5/16X1.1/4 | 25 | <a href="#">07116.063.031</a> | (3/8)1/2X1.IN.  | 10 | <a href="#">07116.096.025</a> |                |   |                               |
| (1/4)5/16X1.1/2 | 25 | <a href="#">07116.063.038</a> | (3/8)1/2X1.1/4  | 10 | <a href="#">07116.096.031</a> | (5/8)3/4X2.IN. | 3 | <a href="#">07116.158.050</a> |
| (1/4)5/16X1.3/4 | 10 | <a href="#">07116.063.044</a> | (3/8)1/2X1.1/2  | 10 | <a href="#">07116.096.038</a> | (5/8)3/4X2.1/2 | 3 | <a href="#">07116.158.063</a> |
| (1/4)5/16X2.IN. | 10 | <a href="#">07116.063.050</a> | (3/8)1/2X2.IN.  | 10 | <a href="#">07116.096.050</a> | (5/8)3/4X3.IN. | 3 | <a href="#">07116.158.076</a> |
| (1/4)5/16X2.1/4 | 10 | <a href="#">07116.063.057</a> | (3/8)1/2X2.1/2  | 5  | <a href="#">07116.096.063</a> | (5/8)3/4X3.1/2 | 3 | <a href="#">07116.158.088</a> |
| (1/4)5/16X2.1/2 | 10 | <a href="#">07116.063.063</a> | (3/8)1/2X3.IN.  | 5  | <a href="#">07116.096.076</a> | (5/8)3/4X4.IN. | 3 | <a href="#">07116.158.101</a> |
|                 |    |                               | (3/8)1/2X3.1/2  | 5  | <a href="#">07116.096.088</a> |                |   |                               |
| (5/16)3/8X3/4   | 10 | <a href="#">07116.079.019</a> | (3/8)1/2X4.IN.  | 5  | <a href="#">07116.096.101</a> |                |   |                               |
| (5/16)3/8X1.IN. | 10 | <a href="#">07116.079.025</a> |                 |    |                               |                |   |                               |
| (5/16)3/8X1.1/4 | 10 | <a href="#">07116.079.031</a> | (1/2)5/8X1.1/4  | 5  | <a href="#">07116.127.031</a> |                |   |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket head shoulder screw h8

ISO ≈7379  
ANSI ≈B18.3.3M  
BS ≈4168-7

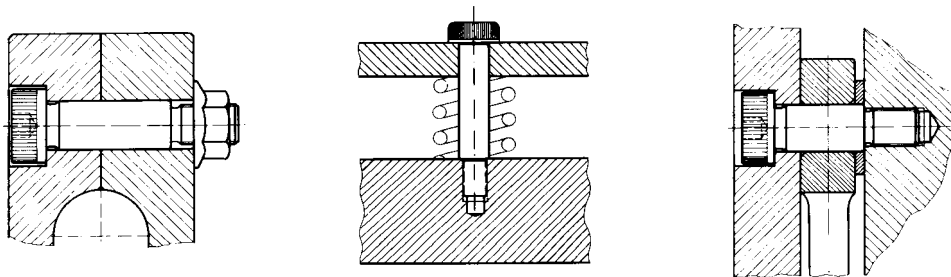


### Technical data

|                       | M5       | M6    | M8     | M10       | M12       |
|-----------------------|----------|-------|--------|-----------|-----------|
| d                     | M5       | M6    | M8     | M10       | M12       |
| P                     | 0,8      | 1     | 1,25   | 1,5       | 1,75      |
| d <sub>s</sub> (nom.) | 6 (#ISO) | 8     | 10     | 12 (#ISO) | 16        |
| Tolerance h8 (max.)   | 6,000    | 8,000 | 10,000 | 12,000    | 16,000    |
| Tolerance h8 (min.)   | 5,982    | 7,978 | 9,978  | 11,973    | 15,973    |
| b                     | 9,5      | 11    | 13     | 16        | 18        |
| d <sub>k</sub> (max.) | 10,22    | 13,27 | 16,27  | 18,27     | 24,33     |
| k (max.)              | 4,5      | 5,5   | 7      | 9 (#ISO)  | 11 (#ISO) |
| s                     | 3        | 4     | 5      | 6         | 8         |

- Due to the unfavourable geometry of the head, these fasteners do have reduced load ability.
- When steel fasteners (e.g. 8.8 / 10.9 / 12.9) with reduced load ability needs to be marked, the marking symbol for the property class is preceded by the digit '0'. So 8.8 → 08.8 and 10.9 → 010.9 and 12.9 → 012.9.
- For the stainless steel fasteners it is indicated by only marking the steel grade and by leaving out the property class 70 (e.g. A2-70 → A2).
- The former and the new indications can occur side by side for some time.

### Example of application



### 07117 Hexagon socket head shoulder screw h8

D93A

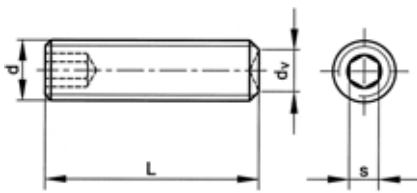
**Thread** Metric thread  
**Material** Steel  
**Class** 012.9/12.9  
**Packaging** Standard



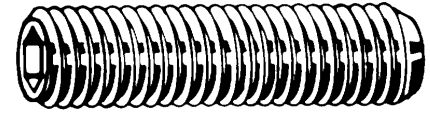
| (d) ds x L | ☒  | Art.number                    | (d) ds x L | ☒  | Art.number                    | (d) ds x L | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| M5 6X10    | 50 | <a href="#">07117.050.010</a> | M8 10X16   | 50 | <a href="#">07117.080.016</a> | M10 12X80  | 25 | <a href="#">07117.100.080</a> |
| M5 6X12    | 50 | <a href="#">07117.050.012</a> | M8 10X20   | 50 | <a href="#">07117.080.020</a> | M10 12X90  | 25 | <a href="#">07117.100.090</a> |
| M5 6X16    | 50 | <a href="#">07117.050.016</a> | M8 10X25   | 50 | <a href="#">07117.080.025</a> | M10 12X100 | 25 | <a href="#">07117.100.100</a> |
| M5 6X20    | 50 | <a href="#">07117.050.020</a> | M8 10X30   | 50 | <a href="#">07117.080.030</a> |            |    |                               |
| M5 6X25    | 50 | <a href="#">07117.050.025</a> | M8 10X40   | 50 | <a href="#">07117.080.040</a> | M12 16X30  | 25 | <a href="#">07117.120.030</a> |
| M5 6X30    | 50 | <a href="#">07117.050.030</a> | M8 10X50   | 50 | <a href="#">07117.080.050</a> | M12 16X40  | 25 | <a href="#">07117.120.040</a> |
| M5 6X40    | 50 | <a href="#">07117.050.040</a> | M8 10X60   | 50 | <a href="#">07117.080.060</a> | M12 16X50  | 25 | <a href="#">07117.120.050</a> |
|            |    |                               | M8 10X70   | 50 | <a href="#">07117.080.070</a> | M12 16X60  | 25 | <a href="#">07117.120.060</a> |
| M6 8X10    | 50 | <a href="#">07117.060.010</a> |            |    |                               | M12 16X70  | 25 | <a href="#">07117.120.070</a> |
| M6 8X12    | 50 | <a href="#">07117.060.012</a> | M10 12X16  | 25 | <a href="#">07117.100.016</a> | M12 16X80  | 25 | <a href="#">07117.120.080</a> |
| M6 8X16    | 50 | <a href="#">07117.060.016</a> | M10 12X20  | 25 | <a href="#">07117.100.020</a> | M12 16X90  | 25 | <a href="#">07117.120.090</a> |
| M6 8X20    | 50 | <a href="#">07117.060.020</a> | M10 12X25  | 25 | <a href="#">07117.100.025</a> | M12 16X100 | 25 | <a href="#">07117.120.100</a> |
| M6 8X25    | 50 | <a href="#">07117.060.025</a> | M10 12X30  | 25 | <a href="#">07117.100.030</a> | M12 16X120 | 25 | <a href="#">07117.120.120</a> |
| M6 8X30    | 50 | <a href="#">07117.060.030</a> | M10 12X40  | 25 | <a href="#">07117.100.040</a> |            |    |                               |
| M6 8X40    | 50 | <a href="#">07117.060.040</a> | M10 12X50  | 25 | <a href="#">07117.100.050</a> |            |    |                               |
| M6 8X50    | 50 | <a href="#">07117.060.050</a> | M10 12X60  | 25 | <a href="#">07117.100.060</a> |            |    |                               |
|            |    |                               | M10 12X70  | 25 | <a href="#">07117.100.070</a> |            |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket set screw with cup point



ISO 4029  
**DIN 916**  
 NEN 2343  
 ANSI B18.3.6M  
 NF E27-183  
 BS 4168-5



2

### Technical data

| d    | P    | d <sub>v</sub> | s   |
|------|------|----------------|-----|
| M1,6 | 0,35 | 0,8            | 0,7 |
| M2   | 0,4  | 1              | 0,9 |
| M2,5 | 0,45 | 1,2            | 1,3 |
| M3   | 0,5  | 1,4            | 1,5 |
| M4   | 0,7  | 2              | 2   |

| d   | P    | d <sub>v</sub> | s   |
|-----|------|----------------|-----|
| M5  | 0,8  | 2,5            | 2,5 |
| M6  | 1    | 3              | 3   |
| M8  | 1,25 | 5              | 4   |
| M10 | 1,5  | 6              | 5   |
| M12 | 1,75 | 8              | 6   |

| d   | P   | d <sub>v</sub> | s  |
|-----|-----|----------------|----|
| M14 | 2   | 9              | 6  |
| M16 | 2   | 10             | 8  |
| M20 | 2,5 | 14             | 10 |
| M24 | 3   | 16             | 12 |

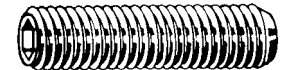
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St        | 45H   |                   | Standard  | 07840 | 2-51 |
| M      | hexagon socket   | St        | 45H   | Zipl              | Standard  | 07850 | 2-52 |
| M      | hexagon socket   | St        | 45H   | Zipl yell.p.      | Standard  | 07930 | 2-52 |
| M      | hexagon socket   | St.St. A2 | 70    |                   | Standard  | 51260 | 2-53 |
| M      | hexagon socket   | St.St. A4 | 70    |                   | Standard  | 55260 | 2-53 |

### 07840 Hexagon socket set screw with cup point

D05A

**Thread** Metric thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X2  | 200 | <a href="#">07840.020.002</a> | M5X25  | 200 | <a href="#">07840.050.025</a> | M10X30  | 100 | <a href="#">07840.100.030</a> |
| M2X3  | 200 | <a href="#">07840.020.003</a> | M5X30  | 200 | <a href="#">07840.050.030</a> | M10X35  | 100 | <a href="#">07840.100.035</a> |
| M2X4  | 200 | <a href="#">07840.020.004</a> | M5X35  | 200 | <a href="#">07840.050.035</a> | M10X40  | 100 | <a href="#">07840.100.040</a> |
| M2X6  | 200 | <a href="#">07840.020.006</a> | M5X40  | 200 | <a href="#">07840.050.040</a> | M10X45  | 100 | <a href="#">07840.100.045</a> |
| M2X8  | 200 | <a href="#">07840.020.008</a> | M5X50  | 200 | <a href="#">07840.050.050</a> | M10X50  | 100 | <a href="#">07840.100.050</a> |
| M2X10 | 200 | <a href="#">07840.020.010</a> |        |     |                               | M10X60  | 100 | <a href="#">07840.100.060</a> |
| M2X12 | 200 | <a href="#">07840.020.012</a> |        |     |                               | M10X70  | 100 | <a href="#">07840.100.070</a> |
|       |     |                               | M6X6   | 200 | <a href="#">07840.060.006</a> | M10X80  | 100 | <a href="#">07840.100.080</a> |
|       |     |                               | M6X8   | 200 | <a href="#">07840.060.008</a> |         |     |                               |
|       |     |                               | M6X10  | 200 | <a href="#">07840.060.010</a> |         |     |                               |
| M3X3  | 200 | <a href="#">07840.030.003</a> | M6X12  | 200 | <a href="#">07840.060.012</a> | M12X10  | 100 | <a href="#">07840.120.010</a> |
| M3X4  | 200 | <a href="#">07840.030.004</a> | M6X16  | 200 | <a href="#">07840.060.016</a> | M12X12  | 100 | <a href="#">07840.120.012</a> |
| M3X5  | 200 | <a href="#">07840.030.005</a> | M6X20  | 200 | <a href="#">07840.060.020</a> | M12X16  | 100 | <a href="#">07840.120.016</a> |
| M3X6  | 200 | <a href="#">07840.030.006</a> | M6X25  | 200 | <a href="#">07840.060.025</a> | M12X20  | 100 | <a href="#">07840.120.020</a> |
| M3X8  | 200 | <a href="#">07840.030.008</a> | M6X30  | 200 | <a href="#">07840.060.030</a> | M12X25  | 100 | <a href="#">07840.120.025</a> |
| M3X10 | 200 | <a href="#">07840.030.010</a> | M6X35  | 200 | <a href="#">07840.060.035</a> | M12X30  | 100 | <a href="#">07840.120.030</a> |
| M3X12 | 200 | <a href="#">07840.030.012</a> | M6X40  | 200 | <a href="#">07840.060.040</a> | M12X35  | 100 | <a href="#">07840.120.035</a> |
| M3X16 | 200 | <a href="#">07840.030.016</a> | M6X45  | 200 | <a href="#">07840.060.045</a> | M12X40  | 100 | <a href="#">07840.120.040</a> |
| M3X20 | 200 | <a href="#">07840.030.020</a> | M6X50  | 200 | <a href="#">07840.060.050</a> | M12X45  | 100 | <a href="#">07840.120.045</a> |
| M3X25 | 200 | <a href="#">07840.030.025</a> | M6X60  | 200 | <a href="#">07840.060.060</a> | M12X50  | 100 | <a href="#">07840.120.050</a> |
| M3X30 | 200 | <a href="#">07840.030.030</a> | M6X70  | 200 | <a href="#">07840.060.070</a> | M12X55  | 100 | <a href="#">07840.120.055</a> |
|       |     |                               |        |     |                               | M12X60  | 100 | <a href="#">07840.120.060</a> |
| M4X4  | 200 | <a href="#">07840.040.004</a> | M8X8   | 200 | <a href="#">07840.080.008</a> | M12X70  | 100 | <a href="#">07840.120.070</a> |
| M4X5  | 200 | <a href="#">07840.040.005</a> | M8X10  | 200 | <a href="#">07840.080.010</a> | M12X80  | 100 | <a href="#">07840.120.080</a> |
| M4X6  | 200 | <a href="#">07840.040.006</a> | M8X12  | 200 | <a href="#">07840.080.012</a> | M12X90  | 100 | <a href="#">07840.120.090</a> |
| M4X8  | 200 | <a href="#">07840.040.008</a> | M8X16  | 200 | <a href="#">07840.080.016</a> | M12X100 | 50  | <a href="#">07840.120.100</a> |
| M4X10 | 200 | <a href="#">07840.040.010</a> | M8X20  | 200 | <a href="#">07840.080.020</a> | M12X110 | 50  | <a href="#">07840.120.110</a> |
| M4X12 | 200 | <a href="#">07840.040.012</a> | M8X25  | 200 | <a href="#">07840.080.025</a> |         |     |                               |
| M4X16 | 200 | <a href="#">07840.040.016</a> | M8X30  | 200 | <a href="#">07840.080.030</a> | M14X16  | 100 | <a href="#">07840.140.016</a> |
| M4X20 | 200 | <a href="#">07840.040.020</a> | M8X35  | 100 | <a href="#">07840.080.035</a> | M14X20  | 100 | <a href="#">07840.140.020</a> |
| M4X25 | 200 | <a href="#">07840.040.025</a> | M8X40  | 100 | <a href="#">07840.080.040</a> | M14X25  | 100 | <a href="#">07840.140.025</a> |
| M4X30 | 200 | <a href="#">07840.040.030</a> | M8X45  | 100 | <a href="#">07840.080.045</a> | M14X30  | 50  | <a href="#">07840.140.030</a> |
| M4X35 | 200 | <a href="#">07840.040.035</a> | M8X50  | 100 | <a href="#">07840.080.050</a> | M14X35  | 50  | <a href="#">07840.140.035</a> |
| M4X40 | 200 | <a href="#">07840.040.040</a> | M8X60  | 100 | <a href="#">07840.080.060</a> | M14X40  | 50  | <a href="#">07840.140.040</a> |
| M4X50 | 100 | <a href="#">07840.040.050</a> | M8X70  | 100 | <a href="#">07840.080.070</a> | M14X50  | 50  | <a href="#">07840.140.050</a> |
|       |     |                               | M8X80  | 100 | <a href="#">07840.080.080</a> | M14X60  | 50  | <a href="#">07840.140.060</a> |
| M5X4  | 200 | <a href="#">07840.050.004</a> |        |     |                               | M14X110 | 50  | <a href="#">07840.140.110</a> |
| M5X5  | 200 | <a href="#">07840.050.005</a> | M10X8  | 200 | <a href="#">07840.100.008</a> |         |     |                               |
| M5X6  | 200 | <a href="#">07840.050.006</a> | M10X10 | 200 | <a href="#">07840.100.010</a> | M16X16  | 50  | <a href="#">07840.160.016</a> |
| M5X8  | 200 | <a href="#">07840.050.008</a> | M10X12 | 200 | <a href="#">07840.100.012</a> | M16X20  | 50  | <a href="#">07840.160.020</a> |
| M5X10 | 200 | <a href="#">07840.050.010</a> | M10X16 | 200 | <a href="#">07840.100.016</a> | M16X25  | 50  | <a href="#">07840.160.025</a> |
| M5X12 | 200 | <a href="#">07840.050.012</a> | M10X20 | 200 | <a href="#">07840.100.020</a> | M16X30  | 50  | <a href="#">07840.160.030</a> |
| M5X16 | 200 | <a href="#">07840.050.016</a> | M10X25 | 100 | <a href="#">07840.100.025</a> | M16X35  | 50  | <a href="#">07840.160.035</a> |
| M5X20 | 200 | <a href="#">07840.050.020</a> |        |     |                               |         |     |                               |

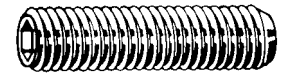
**07840 Hexagon socket set screw with cup point**

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M16X40  | 50 | <a href="#">07840.160.040</a> | M20X25  | 10 | <a href="#">07840.200.025</a> | M24X25  | 25 | <a href="#">07840.240.025</a> |
| M16X45  | 50 | <a href="#">07840.160.045</a> | M20X30  | 10 | <a href="#">07840.200.030</a> | M24X40  | 10 | <a href="#">07840.240.040</a> |
| M16X50  | 50 | <a href="#">07840.160.050</a> | M20X40  | 10 | <a href="#">07840.200.040</a> | M24X50  | 10 | <a href="#">07840.240.050</a> |
| M16X60  | 25 | <a href="#">07840.160.060</a> | M20X50  | 10 | <a href="#">07840.200.050</a> | M24X60  | 10 | <a href="#">07840.240.060</a> |
| M16X70  | 25 | <a href="#">07840.160.070</a> | M20X60  | 10 | <a href="#">07840.200.060</a> | M24X70  | 10 | <a href="#">07840.240.070</a> |
| M16X80  | 25 | <a href="#">07840.160.080</a> | M20X65  | 10 | <a href="#">07840.200.065</a> | M24X90  | 10 | <a href="#">07840.240.090</a> |
| M16X100 | 25 | <a href="#">07840.160.100</a> | M20X70  | 10 | <a href="#">07840.200.070</a> | M24X100 | 10 | <a href="#">07840.240.100</a> |
| M16X130 | 25 | <a href="#">07840.160.130</a> | M20X80  | 10 | <a href="#">07840.200.080</a> |         |    |                               |
|         |    |                               | M20X100 | 10 | <a href="#">07840.200.100</a> |         |    |                               |
| M20X20  | 25 | <a href="#">07840.200.020</a> | M20X120 | 10 | <a href="#">07840.200.120</a> |         |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**07850 Hexagon socket set screw with cup point**
**D05A**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 45H           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

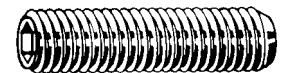


| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X4  | 200 | <a href="#">07850.030.004</a> | M6X6   | 200 | <a href="#">07850.060.006</a> | M10X20 | 200 | <a href="#">07850.100.020</a> |
| M3X5  | 200 | <a href="#">07850.030.005</a> | M6X8   | 200 | <a href="#">07850.060.008</a> | M10X25 | 100 | <a href="#">07850.100.025</a> |
| M3X6  | 200 | <a href="#">07850.030.006</a> | M6X10  | 200 | <a href="#">07850.060.010</a> | M10X30 | 100 | <a href="#">07850.100.030</a> |
| M3X8  | 200 | <a href="#">07850.030.008</a> | M6X12  | 200 | <a href="#">07850.060.012</a> | M10X35 | 100 | <a href="#">07850.100.035</a> |
| M3X10 | 200 | <a href="#">07850.030.010</a> | M6X16  | 200 | <a href="#">07850.060.016</a> | M10X40 | 100 | <a href="#">07850.100.040</a> |
| M3X12 | 200 | <a href="#">07850.030.012</a> | M6X20  | 200 | <a href="#">07850.060.020</a> | M10X50 | 100 | <a href="#">07850.100.050</a> |
| M3X16 | 200 | <a href="#">07850.030.016</a> | M6X25  | 200 | <a href="#">07850.060.025</a> | M10X60 | 100 | <a href="#">07850.100.060</a> |
|       |     |                               | M6X30  | 200 | <a href="#">07850.060.030</a> |        |     |                               |
| M4X4  | 200 | <a href="#">07850.040.004</a> | M6X35  | 200 | <a href="#">07850.060.035</a> | M12X10 | 100 | <a href="#">07850.120.010</a> |
| M4X5  | 200 | <a href="#">07850.040.005</a> | M6X40  | 200 | <a href="#">07850.060.040</a> | M12X12 | 100 | <a href="#">07850.120.012</a> |
| M4X6  | 200 | <a href="#">07850.040.006</a> |        |     |                               | M12X16 | 100 | <a href="#">07850.120.016</a> |
| M4X8  | 200 | <a href="#">07850.040.008</a> | M8X8   | 200 | <a href="#">07850.080.008</a> | M12X20 | 100 | <a href="#">07850.120.020</a> |
| M4X10 | 200 | <a href="#">07850.040.010</a> | M8X10  | 200 | <a href="#">07850.080.010</a> | M12X25 | 100 | <a href="#">07850.120.025</a> |
| M4X12 | 200 | <a href="#">07850.040.012</a> | M8X12  | 200 | <a href="#">07850.080.012</a> | M12X30 | 100 | <a href="#">07850.120.030</a> |
| M4X16 | 200 | <a href="#">07850.040.016</a> | M8X16  | 200 | <a href="#">07850.080.016</a> | M12X35 | 100 | <a href="#">07850.120.035</a> |
| M4X20 | 200 | <a href="#">07850.040.020</a> | M8X20  | 200 | <a href="#">07850.080.020</a> | M12X40 | 100 | <a href="#">07850.120.040</a> |
|       |     |                               | M8X25  | 200 | <a href="#">07850.080.025</a> | M12X50 | 100 | <a href="#">07850.120.050</a> |
| M5X6  | 200 | <a href="#">07850.050.006</a> | M8X30  | 200 | <a href="#">07850.080.030</a> | M12X60 | 100 | <a href="#">07850.120.060</a> |
| M5X8  | 200 | <a href="#">07850.050.008</a> | M8X35  | 100 | <a href="#">07850.080.035</a> |        |     |                               |
| M5X10 | 200 | <a href="#">07850.050.010</a> | M8X40  | 100 | <a href="#">07850.080.040</a> | M16X20 | 50  | <a href="#">07850.160.020</a> |
| M5X12 | 200 | <a href="#">07850.050.012</a> | M8X50  | 100 | <a href="#">07850.080.050</a> | M16X25 | 50  | <a href="#">07850.160.025</a> |
| M5X16 | 200 | <a href="#">07850.050.016</a> |        |     |                               | M16X30 | 50  | <a href="#">07850.160.030</a> |
| M5X20 | 200 | <a href="#">07850.050.020</a> | M10X8  | 200 | <a href="#">07850.100.008</a> | M16X40 | 50  | <a href="#">07850.160.040</a> |
| M5X25 | 200 | <a href="#">07850.050.025</a> | M10X10 | 200 | <a href="#">07850.100.010</a> | M16X50 | 50  | <a href="#">07850.160.050</a> |
| M5X30 | 200 | <a href="#">07850.050.030</a> | M10X12 | 200 | <a href="#">07850.100.012</a> | M16X60 | 25  | <a href="#">07850.160.060</a> |
|       |     |                               | M10X16 | 200 | <a href="#">07850.100.016</a> |        |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**07930 Hexagon socket set screw with cup point**
**D05A**

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 45H                           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



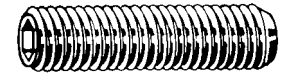
| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X16 | 200 | <a href="#">07930.050.016</a> | M6X40 | 200 | <a href="#">07930.060.040</a> | M10X25 | 100 | <a href="#">07930.100.025</a> |
| M5X20 | 200 | <a href="#">07930.050.020</a> |       |     |                               | M10X30 | 100 | <a href="#">07930.100.030</a> |
|       |     |                               | M8X25 | 100 | <a href="#">07930.080.025</a> | M10X40 | 100 | <a href="#">07930.100.040</a> |
| M6X16 | 200 | <a href="#">07930.060.016</a> | M8X30 | 200 | <a href="#">07930.080.030</a> | M10X50 | 100 | <a href="#">07930.100.050</a> |
| M6X20 | 200 | <a href="#">07930.060.020</a> | M8X40 | 100 | <a href="#">07930.080.040</a> | M10X60 | 100 | <a href="#">07930.100.060</a> |
| M6X25 | 200 | <a href="#">07930.060.025</a> | M8X50 | 100 | <a href="#">07930.080.050</a> |        |     |                               |
| M6X30 | 200 | <a href="#">07930.060.030</a> |       |     |                               |        |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



**51260 Hexagon socket set screw with cup point**
**R03A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M1,6X3  | 25  | <a href="#">51260.016.003</a> | M5X5    | 200 | <a href="#">51260.050.005</a> | M10X10   | 100 | <a href="#">51260.100.010</a> |
| M1,6X4  | 25  | <a href="#">51260.016.004</a> | M5X6    | 200 | <a href="#">51260.050.006</a> | M10X12   | 100 | <a href="#">51260.100.012</a> |
| M1,6X5  | 25  | <a href="#">51260.016.005</a> | M5X8    | 200 | <a href="#">51260.050.008</a> | M10X16   | 100 | <a href="#">51260.100.016</a> |
| M1,6X6  | 25  | <a href="#">51260.016.006</a> | M5X10   | 200 | <a href="#">51260.050.010</a> | M10X20   | 100 | <a href="#">51260.100.020</a> |
|         |     |                               | M5X12   | 200 | <a href="#">51260.050.012</a> | M10X25   | 100 | <a href="#">51260.100.025</a> |
| M2X3    | 50  | <a href="#">51260.020.003</a> | M5X14 * | 500 | <a href="#">51260.050.014</a> | M10X30   | 100 | <a href="#">51260.100.030</a> |
| M2X4    | 50  | <a href="#">51260.020.004</a> | M5X16   | 200 | <a href="#">51260.050.016</a> | M10X35   | 100 | <a href="#">51260.100.035</a> |
| M2X5    | 50  | <a href="#">51260.020.005</a> | M5X20   | 200 | <a href="#">51260.050.020</a> | M10X40   | 100 | <a href="#">51260.100.040</a> |
| M2X6    | 50  | <a href="#">51260.020.006</a> | M5X25   | 200 | <a href="#">51260.050.025</a> | M10X45 * | 100 | <a href="#">51260.100.045</a> |
| M2X8    | 50  | <a href="#">51260.020.008</a> | M5X30   | 200 | <a href="#">51260.050.030</a> | M10X50   | 100 | <a href="#">51260.100.050</a> |
| M2X10 * | 500 | <a href="#">51260.020.010</a> |         |     |                               | M10X60   | 100 | <a href="#">51260.100.060</a> |
| M2X12 * | 500 | <a href="#">51260.020.012</a> | M6X5 *  | 200 | <a href="#">51260.060.005</a> |          |     |                               |
|         |     |                               | M6X6    | 200 | <a href="#">51260.060.006</a> | M12X10 * | 100 | <a href="#">51260.120.010</a> |
| M2,5X4  | 50  | <a href="#">51260.025.004</a> | M6X8    | 200 | <a href="#">51260.060.008</a> | M12X12   | 100 | <a href="#">51260.120.012</a> |
| M2,5X5  | 50  | <a href="#">51260.025.005</a> | M6X10   | 200 | <a href="#">51260.060.010</a> | M12X16   | 100 | <a href="#">51260.120.016</a> |
| M2,5X6  | 50  | <a href="#">51260.025.006</a> | M6X12   | 200 | <a href="#">51260.060.012</a> | M12X20   | 100 | <a href="#">51260.120.020</a> |
| M2,5X8  | 50  | <a href="#">51260.025.008</a> | M6X14 * | 200 | <a href="#">51260.060.014</a> | M12X25   | 100 | <a href="#">51260.120.025</a> |
|         |     |                               | M6X16   | 200 | <a href="#">51260.060.016</a> | M12X30   | 100 | <a href="#">51260.120.030</a> |
| M3X3    | 200 | <a href="#">51260.030.003</a> | M6X20   | 200 | <a href="#">51260.060.020</a> | M12X35   | 100 | <a href="#">51260.120.035</a> |
| M3X4    | 200 | <a href="#">51260.030.004</a> | M6X25   | 200 | <a href="#">51260.060.025</a> | M12X40   | 100 | <a href="#">51260.120.040</a> |
| M3X5    | 200 | <a href="#">51260.030.005</a> | M6X30   | 200 | <a href="#">51260.060.030</a> | M12X45 * | 100 | <a href="#">51260.120.045</a> |
| M3X6    | 200 | <a href="#">51260.030.006</a> | M6X35   | 200 | <a href="#">51260.060.035</a> | M12X50   | 100 | <a href="#">51260.120.050</a> |
| M3X8    | 200 | <a href="#">51260.030.008</a> | M6X40   | 200 | <a href="#">51260.060.040</a> |          |     |                               |
| M3X10   | 200 | <a href="#">51260.030.010</a> | M6X45 * | 200 | <a href="#">51260.060.045</a> | M16X16 * | 50  | <a href="#">51260.160.016</a> |
| M3X12   | 200 | <a href="#">51260.030.012</a> | M6X50   | 200 | <a href="#">51260.060.050</a> | M16X20   | 100 | <a href="#">51260.160.020</a> |
| M3X16   | 200 | <a href="#">51260.030.016</a> | M6X60 * | 200 | <a href="#">51260.060.060</a> | M16X25 * | 100 | <a href="#">51260.160.025</a> |
| M3X30 * | 200 | <a href="#">51260.030.030</a> |         |     |                               | M16X30 * | 50  | <a href="#">51260.160.030</a> |
|         |     |                               | M8X6 *  | 200 | <a href="#">51260.080.006</a> | M16X35 * | 100 | <a href="#">51260.160.035</a> |
| M4X3 *  | 500 | <a href="#">51260.040.003</a> | M8X8    | 200 | <a href="#">51260.080.008</a> | M16X40 * | 50  | <a href="#">51260.160.040</a> |
| M4X4    | 200 | <a href="#">51260.040.004</a> | M8X10   | 200 | <a href="#">51260.080.010</a> | M16X50 * | 50  | <a href="#">51260.160.050</a> |
| M4X5    | 200 | <a href="#">51260.040.005</a> | M8X12   | 200 | <a href="#">51260.080.012</a> | M16X60 * | 50  | <a href="#">51260.160.060</a> |
| M4X6    | 200 | <a href="#">51260.040.006</a> | M8X16   | 200 | <a href="#">51260.080.016</a> | M16X70 * | 50  | <a href="#">51260.160.070</a> |
| M4X8    | 200 | <a href="#">51260.040.008</a> | M8X20   | 200 | <a href="#">51260.080.020</a> | M16X80 * | 25  | <a href="#">51260.160.080</a> |
| M4X10   | 200 | <a href="#">51260.040.010</a> | M8X25   | 200 | <a href="#">51260.080.025</a> |          |     |                               |
| M4X12   | 200 | <a href="#">51260.040.012</a> | M8X30   | 100 | <a href="#">51260.080.030</a> | M20X20 * | 50  | <a href="#">51260.200.020</a> |
| M4X16   | 200 | <a href="#">51260.040.016</a> | M8X35   | 100 | <a href="#">51260.080.035</a> | M20X25 * | 50  | <a href="#">51260.200.025</a> |
| M4X20   | 200 | <a href="#">51260.040.020</a> | M8X40   | 100 | <a href="#">51260.080.040</a> | M20X35 * | 50  | <a href="#">51260.200.035</a> |
| M4X25   | 200 | <a href="#">51260.040.025</a> | M8X45 * | 200 | <a href="#">51260.080.045</a> | M20X40 * | 50  | <a href="#">51260.200.040</a> |
| M4X30   | 200 | <a href="#">51260.040.030</a> | M8X50   | 100 | <a href="#">51260.080.050</a> | M20X60 * | 50  | <a href="#">51260.200.060</a> |
| M4X35 * | 200 | <a href="#">51260.040.035</a> | M8X60   | 100 | <a href="#">51260.080.060</a> | M20X70 * | 25  | <a href="#">51260.200.070</a> |
|         |     |                               | M8X70 * | 200 | <a href="#">51260.080.070</a> | M20X80 * | 25  | <a href="#">51260.200.080</a> |
| M5X4 *  | 500 | <a href="#">51260.050.004</a> | M8X80 * | 200 | <a href="#">51260.080.080</a> |          |     |                               |

**55260 Hexagon socket set screw with cup point**
**R43A**

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard



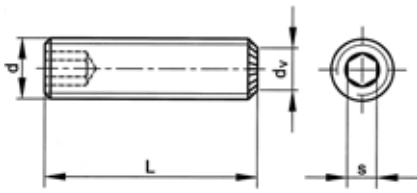
| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X3   | 50  | <a href="#">55260.020.003</a> | M4X12   | 200 | <a href="#">55260.040.012</a> | M6X14 * | 200 | <a href="#">55260.060.014</a> |
| M2X4   | 50  | <a href="#">55260.020.004</a> | M4X16   | 200 | <a href="#">55260.040.016</a> | M6X16   | 200 | <a href="#">55260.060.016</a> |
| M2X6   | 50  | <a href="#">55260.020.006</a> | M4X20   | 200 | <a href="#">55260.040.020</a> | M6X20   | 200 | <a href="#">55260.060.020</a> |
|        |     |                               | M4X25   | 200 | <a href="#">55260.040.025</a> | M6X25   | 200 | <a href="#">55260.060.025</a> |
| M2,5X4 | 50  | <a href="#">55260.025.004</a> | M4X30 * | 200 | <a href="#">55260.040.030</a> | M6X30   | 200 | <a href="#">55260.060.030</a> |
| M2,5X6 | 50  | <a href="#">55260.025.006</a> |         |     |                               | M6X35 * | 200 | <a href="#">55260.060.035</a> |
|        |     |                               | M5X5    | 200 | <a href="#">55260.050.005</a> | M6X40   | 200 | <a href="#">55260.060.040</a> |
| M3X3   | 200 | <a href="#">55260.030.003</a> | M5X6    | 200 | <a href="#">55260.050.006</a> | M6X45 * | 200 | <a href="#">55260.060.045</a> |
| M3X4   | 200 | <a href="#">55260.030.004</a> | M5X8    | 200 | <a href="#">55260.050.008</a> | M6X50   | 200 | <a href="#">55260.060.050</a> |
| M3X5   | 200 | <a href="#">55260.030.005</a> | M5X10   | 200 | <a href="#">55260.050.010</a> |         |     |                               |
| M3X6   | 200 | <a href="#">55260.030.006</a> | M5X12   | 200 | <a href="#">55260.050.012</a> | M8X8    | 200 | <a href="#">55260.080.008</a> |
| M3X8   | 200 | <a href="#">55260.030.008</a> | M5X16   | 200 | <a href="#">55260.050.016</a> | M8X10   | 200 | <a href="#">55260.080.010</a> |
| M3X10  | 200 | <a href="#">55260.030.010</a> | M5X20   | 200 | <a href="#">55260.050.020</a> | M8X12   | 200 | <a href="#">55260.080.012</a> |
| M3X12  | 200 | <a href="#">55260.030.012</a> | M5X25   | 200 | <a href="#">55260.050.025</a> | M8X16   | 200 | <a href="#">55260.080.016</a> |
| M3X16  | 200 | <a href="#">55260.030.016</a> | M5X30   | 200 | <a href="#">55260.050.030</a> | M8X20   | 200 | <a href="#">55260.080.020</a> |
| M3X20  | 200 | <a href="#">55260.030.020</a> | M5X35 * | 200 | <a href="#">55260.050.035</a> | M8X25   | 200 | <a href="#">55260.080.025</a> |
|        |     |                               | M5X40   | 200 | <a href="#">55260.050.040</a> | M8X30   | 100 | <a href="#">55260.080.030</a> |
| M4X4   | 200 | <a href="#">55260.040.004</a> |         |     |                               | M8X35   | 100 | <a href="#">55260.080.035</a> |
| M4X5   | 200 | <a href="#">55260.040.005</a> | M6X6    | 200 | <a href="#">55260.060.006</a> | M8X40   | 100 | <a href="#">55260.080.040</a> |
| M4X6   | 200 | <a href="#">55260.040.006</a> | M6X8    | 200 | <a href="#">55260.060.008</a> | M8X45 * | 200 | <a href="#">55260.080.045</a> |
| M4X8   | 200 | <a href="#">55260.040.008</a> | M6X10   | 200 | <a href="#">55260.060.010</a> | M8X50   | 100 | <a href="#">55260.080.050</a> |
| M4X10  | 200 | <a href="#">55260.040.010</a> | M6X12   | 200 | <a href="#">55260.060.012</a> |         |     |                               |

**55260 Hexagon socket set screw with cup point**

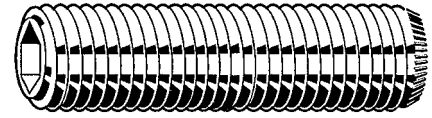
**2**

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M10X10   | 100 | <a href="#">55260.100.010</a> | M12X10 * | 100 | <a href="#">55260.120.010</a> | M16X25 * | 50 | <a href="#">55260.160.025</a> |
| M10X12   | 100 | <a href="#">55260.100.012</a> | M12X12   | 100 | <a href="#">55260.120.012</a> | M16X30 * | 50 | <a href="#">55260.160.030</a> |
| M10X16   | 100 | <a href="#">55260.100.016</a> | M12X16   | 100 | <a href="#">55260.120.016</a> | M16X35 * | 50 | <a href="#">55260.160.035</a> |
| M10X20   | 100 | <a href="#">55260.100.020</a> | M12X20   | 100 | <a href="#">55260.120.020</a> | M16X45 * | 50 | <a href="#">55260.160.045</a> |
| M10X25   | 100 | <a href="#">55260.100.025</a> | M12X25   | 100 | <a href="#">55260.120.025</a> | M16X50 * | 50 | <a href="#">55260.160.050</a> |
| M10X30   | 100 | <a href="#">55260.100.030</a> | M12X30   | 100 | <a href="#">55260.120.030</a> | M16X60 * | 50 | <a href="#">55260.160.060</a> |
| M10X35 * | 100 | <a href="#">55260.100.035</a> | M12X35 * | 100 | <a href="#">55260.120.035</a> |          |    |                               |
| M10X40   | 100 | <a href="#">55260.100.040</a> | M12X40   | 100 | <a href="#">55260.120.040</a> | M20X20 * | 50 | <a href="#">55260.200.020</a> |
| M10X45 * | 100 | <a href="#">55260.100.045</a> | M12X45 * | 100 | <a href="#">55260.120.045</a> | M20X25 * | 50 | <a href="#">55260.200.025</a> |
| M10X50   | 100 | <a href="#">55260.100.050</a> | M12X50   | 100 | <a href="#">55260.120.050</a> | M20X30 * | 50 | <a href="#">55260.200.030</a> |
| M10X60 * | 100 | <a href="#">55260.100.060</a> |          |     |                               |          |    |                               |
|          |     |                               | M16X16 * | 50  | <a href="#">55260.160.016</a> |          |    |                               |

## Hexagon socket set screw with knurled cup point



ISO ≈4029  
 DIN ≈916  
 NEN ≈2343  
 ANSI ≈B18.3.6M  
 NF ≈E27-183  
 BS ≈4168-5



2

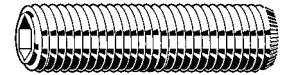
### Technical data

| d  | P    | d <sub>v</sub> | s   |
|----|------|----------------|-----|
| M3 | 0,5  | 1,4            | 1,5 |
| M4 | 0,7  | 2              | 2   |
| M5 | 0,8  | 2,5            | 2,5 |
| M6 | 1    | 3              | 3   |
| M8 | 1,25 | 5              | 4   |

### 07890 Hexagon socket set screw with knurled cup point

D05A

**Thread** Metric thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard

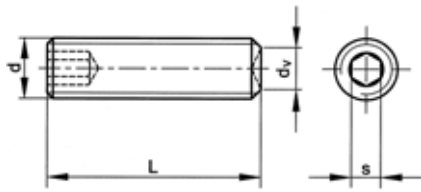


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X4  | 200 | <a href="#">07890.030.004</a> | M5X5  | 200 | <a href="#">07890.050.005</a> | M6X20 | 200 | <a href="#">07890.060.020</a> |
| M3X5  | 200 | <a href="#">07890.030.005</a> | M5X6  | 200 | <a href="#">07890.050.006</a> | M6X25 | 200 | <a href="#">07890.060.025</a> |
| M3X6  | 200 | <a href="#">07890.030.006</a> | M5X8  | 200 | <a href="#">07890.050.008</a> |       |     |                               |
| M3X8  | 200 | <a href="#">07890.030.008</a> | M5X10 | 200 | <a href="#">07890.050.010</a> | M8X8  | 200 | <a href="#">07890.080.008</a> |
| M3X10 | 200 | <a href="#">07890.030.010</a> | M5X12 | 200 | <a href="#">07890.050.012</a> | M8X10 | 200 | <a href="#">07890.080.010</a> |
|       |     |                               | M5X16 | 200 | <a href="#">07890.050.016</a> | M8X12 | 200 | <a href="#">07890.080.012</a> |
| M4X5  | 200 | <a href="#">07890.040.005</a> | M5X20 | 200 | <a href="#">07890.050.020</a> | M8X16 | 200 | <a href="#">07890.080.016</a> |
| M4X6  | 200 | <a href="#">07890.040.006</a> |       |     |                               | M8X20 | 200 | <a href="#">07890.080.020</a> |
| M4X8  | 200 | <a href="#">07890.040.008</a> | M6X6  | 200 | <a href="#">07890.060.006</a> | M8X25 | 200 | <a href="#">07890.080.025</a> |
| M4X10 | 200 | <a href="#">07890.040.010</a> | M6X8  | 200 | <a href="#">07890.060.008</a> | M8X30 | 200 | <a href="#">07890.080.030</a> |
| M4X12 | 200 | <a href="#">07890.040.012</a> | M6X10 | 200 | <a href="#">07890.060.010</a> |       |     |                               |
| M4X16 | 200 | <a href="#">07890.040.016</a> | M6X12 | 200 | <a href="#">07890.060.012</a> |       |     |                               |
|       |     |                               | M6X16 | 200 | <a href="#">07890.060.016</a> |       |     |                               |

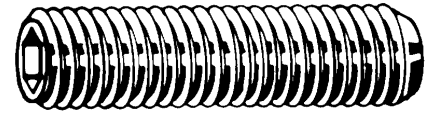
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket set screw with cup point MF

2



ISO ≈4029  
 DIN ≈916  
 NEN ≈2343  
 ANSI ≈B18.3.6M  
 NF ≈E27-183  
 BS ≈4168-5



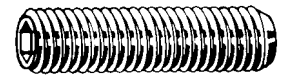
### Technical data

| d   | d <sub>v</sub> | s |
|-----|----------------|---|
| M8  | 5              | 4 |
| M10 | 6              | 5 |
| M12 | 8              | 6 |
| M16 | 10             | 8 |

### 07852 Hexagon socket set screw with cup point MF

D93A

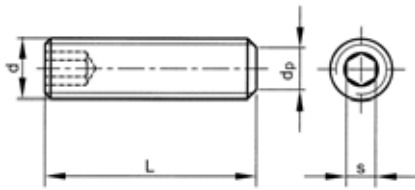
**Thread** Metric fine thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard



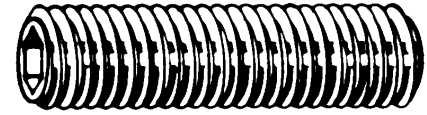
| d x P x L   | ☒   | Art.number                    | d x P x L   | ☒  | Art.number                    | d x P x L   | ☒  | Art.number                    |
|-------------|-----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| M8X1,00X10  | 100 | <a href="#">07852.080.010</a> | M10X1,25X16 | 50 | <a href="#">07852.100.016</a> | M12X1,50X25 | 50 | <a href="#">07852.120.025</a> |
| M8X1,00X12  | 100 | <a href="#">07852.080.012</a> | M10X1,25X20 | 50 | <a href="#">07852.100.020</a> | M12X1,50X30 | 50 | <a href="#">07852.120.030</a> |
| M8X1,00X16  | 100 | <a href="#">07852.080.016</a> | M10X1,25X25 | 50 | <a href="#">07852.100.025</a> | M12X1,50X40 | 50 | <a href="#">07852.120.040</a> |
| M8X1,00X20  | 100 | <a href="#">07852.080.020</a> | M10X1,25X30 | 50 | <a href="#">07852.100.030</a> | M12X1,50X50 | 50 | <a href="#">07852.120.050</a> |
| M8X1,00X25  | 50  | <a href="#">07852.080.025</a> | M10X1,25X40 | 50 | <a href="#">07852.100.040</a> |             |    |                               |
| M8X1,00X30  | 50  | <a href="#">07852.080.030</a> | M10X1,25X50 | 50 | <a href="#">07852.100.050</a> |             |    |                               |
| M8X1,00X40  | 50  | <a href="#">07852.080.040</a> |             |    |                               | M16X1,50X20 | 25 | <a href="#">07852.160.020</a> |
| M8X1,00X50  | 50  | <a href="#">07852.080.050</a> | M12X1,50X10 | 50 | <a href="#">07852.120.010</a> | M16X1,50X25 | 25 | <a href="#">07852.160.025</a> |
|             |     |                               | M12X1,50X12 | 50 | <a href="#">07852.120.012</a> | M16X1,50X30 | 25 | <a href="#">07852.160.030</a> |
| M10X1,25X10 | 50  | <a href="#">07852.100.010</a> | M12X1,50X16 | 50 | <a href="#">07852.120.016</a> | M16X1,50X40 | 25 | <a href="#">07852.160.040</a> |
| M10X1,25X12 | 50  | <a href="#">07852.100.012</a> | M12X1,50X20 | 50 | <a href="#">07852.120.020</a> | M16X1,50X50 | 25 | <a href="#">07852.160.050</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket set screw with flat point



ISO 4026  
**DIN 913**  
 NEN 2341  
 ANSI B18.3.6M  
 NF E27-180  
 BS 4168-2



2

### Technical data

| d    | P    | d <sub>p</sub> (max.) | s   |
|------|------|-----------------------|-----|
| M1,6 | 0,35 | 0,8                   | 0,7 |
| M2   | 0,4  | 1                     | 0,9 |
| M2,5 | 0,45 | 1,5                   | 1,3 |
| M3   | 0,5  | 2                     | 1,5 |
| M4   | 0,7  | 2,5                   | 2   |

| d   | P    | d <sub>p</sub> (max.) | s   |
|-----|------|-----------------------|-----|
| M5  | 0,8  | 3,5                   | 2,5 |
| M6  | 1    | 4                     | 3   |
| M8  | 1,25 | 5,5                   | 4   |
| M10 | 1,5  | 7                     | 5   |
| M12 | 1,75 | 8,5                   | 6   |

| d   | P   | d <sub>p</sub> (max.) | s  |
|-----|-----|-----------------------|----|
| M16 | 2   | 12                    | 8  |
| M20 | 2,5 | 15                    | 10 |

### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon socket   | St        | 45H   |                   | Standard  | 07810 | 2-57 |
| M      | hexagon socket   | St        | 45H   | Zipl              | Standard  | 07860 | 2-58 |
| M      | hexagon socket   | St.St. A2 | 70    |                   | Standard  | 51240 | 2-58 |
| M      | hexagon socket   | St.St. A4 | 70    |                   | Standard  | 55240 | 2-59 |

#### 07810 Hexagon socket set screw with flat point

D05A

**Thread** Metric thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard

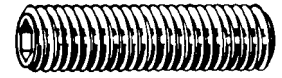


| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X3  | 200 | <a href="#">07810.030.003</a> | M6X6   | 200 | <a href="#">07810.060.006</a> | M10X30  | 100 | <a href="#">07810.100.030</a> |
| M3X4  | 200 | <a href="#">07810.030.004</a> | M6X8   | 200 | <a href="#">07810.060.008</a> | M10X40  | 100 | <a href="#">07810.100.040</a> |
| M3X5  | 200 | <a href="#">07810.030.005</a> | M6X10  | 200 | <a href="#">07810.060.010</a> | M10X50  | 100 | <a href="#">07810.100.050</a> |
| M3X6  | 200 | <a href="#">07810.030.006</a> | M6X12  | 200 | <a href="#">07810.060.012</a> | M10X60  | 100 | <a href="#">07810.100.060</a> |
| M3X8  | 200 | <a href="#">07810.030.008</a> | M6X16  | 200 | <a href="#">07810.060.016</a> | M10X70  | 100 | <a href="#">07810.100.070</a> |
| M3X10 | 200 | <a href="#">07810.030.010</a> | M6X20  | 200 | <a href="#">07810.060.020</a> | M10X80  | 100 | <a href="#">07810.100.080</a> |
| M3X12 | 200 | <a href="#">07810.030.012</a> | M6X25  | 200 | <a href="#">07810.060.025</a> | M12X12  | 100 | <a href="#">07810.120.012</a> |
| M3X16 | 200 | <a href="#">07810.030.016</a> | M6X30  | 200 | <a href="#">07810.060.030</a> | M12X16  | 100 | <a href="#">07810.120.016</a> |
| M3X20 | 200 | <a href="#">07810.030.020</a> | M6X35  | 200 | <a href="#">07810.060.035</a> | M12X20  | 100 | <a href="#">07810.120.020</a> |
| M4X4  | 200 | <a href="#">07810.040.004</a> | M6X40  | 200 | <a href="#">07810.060.040</a> | M12X25  | 100 | <a href="#">07810.120.025</a> |
| M4X5  | 200 | <a href="#">07810.040.005</a> | M6X45  | 200 | <a href="#">07810.060.045</a> | M12X30  | 100 | <a href="#">07810.120.030</a> |
| M4X6  | 200 | <a href="#">07810.040.006</a> | M6X50  | 200 | <a href="#">07810.060.050</a> | M12X35  | 100 | <a href="#">07810.120.035</a> |
| M4X8  | 200 | <a href="#">07810.040.008</a> | M8X6   | 200 | <a href="#">07810.080.006</a> | M12X40  | 100 | <a href="#">07810.120.040</a> |
| M4X10 | 200 | <a href="#">07810.040.010</a> | M8X8   | 200 | <a href="#">07810.080.008</a> | M12X50  | 100 | <a href="#">07810.120.050</a> |
| M4X12 | 200 | <a href="#">07810.040.012</a> | M8X10  | 200 | <a href="#">07810.080.010</a> | M12X60  | 25  | <a href="#">07810.120.060</a> |
| M4X16 | 200 | <a href="#">07810.040.016</a> | M8X12  | 200 | <a href="#">07810.080.012</a> | M16X16  | 50  | <a href="#">07810.160.016</a> |
| M4X20 | 200 | <a href="#">07810.040.020</a> | M8X16  | 200 | <a href="#">07810.080.016</a> | M16X20  | 50  | <a href="#">07810.160.020</a> |
| M4X25 | 200 | <a href="#">07810.040.025</a> | M8X20  | 200 | <a href="#">07810.080.020</a> | M16X25  | 50  | <a href="#">07810.160.025</a> |
| M4X30 | 200 | <a href="#">07810.040.030</a> | M8X25  | 200 | <a href="#">07810.080.025</a> | M16X30  | 50  | <a href="#">07810.160.030</a> |
| M5X5  | 200 | <a href="#">07810.050.005</a> | M8X30  | 200 | <a href="#">07810.080.030</a> | M16X35  | 50  | <a href="#">07810.160.035</a> |
| M5X6  | 200 | <a href="#">07810.050.006</a> | M8X35  | 100 | <a href="#">07810.080.035</a> | M16X40  | 50  | <a href="#">07810.160.040</a> |
| M5X8  | 200 | <a href="#">07810.050.008</a> | M8X40  | 100 | <a href="#">07810.080.040</a> | M16X50  | 50  | <a href="#">07810.160.050</a> |
| M5X10 | 200 | <a href="#">07810.050.010</a> | M8X50  | 100 | <a href="#">07810.080.050</a> | M16X60  | 25  | <a href="#">07810.160.060</a> |
| M5X12 | 200 | <a href="#">07810.050.012</a> | M8X60  | 100 | <a href="#">07810.080.060</a> | M16X70  | 100 | <a href="#">07810.160.070</a> |
| M5X16 | 200 | <a href="#">07810.050.016</a> | M8X70  | 100 | <a href="#">07810.080.070</a> | M16X80  | 25  | <a href="#">07810.160.080</a> |
| M5X20 | 200 | <a href="#">07810.050.020</a> | M8X80  | 100 | <a href="#">07810.080.080</a> | M16X90  | 25  | <a href="#">07810.160.090</a> |
| M5X25 | 200 | <a href="#">07810.050.025</a> | M10X10 | 25  | <a href="#">07810.100.010</a> | M16X100 | 25  | <a href="#">07810.160.100</a> |
| M5X30 | 200 | <a href="#">07810.050.030</a> | M10X12 | 200 | <a href="#">07810.100.012</a> | M20X20  | 10  | <a href="#">07810.200.020</a> |
| M5X35 | 100 | <a href="#">07810.050.035</a> | M10X16 | 200 | <a href="#">07810.100.016</a> | M20X25  | 10  | <a href="#">07810.200.025</a> |
| M5X40 | 100 | <a href="#">07810.050.040</a> | M10X20 | 200 | <a href="#">07810.100.020</a> |         |     |                               |
|       |     |                               | M10X25 | 100 | <a href="#">07810.100.025</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**07860 Hexagon socket set screw with flat point**
**D05A**

**Thread** Metric thread  
**Material** Steel  
**Class** 45H  
**Surface treatment** Zinc plated  
**Packaging** Standard

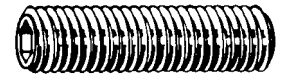

**2**

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">07860.030.006</a> | M5X20 | 200 | <a href="#">07860.050.020</a> | M8X40  | 100 | <a href="#">07860.080.040</a> |
| M3X8  | 200 | <a href="#">07860.030.008</a> | M5X25 | 200 | <a href="#">07860.050.025</a> |        |     |                               |
| M3X10 | 200 | <a href="#">07860.030.010</a> |       |     |                               | M10X12 | 200 | <a href="#">07860.100.012</a> |
| M3X12 | 200 | <a href="#">07860.030.012</a> | M6X6  | 200 | <a href="#">07860.060.006</a> | M10X16 | 200 | <a href="#">07860.100.016</a> |
|       |     |                               | M6X8  | 200 | <a href="#">07860.060.008</a> | M10X20 | 200 | <a href="#">07860.100.020</a> |
| M4X4  | 200 | <a href="#">07860.040.004</a> | M6X10 | 200 | <a href="#">07860.060.010</a> | M10X25 | 100 | <a href="#">07860.100.025</a> |
| M4X5  | 200 | <a href="#">07860.040.005</a> | M6X12 | 200 | <a href="#">07860.060.012</a> | M10X30 | 100 | <a href="#">07860.100.030</a> |
| M4X6  | 200 | <a href="#">07860.040.006</a> | M6X16 | 200 | <a href="#">07860.060.016</a> | M10X40 | 100 | <a href="#">07860.100.040</a> |
| M4X8  | 200 | <a href="#">07860.040.008</a> | M6X20 | 200 | <a href="#">07860.060.020</a> | M10X50 | 100 | <a href="#">07860.100.050</a> |
| M4X10 | 200 | <a href="#">07860.040.010</a> | M6X25 | 200 | <a href="#">07860.060.025</a> |        |     |                               |
| M4X12 | 200 | <a href="#">07860.040.012</a> | M6X30 | 200 | <a href="#">07860.060.030</a> | M12X12 | 100 | <a href="#">07860.120.012</a> |
| M4X16 | 200 | <a href="#">07860.040.016</a> |       |     |                               | M12X16 | 100 | <a href="#">07860.120.016</a> |
| M4X20 | 200 | <a href="#">07860.040.020</a> | M8X8  | 200 | <a href="#">07860.080.008</a> | M12X20 | 100 | <a href="#">07860.120.020</a> |
|       |     |                               | M8X10 | 200 | <a href="#">07860.080.010</a> | M12X25 | 100 | <a href="#">07860.120.025</a> |
| M5X6  | 200 | <a href="#">07860.050.006</a> | M8X12 | 200 | <a href="#">07860.080.012</a> | M12X30 | 100 | <a href="#">07860.120.030</a> |
| M5X8  | 200 | <a href="#">07860.050.008</a> | M8X16 | 200 | <a href="#">07860.080.016</a> | M12X40 | 100 | <a href="#">07860.120.040</a> |
| M5X10 | 200 | <a href="#">07860.050.010</a> | M8X20 | 200 | <a href="#">07860.080.020</a> |        |     |                               |
| M5X12 | 200 | <a href="#">07860.050.012</a> | M8X25 | 200 | <a href="#">07860.080.025</a> |        |     |                               |
| M5X16 | 200 | <a href="#">07860.050.016</a> | M8X30 | 200 | <a href="#">07860.080.030</a> |        |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51240 Hexagon socket set screw with flat point**
**R03A**

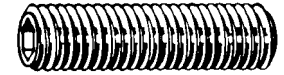
**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard



| d x L     | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|-----------|-----|-------------------------------|---------|-----|-------------------------------|-----------|-----|-------------------------------|
| M1,6X2 *  | 200 | <a href="#">51240.016.002</a> | M5X6    | 200 | <a href="#">51240.050.006</a> | M10X25    | 100 | <a href="#">51240.100.025</a> |
| M1,6X3 *  | 200 | <a href="#">51240.016.003</a> | M5X8    | 200 | <a href="#">51240.050.008</a> | M10X30    | 100 | <a href="#">51240.100.030</a> |
|           |     |                               | M5X10   | 200 | <a href="#">51240.050.010</a> | M10X40    | 100 | <a href="#">51240.100.040</a> |
| M2X2 *    | 500 | <a href="#">51240.020.002</a> | M5X12   | 200 | <a href="#">51240.050.012</a> | M10X45 *  | 100 | <a href="#">51240.100.045</a> |
| M2X4      | 200 | <a href="#">51240.020.004</a> | M5X16   | 200 | <a href="#">51240.050.016</a> | M10X80 *  | 100 | <a href="#">51240.100.080</a> |
| M2X8 *    | 500 | <a href="#">51240.020.008</a> | M5X20   | 200 | <a href="#">51240.050.020</a> | M10X90 *  | 100 | <a href="#">51240.100.090</a> |
| M2X12 *   | 500 | <a href="#">51240.020.012</a> |         |     |                               |           |     |                               |
| M2X16 *   | 500 | <a href="#">51240.020.016</a> | M6X5 *  | 200 | <a href="#">51240.060.005</a> | M12X30 *  | 100 | <a href="#">51240.120.030</a> |
|           |     |                               | M6X6    | 200 | <a href="#">51240.060.006</a> | M12X35 *  | 100 | <a href="#">51240.120.035</a> |
| M2,5X4 *  | 500 | <a href="#">51240.025.004</a> | M6X8    | 200 | <a href="#">51240.060.008</a> | M12X50 *  | 100 | <a href="#">51240.120.050</a> |
| M2,5X5 *  | 500 | <a href="#">51240.025.005</a> | M6X10   | 200 | <a href="#">51240.060.010</a> | M12X55 *  | 100 | <a href="#">51240.120.055</a> |
| M2,5X10 * | 500 | <a href="#">51240.025.010</a> | M6X12   | 200 | <a href="#">51240.060.012</a> | M12X70 *  | 50  | <a href="#">51240.120.070</a> |
| M2,5X12 * | 500 | <a href="#">51240.025.012</a> | M6X14 * | 200 | <a href="#">51240.060.014</a> | M12X80 *  | 50  | <a href="#">51240.120.080</a> |
| M2,5X16 * | 500 | <a href="#">51240.025.016</a> | M6X16   | 200 | <a href="#">51240.060.016</a> | M12X90 *  | 50  | <a href="#">51240.120.090</a> |
|           |     |                               | M6X20   | 200 | <a href="#">51240.060.020</a> |           |     |                               |
| M3X3      | 200 | <a href="#">51240.030.003</a> | M6X25   | 200 | <a href="#">51240.060.025</a> | M16X16 *  | 50  | <a href="#">51240.160.016</a> |
| M3X6      | 200 | <a href="#">51240.030.006</a> | M6X30   | 200 | <a href="#">51240.060.030</a> | M16X25 *  | 50  | <a href="#">51240.160.025</a> |
| M3X8      | 200 | <a href="#">51240.030.008</a> | M6X45 * | 200 | <a href="#">51240.060.045</a> | M16X35 *  | 50  | <a href="#">51240.160.035</a> |
| M3X10     | 200 | <a href="#">51240.030.010</a> | M6X60 * | 200 | <a href="#">51240.060.060</a> | M16X40 *  | 50  | <a href="#">51240.160.040</a> |
| M3X14 *   | 500 | <a href="#">51240.030.014</a> | M6X70 * | 200 | <a href="#">51240.060.070</a> | M16X45 *  | 50  | <a href="#">51240.160.045</a> |
| M3X16     | 200 | <a href="#">51240.030.016</a> |         |     |                               | M16X50 *  | 50  | <a href="#">51240.160.050</a> |
| M3X25 *   | 500 | <a href="#">51240.030.025</a> | M8X6 *  | 200 | <a href="#">51240.080.006</a> | M16X70 *  | 50  | <a href="#">51240.160.070</a> |
|           |     |                               | M8X8    | 200 | <a href="#">51240.080.008</a> | M16X80 *  | 25  | <a href="#">51240.160.080</a> |
| M4X3 *    | 500 | <a href="#">51240.040.003</a> | M8X10   | 200 | <a href="#">51240.080.010</a> | M16X90 *  | 25  | <a href="#">51240.160.090</a> |
| M4X4      | 200 | <a href="#">51240.040.004</a> | M8X12   | 200 | <a href="#">51240.080.012</a> | M16X100 * | 25  | <a href="#">51240.160.100</a> |
| M4X5      | 200 | <a href="#">51240.040.005</a> | M8X16   | 200 | <a href="#">51240.080.016</a> |           |     |                               |
| M4X6      | 200 | <a href="#">51240.040.006</a> | M8X20   | 200 | <a href="#">51240.080.020</a> | M20X20 *  | 50  | <a href="#">51240.200.020</a> |
| M4X8      | 200 | <a href="#">51240.040.008</a> | M8X25   | 100 | <a href="#">51240.080.025</a> | M20X25 *  | 50  | <a href="#">51240.200.025</a> |
| M4X10     | 200 | <a href="#">51240.040.010</a> | M8X30   | 100 | <a href="#">51240.080.030</a> | M20X35 *  | 50  | <a href="#">51240.200.035</a> |
| M4X12     | 200 | <a href="#">51240.040.012</a> | M8X40   | 100 | <a href="#">51240.080.040</a> | M20X40 *  | 50  | <a href="#">51240.200.040</a> |
| M4X16     | 200 | <a href="#">51240.040.016</a> | M8X50 * | 200 | <a href="#">51240.080.050</a> | M20X45 *  | 50  | <a href="#">51240.200.045</a> |
| M4X20     | 200 | <a href="#">51240.040.020</a> | M8X70 * | 200 | <a href="#">51240.080.070</a> | M20X50 *  | 50  | <a href="#">51240.200.050</a> |
| M4X30 *   | 200 | <a href="#">51240.040.030</a> | M8X80 * | 200 | <a href="#">51240.080.080</a> | M20X60 *  | 50  | <a href="#">51240.200.060</a> |
| M4X40 *   | 200 | <a href="#">51240.040.040</a> |         |     |                               | M20X70 *  | 25  | <a href="#">51240.200.070</a> |
|           |     |                               | M10X12  | 100 | <a href="#">51240.100.012</a> | M20X90 *  | 25  | <a href="#">51240.200.090</a> |
| M5X4 *    | 500 | <a href="#">51240.050.004</a> | M10X16  | 100 | <a href="#">51240.100.016</a> | M20X100 * | 25  | <a href="#">51240.200.100</a> |
| M5X5 *    | 200 | <a href="#">51240.050.005</a> | M10X20  | 100 | <a href="#">51240.100.020</a> |           |     |                               |

**55240 Hexagon socket set screw with flat point**
**R43A**

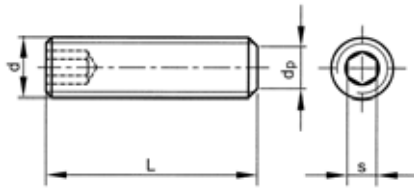
**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard



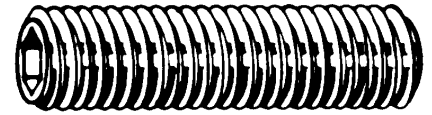
| <b>d x L</b> | ✉   | <b>Art.number</b>             | <b>d x L</b> | ✉   | <b>Art.number</b>             | <b>d x L</b> | ✉   | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M3X5 *       | 500 | <a href="#">55240.030.005</a> | M6X10        | 200 | <a href="#">55240.060.010</a> | M10X35 *     | 100 | <a href="#">55240.100.035</a> |
| M3X6         | 200 | <a href="#">55240.030.006</a> | M6X12        | 200 | <a href="#">55240.060.012</a> | M10X40       | 100 | <a href="#">55240.100.040</a> |
| M3X8         | 200 | <a href="#">55240.030.008</a> | M6X14 *      | 200 | <a href="#">55240.060.014</a> | M10X45 *     | 100 | <a href="#">55240.100.045</a> |
| M3X10        | 200 | <a href="#">55240.030.010</a> | M6X16        | 200 | <a href="#">55240.060.016</a> | M10X50       | 100 | <a href="#">55240.100.050</a> |
| M3X12        | 200 | <a href="#">55240.030.012</a> | M6X20        | 200 | <a href="#">55240.060.020</a> | M10X60 *     | 100 | <a href="#">55240.100.060</a> |
| M3X16        | 200 | <a href="#">55240.030.016</a> | M6X25        | 200 | <a href="#">55240.060.025</a> |              |     |                               |
| M3X20        | 200 | <a href="#">55240.030.020</a> | M6X30        | 200 | <a href="#">55240.060.030</a> | M12X12 *     | 100 | <a href="#">55240.120.012</a> |
|              |     |                               | M6X35 *      | 200 | <a href="#">55240.060.035</a> | M12X16       | 100 | <a href="#">55240.120.016</a> |
| M4X4         | 200 | <a href="#">55240.040.004</a> | M6X40 *      | 200 | <a href="#">55240.060.040</a> | M12X20       | 100 | <a href="#">55240.120.020</a> |
| M4X5         | 200 | <a href="#">55240.040.005</a> | M6X45 *      | 200 | <a href="#">55240.060.045</a> | M12X25       | 100 | <a href="#">55240.120.025</a> |
| M4X6         | 200 | <a href="#">55240.040.006</a> | M6X50 *      | 200 | <a href="#">55240.060.050</a> | M12X30       | 100 | <a href="#">55240.120.030</a> |
| M4X8         | 200 | <a href="#">55240.040.008</a> | M6X60 *      | 200 | <a href="#">55240.060.060</a> | M12X35 *     | 100 | <a href="#">55240.120.035</a> |
| M4X10        | 200 | <a href="#">55240.040.010</a> |              |     |                               | M12X40       | 100 | <a href="#">55240.120.040</a> |
| M4X12        | 200 | <a href="#">55240.040.012</a> | M8X8         | 200 | <a href="#">55240.080.008</a> | M12X45 *     | 100 | <a href="#">55240.120.045</a> |
| M4X16        | 200 | <a href="#">55240.040.016</a> | M8X10        | 200 | <a href="#">55240.080.010</a> | M12X50 *     | 100 | <a href="#">55240.120.050</a> |
| M4X20        | 200 | <a href="#">55240.040.020</a> | M8X12        | 200 | <a href="#">55240.080.012</a> | M12X60 *     | 100 | <a href="#">55240.120.060</a> |
| M4X25        | 200 | <a href="#">55240.040.025</a> | M8X16        | 200 | <a href="#">55240.080.016</a> | M12X70 *     | 50  | <a href="#">55240.120.070</a> |
| M4X30 *      | 200 | <a href="#">55240.040.030</a> | M8X20        | 200 | <a href="#">55240.080.020</a> |              |     |                               |
|              |     |                               | M8X25        | 100 | <a href="#">55240.080.025</a> | M16X16 *     | 50  | <a href="#">55240.160.016</a> |
| M5X5 *       | 500 | <a href="#">55240.050.005</a> | M8X30        | 100 | <a href="#">55240.080.030</a> | M16X20 *     | 50  | <a href="#">55240.160.020</a> |
| M5X6         | 200 | <a href="#">55240.050.006</a> | M8X35 *      | 200 | <a href="#">55240.080.035</a> | M16X30 *     | 50  | <a href="#">55240.160.030</a> |
| M5X8         | 200 | <a href="#">55240.050.008</a> | M8X40        | 100 | <a href="#">55240.080.040</a> | M16X35 *     | 50  | <a href="#">55240.160.035</a> |
| M5X10        | 200 | <a href="#">55240.050.010</a> | M8X45 *      | 200 | <a href="#">55240.080.045</a> | M16X40 *     | 50  | <a href="#">55240.160.040</a> |
| M5X12        | 200 | <a href="#">55240.050.012</a> | M8X50 *      | 200 | <a href="#">55240.080.050</a> | M16X50 *     | 50  | <a href="#">55240.160.050</a> |
| M5X16        | 200 | <a href="#">55240.050.016</a> | M8X60 *      | 200 | <a href="#">55240.080.060</a> | M16X60 *     | 50  | <a href="#">55240.160.060</a> |
| M5X20        | 200 | <a href="#">55240.050.020</a> |              |     |                               |              |     |                               |
| M5X25        | 200 | <a href="#">55240.050.025</a> | M10X10 *     | 200 | <a href="#">55240.100.010</a> | M20X25 *     | 50  | <a href="#">55240.200.025</a> |
| M5X35 *      | 200 | <a href="#">55240.050.035</a> | M10X12       | 100 | <a href="#">55240.100.012</a> | M20X30 *     | 50  | <a href="#">55240.200.030</a> |
| M5X40 *      | 200 | <a href="#">55240.050.040</a> | M10X16       | 100 | <a href="#">55240.100.016</a> | M20X40 *     | 50  | <a href="#">55240.200.040</a> |
|              |     |                               | M10X20       | 100 | <a href="#">55240.100.020</a> | M20X50 *     | 50  | <a href="#">55240.200.050</a> |
| M6X6         | 200 | <a href="#">55240.060.006</a> | M10X25       | 100 | <a href="#">55240.100.025</a> | M20X60 *     | 50  | <a href="#">55240.200.060</a> |
| M6X8         | 200 | <a href="#">55240.060.008</a> | M10X30       | 100 | <a href="#">55240.100.030</a> |              |     |                               |

## Hexagon socket set screw with flat point MF

2



ISO ≈4026  
 DIN ≈913  
 NEN ≈2341  
 ANSI ≈B18.3.6M  
 NF ≈E27-180  
 BS ≈4168-2



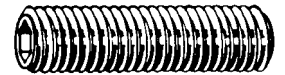
### Technical data

| d   | d <sub>p</sub> (max.) | s |
|-----|-----------------------|---|
| M8  | 5,5                   | 4 |
| M10 | 7                     | 5 |
| M12 | 8,5                   | 6 |
| M16 | 12                    | 8 |

### 07812 Hexagon socket set screw with flat point MF

D93A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard

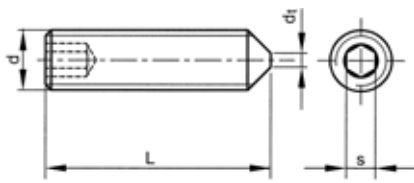


| d x P x L   | ☒   | Art.number                    | d x P x L   | ☒   | Art.number                    | d x P x L   | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| M8X1,00X10  | 200 | <a href="#">07812.080.010</a> | M10X1,25X16 | 100 | <a href="#">07812.100.016</a> | M12X1,50X25 | 100 | <a href="#">07812.120.025</a> |
| M8X1,00X12  | 200 | <a href="#">07812.080.012</a> | M10X1,25X20 | 100 | <a href="#">07812.100.020</a> | M12X1,50X30 | 100 | <a href="#">07812.120.030</a> |
| M8X1,00X16  | 200 | <a href="#">07812.080.016</a> | M10X1,25X25 | 100 | <a href="#">07812.100.025</a> | M12X1,50X40 | 100 | <a href="#">07812.120.040</a> |
| M8X1,00X20  | 200 | <a href="#">07812.080.020</a> | M10X1,25X30 | 100 | <a href="#">07812.100.030</a> | M12X1,50X50 | 100 | <a href="#">07812.120.050</a> |
| M8X1,00X25  | 100 | <a href="#">07812.080.025</a> | M10X1,25X40 | 100 | <a href="#">07812.100.040</a> |             |     |                               |
| M8X1,00X30  | 100 | <a href="#">07812.080.030</a> | M10X1,25X50 | 100 | <a href="#">07812.100.050</a> |             |     |                               |
| M8X1,00X40  | 100 | <a href="#">07812.080.040</a> |             |     |                               | M16X1,50X20 | 50  | <a href="#">07812.160.020</a> |
| M8X1,00X50  | 100 | <a href="#">07812.080.050</a> | M12X1,50X10 | 100 | <a href="#">07812.120.010</a> | M16X1,50X25 | 50  | <a href="#">07812.160.025</a> |
|             |     |                               | M12X1,50X12 | 100 | <a href="#">07812.120.012</a> | M16X1,50X30 | 50  | <a href="#">07812.160.030</a> |
| M10X1,25X10 | 100 | <a href="#">07812.100.010</a> | M12X1,50X16 | 100 | <a href="#">07812.120.016</a> | M16X1,50X40 | 50  | <a href="#">07812.160.040</a> |
| M10X1,25X12 | 100 | <a href="#">07812.100.012</a> | M12X1,50X20 | 100 | <a href="#">07812.120.020</a> | M16X1,50X50 | 50  | <a href="#">07812.160.050</a> |

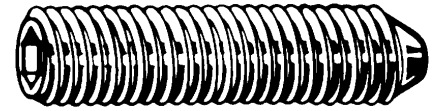
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



## Hexagon socket set screw with cone point



ISO 4027  
**DIN 914**  
 NEN 2342  
 ANSI B18.3.6M  
 NF E27-181  
 BS 4168-3



2

### Technical data

| d    | P    | d <sub>t</sub> (max.) | s   | d   | P    | d <sub>t</sub> (max.) | s   | d   | P    | d <sub>t</sub> (max.) | s  |
|------|------|-----------------------|-----|-----|------|-----------------------|-----|-----|------|-----------------------|----|
| M2   | 0,4  | -                     | 0,9 | M5  | 0,8  | -                     | 2,5 | M12 | 1,75 | 3                     | 6  |
| M2,5 | 0,45 | -                     | 1,3 | M6  | 1    | 1,5                   | 3   | M16 | 2    | 4                     | 8  |
| M3   | 0,5  | -                     | 1,5 | M8  | 1,25 | 2                     | 4   | M20 | 2,5  | 5                     | 10 |
| M4   | 0,7  | -                     | 2   | M10 | 1,5  | 2,5                   | 5   |     |      |                       |    |

### Article groups

| Thread | Driving features | Material  | Class | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-----------|-------|------|
| M      | hexagon socket   | St        | 45H   | Standard  | 07800 | 2-61 |
| M      | hexagon socket   | St.St. A2 | 70    | Standard  | 51250 | 2-61 |
| M      | hexagon socket   | St.St. A4 | 70    | Standard  | 55250 | 2-62 |

#### 07800 Hexagon socket set screw with cone point

D05A

**Thread** Metric thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X3  | 200 | <a href="#">07800.030.003</a> | M5X20 | 200 | <a href="#">07800.050.020</a> | M10X10 | 200 | <a href="#">07800.100.010</a> |
| M3X4  | 200 | <a href="#">07800.030.004</a> | M5X25 | 200 | <a href="#">07800.050.025</a> | M10X12 | 200 | <a href="#">07800.100.012</a> |
| M3X5  | 200 | <a href="#">07800.030.005</a> | M5X30 | 200 | <a href="#">07800.050.030</a> | M10X16 | 200 | <a href="#">07800.100.016</a> |
| M3X6  | 200 | <a href="#">07800.030.006</a> |       |     |                               | M10X20 | 200 | <a href="#">07800.100.020</a> |
| M3X8  | 200 | <a href="#">07800.030.008</a> | M6X6  | 200 | <a href="#">07800.060.006</a> | M10X25 | 100 | <a href="#">07800.100.025</a> |
| M3X10 | 200 | <a href="#">07800.030.010</a> | M6X8  | 200 | <a href="#">07800.060.008</a> | M10X30 | 100 | <a href="#">07800.100.030</a> |
| M3X12 | 200 | <a href="#">07800.030.012</a> | M6X10 | 200 | <a href="#">07800.060.010</a> | M10X40 | 100 | <a href="#">07800.100.040</a> |
| M3X16 | 200 | <a href="#">07800.030.016</a> | M6X12 | 200 | <a href="#">07800.060.012</a> | M10X50 | 100 | <a href="#">07800.100.050</a> |
| M3X20 | 200 | <a href="#">07800.030.020</a> | M6X16 | 200 | <a href="#">07800.060.016</a> |        |     |                               |
|       |     |                               | M6X20 | 200 | <a href="#">07800.060.020</a> | M12X16 | 100 | <a href="#">07800.120.016</a> |
| M4X4  | 200 | <a href="#">07800.040.004</a> | M6X25 | 200 | <a href="#">07800.060.025</a> | M12X20 | 100 | <a href="#">07800.120.020</a> |
| M4X5  | 200 | <a href="#">07800.040.005</a> | M6X30 | 200 | <a href="#">07800.060.030</a> | M12X25 | 100 | <a href="#">07800.120.025</a> |
| M4X6  | 200 | <a href="#">07800.040.006</a> | M6X35 | 200 | <a href="#">07800.060.035</a> | M12X30 | 100 | <a href="#">07800.120.030</a> |
| M4X8  | 200 | <a href="#">07800.040.008</a> |       |     |                               | M12X40 | 100 | <a href="#">07800.120.040</a> |
| M4X10 | 200 | <a href="#">07800.040.010</a> | M8X8  | 200 | <a href="#">07800.080.008</a> | M12X50 | 100 | <a href="#">07800.120.050</a> |
| M4X12 | 200 | <a href="#">07800.040.012</a> | M8X10 | 200 | <a href="#">07800.080.010</a> |        |     |                               |
| M4X16 | 200 | <a href="#">07800.040.016</a> | M8X12 | 200 | <a href="#">07800.080.012</a> | M16X16 | 50  | <a href="#">07800.160.016</a> |
| M4X20 | 200 | <a href="#">07800.040.020</a> | M8X16 | 200 | <a href="#">07800.080.016</a> | M16X20 | 50  | <a href="#">07800.160.020</a> |
| M4X25 | 200 | <a href="#">07800.040.025</a> | M8X20 | 200 | <a href="#">07800.080.020</a> | M16X25 | 50  | <a href="#">07800.160.025</a> |
|       |     |                               | M8X25 | 200 | <a href="#">07800.080.025</a> | M16X30 | 50  | <a href="#">07800.160.030</a> |
| M5X5  | 200 | <a href="#">07800.050.005</a> | M8X30 | 200 | <a href="#">07800.080.030</a> | M16X35 | 50  | <a href="#">07800.160.035</a> |
| M5X6  | 200 | <a href="#">07800.050.006</a> | M8X35 | 100 | <a href="#">07800.080.035</a> | M16X40 | 50  | <a href="#">07800.160.040</a> |
| M5X8  | 200 | <a href="#">07800.050.008</a> | M8X40 | 100 | <a href="#">07800.080.040</a> | M16X50 | 50  | <a href="#">07800.160.050</a> |
| M5X10 | 200 | <a href="#">07800.050.010</a> | M8X50 | 100 | <a href="#">07800.080.050</a> | M16X60 | 25  | <a href="#">07800.160.060</a> |
| M5X12 | 200 | <a href="#">07800.050.012</a> | M8X60 | 100 | <a href="#">07800.080.060</a> |        |     |                               |
| M5X16 | 200 | <a href="#">07800.050.016</a> |       |     |                               |        |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 51250 Hexagon socket set screw with cone point

R03A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard



| d x L  | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|--------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| M2X3 * | 500 | <a href="#">51250.020.003</a> | M2X10 *  | 500 | <a href="#">51250.020.010</a> | M2,5X6 *  | 500 | <a href="#">51250.025.006</a> |
| M2X4 * | 500 | <a href="#">51250.020.004</a> |          |     |                               | M2,5X8 *  | 500 | <a href="#">51250.025.008</a> |
| M2X5 * | 500 | <a href="#">51250.020.005</a> | M2,5X4   | 200 | <a href="#">51250.025.004</a> | M2,5X10 * | 500 | <a href="#">51250.025.010</a> |
| M2X6 * | 500 | <a href="#">51250.020.006</a> | M2,5X5 * | 500 | <a href="#">51250.025.005</a> | M2,5X12 * | 500 | <a href="#">51250.025.012</a> |

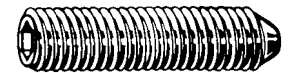
**51250 Hexagon socket set screw with cone point**

**2**

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X25 * | 500 | <a href="#">51250.030.025</a> | M6X6    | 200 | <a href="#">51250.060.006</a> | M10X30 * | 100 | <a href="#">51250.100.030</a> |
| M4X4 *  | 200 | <a href="#">51250.040.004</a> | M6X8    | 200 | <a href="#">51250.060.008</a> | M10X35 * | 100 | <a href="#">51250.100.035</a> |
| M4X5 *  | 500 | <a href="#">51250.040.005</a> | M6X10   | 200 | <a href="#">51250.060.010</a> | M10X45 * | 100 | <a href="#">51250.100.045</a> |
| M4X6    | 200 | <a href="#">51250.040.006</a> | M6X12   | 200 | <a href="#">51250.060.012</a> | M10X60 * | 100 | <a href="#">51250.100.060</a> |
| M4X8    | 200 | <a href="#">51250.040.008</a> | M6X14 * | 200 | <a href="#">51250.060.014</a> |          |     |                               |
| M4X10   | 200 | <a href="#">51250.040.010</a> | M6X16   | 200 | <a href="#">51250.060.016</a> | M12X16 * | 100 | <a href="#">51250.120.016</a> |
| M4X12   | 200 | <a href="#">51250.040.012</a> | M6X20   | 200 | <a href="#">51250.060.020</a> | M12X25 * | 100 | <a href="#">51250.120.025</a> |
| M4X14   | 200 | <a href="#">51250.040.014</a> | M6X25 * | 200 | <a href="#">51250.060.025</a> | M12X35 * | 100 | <a href="#">51250.120.035</a> |
| M4X16   | 200 | <a href="#">51250.040.016</a> | M6X40 * | 200 | <a href="#">51250.060.040</a> | M12X40 * | 100 | <a href="#">51250.120.040</a> |
| M4X20   | 200 | <a href="#">51250.040.020</a> | M6X45 * | 200 | <a href="#">51250.060.045</a> | M12X45 * | 100 | <a href="#">51250.120.045</a> |
| M4X25 * | 500 | <a href="#">51250.040.025</a> | M6X60 * | 200 | <a href="#">51250.060.060</a> | M12X55 * | 100 | <a href="#">51250.120.055</a> |
| M4X30 * | 200 | <a href="#">51250.040.030</a> |         |     |                               | M12X60 * | 100 | <a href="#">51250.120.060</a> |
|         |     |                               | M8X6 *  | 200 | <a href="#">51250.080.006</a> | M12X70 * | 50  | <a href="#">51250.120.070</a> |
|         |     |                               | M8X8    | 200 | <a href="#">51250.080.008</a> |          |     |                               |
| M5X5 *  | 100 | <a href="#">51250.050.005</a> | M8X10   | 200 | <a href="#">51250.080.010</a> | M16X16 * | 50  | <a href="#">51250.160.016</a> |
| M5X6    | 200 | <a href="#">51250.050.006</a> | M8X12   | 200 | <a href="#">51250.080.012</a> | M16X20 * | 50  | <a href="#">51250.160.020</a> |
| M5X8    | 200 | <a href="#">51250.050.008</a> | M8X16   | 200 | <a href="#">51250.080.016</a> | M16X25 * | 50  | <a href="#">51250.160.025</a> |
| M5X10   | 200 | <a href="#">51250.050.010</a> | M8X20   | 200 | <a href="#">51250.080.020</a> | M16X30 * | 50  | <a href="#">51250.160.030</a> |
| M5X12   | 200 | <a href="#">51250.050.012</a> | M8X25   | 100 | <a href="#">51250.080.025</a> | M16X40 * | 50  | <a href="#">51250.160.040</a> |
| M5X14 * | 500 | <a href="#">51250.050.014</a> | M8X35 * | 200 | <a href="#">51250.080.035</a> | M16X45 * | 50  | <a href="#">51250.160.045</a> |
| M5X16   | 200 | <a href="#">51250.050.016</a> | M8X40 * | 200 | <a href="#">51250.080.040</a> | M16X60 * | 50  | <a href="#">51250.160.060</a> |
| M5X18 * | 500 | <a href="#">51250.050.018</a> | M8X45 * | 200 | <a href="#">51250.080.045</a> | M16X70 * | 50  | <a href="#">51250.160.070</a> |
| M5X20   | 200 | <a href="#">51250.050.020</a> | M8X60 * | 200 | <a href="#">51250.080.060</a> |          |     |                               |
| M5X35 * | 200 | <a href="#">51250.050.035</a> |         |     |                               | M20X20 * | 50  | <a href="#">51250.200.020</a> |
| M5X45 * | 200 | <a href="#">51250.050.045</a> | M10X12  | 100 | <a href="#">51250.100.012</a> | M20X30 * | 50  | <a href="#">51250.200.030</a> |
| M5X50 * | 200 | <a href="#">51250.050.050</a> | M10X16  | 100 | <a href="#">51250.100.016</a> | M20X40 * | 50  | <a href="#">51250.200.040</a> |
|         |     |                               | M10X20  | 100 | <a href="#">51250.100.020</a> | M20X50 * | 50  | <a href="#">51250.200.050</a> |
| M6X5 *  | 200 | <a href="#">51250.060.005</a> | M10X25  | 100 | <a href="#">51250.100.025</a> |          |     |                               |

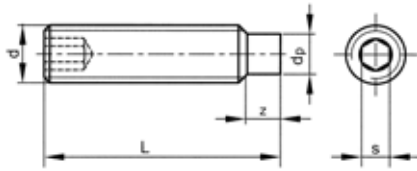
**55250 Hexagon socket set screw with cone point**
**R43A**

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard

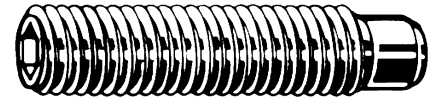


| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X4 *  | 500 | <a href="#">55250.030.004</a> | M5X35 * | 200 | <a href="#">55250.050.035</a> | M8X45 *  | 200 | <a href="#">55250.080.045</a> |
| M3X5 *  | 500 | <a href="#">55250.030.005</a> | M5X40 * | 200 | <a href="#">55250.050.040</a> | M8X50 *  | 200 | <a href="#">55250.080.050</a> |
| M3X10 * | 500 | <a href="#">55250.030.010</a> |         |     |                               |          |     |                               |
|         |     |                               | M6X6    | 200 | <a href="#">55250.060.006</a> | M10X10 * | 200 | <a href="#">55250.100.010</a> |
| M4X4 *  | 500 | <a href="#">55250.040.004</a> | M6X8    | 200 | <a href="#">55250.060.008</a> | M10X12   | 100 | <a href="#">55250.100.012</a> |
| M4X5 *  | 500 | <a href="#">55250.040.005</a> | M6X10   | 200 | <a href="#">55250.060.010</a> | M10X16   | 100 | <a href="#">55250.100.016</a> |
| M4X6    | 200 | <a href="#">55250.040.006</a> | M6X12   | 200 | <a href="#">55250.060.012</a> | M10X20   | 100 | <a href="#">55250.100.020</a> |
| M4X8    | 200 | <a href="#">55250.040.008</a> | M6X16   | 200 | <a href="#">55250.060.016</a> | M10X25   | 100 | <a href="#">55250.100.025</a> |
| M4X10   | 200 | <a href="#">55250.040.010</a> | M6X20   | 200 | <a href="#">55250.060.020</a> | M10X30   | 100 | <a href="#">55250.100.030</a> |
| M4X12   | 200 | <a href="#">55250.040.012</a> | M6X25   | 200 | <a href="#">55250.060.025</a> | M10X35 * | 100 | <a href="#">55250.100.035</a> |
| M4X16   | 200 | <a href="#">55250.040.016</a> | M6X30   | 200 | <a href="#">55250.060.030</a> | M10X40   | 100 | <a href="#">55250.100.040</a> |
| M4X20   | 200 | <a href="#">55250.040.020</a> | M6X35 * | 200 | <a href="#">55250.060.035</a> | M10X50 * | 100 | <a href="#">55250.100.050</a> |
| M4X30 * | 200 | <a href="#">55250.040.030</a> | M6X40 * | 200 | <a href="#">55250.060.040</a> |          |     |                               |
|         |     |                               | M6X45 * | 200 | <a href="#">55250.060.045</a> | M12X12 * | 100 | <a href="#">55250.120.012</a> |
|         |     |                               |         |     |                               | M12X16 * | 100 | <a href="#">55250.120.016</a> |
| M5X5 *  | 500 | <a href="#">55250.050.005</a> | M8X8    | 200 | <a href="#">55250.080.008</a> | M12X20 * | 100 | <a href="#">55250.120.020</a> |
| M5X6    | 200 | <a href="#">55250.050.006</a> | M8X10   | 200 | <a href="#">55250.080.010</a> | M12X30 * | 100 | <a href="#">55250.120.030</a> |
| M5X8    | 200 | <a href="#">55250.050.008</a> | M8X12   | 200 | <a href="#">55250.080.012</a> |          |     |                               |
| M5X10   | 200 | <a href="#">55250.050.010</a> | M8X16   | 200 | <a href="#">55250.080.016</a> | M16X25 * | 50  | <a href="#">55250.160.025</a> |
| M5X12   | 200 | <a href="#">55250.050.012</a> | M8X20   | 200 | <a href="#">55250.080.020</a> | M16X30 * | 50  | <a href="#">55250.160.030</a> |
| M5X14 * | 500 | <a href="#">55250.050.014</a> | M8X25   | 100 | <a href="#">55250.080.025</a> | M16X40 * | 50  | <a href="#">55250.160.040</a> |
| M5X16   | 200 | <a href="#">55250.050.016</a> | M8X30   | 100 | <a href="#">55250.080.030</a> |          |     |                               |
| M5X20   | 200 | <a href="#">55250.050.020</a> | M8X35 * | 200 | <a href="#">55250.080.035</a> |          |     |                               |
| M5X25 * | 200 | <a href="#">55250.050.025</a> | M8X40   | 100 | <a href="#">55250.080.040</a> |          |     |                               |
| M5X30 * | 200 | <a href="#">55250.050.030</a> |         |     |                               |          |     |                               |

## Hexagon socket set screw with dog point



ISO 4028  
**DIN 915**  
 NEN 2344  
 ANSI B18.3.6M  
 NF E27-182  
 BS 4168-4



2

### Technical data

| d    | P    | d <sub>p</sub> (max.) | s   | z short L ≤ | z short (min.) | z short (max.) | z long L ≥ | z long (min.) | z long (max.) |
|------|------|-----------------------|-----|-------------|----------------|----------------|------------|---------------|---------------|
| M2   | 0,4  | 1                     | 0,9 | 3           | 0,5            | 0,75           | 4          | 1             | 1,25          |
| M2,5 | 0,45 | 1,5                   | 1,3 | 4           | 0,63           | 0,88           | 5          | 1,25          | 1,5           |
| M3   | 0,5  | 2                     | 1,5 | 5           | 0,75           | 1              | 6          | 1,5           | 1,75          |
| M4   | 0,7  | 2,5                   | 2   | 6           | 1              | 1,25           | 8          | 2             | 2,25          |
| M5   | 0,8  | 3,5                   | 2,5 | 6           | 1,25           | 1,5            | 8          | 2,5           | 2,75          |
| M6   | 1    | 4                     | 3   | 8           | 1,5            | 1,75           | 10         | 3             | 3,25          |
| M8   | 1,25 | 5,5                   | 4   | 10          | 2              | 2,25           | 12         | 4             | 4,3           |
| M10  | 1,5  | 7                     | 5   | 12          | 2,5            | 2,75           | 16         | 5             | 5,3           |
| M12  | 1,75 | 8,5                   | 6   | 16          | 3              | 3,25           | 20         | 6             | 6,3           |
| M14  | 2    | 10                    | 6   | 20          | 3,5            | 3,8            | 25         | 7             | 7,36          |
| M16  | 2    | 12                    | 8   | 20          | 4              | 4,3            | 25         | 8             | 8,36          |
| M20  | 2,5  | 15                    | 10  | 25          | 5              | 5,3            | 30         | 10            | 10,36         |

### Article groups

| Thread | Driving features | Material  | Class | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-----------|-------|------|
| M      | hexagon socket   | St        | 45H   | Standard  | 07820 | 2-63 |
| M      | hexagon socket   | St.St. A2 | 70    | Standard  | 51230 | 2-64 |

### 07820 Hexagon socket set screw with dog point

D05A

**Thread** Metric thread  
**Material** Steel  
**Class** 45H  
**Packaging** Standard

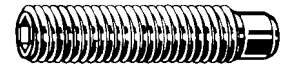


| d x L | ✉   | Art.number                    | d x L  | ✉   | Art.number                    | d x L   | ✉   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X3  | 200 | <a href="#">07820.030.003</a> | M6X8   | 200 | <a href="#">07820.060.008</a> | M10X50  | 100 | <a href="#">07820.100.050</a> |
| M3X4  | 200 | <a href="#">07820.030.004</a> | M6X10  | 200 | <a href="#">07820.060.010</a> |         |     |                               |
| M3X5  | 200 | <a href="#">07820.030.005</a> | M6X12  | 200 | <a href="#">07820.060.012</a> | M12X12  | 100 | <a href="#">07820.120.012</a> |
| M3X6  | 200 | <a href="#">07820.030.006</a> | M6X16  | 200 | <a href="#">07820.060.016</a> | M12X16  | 100 | <a href="#">07820.120.016</a> |
| M3X8  | 200 | <a href="#">07820.030.008</a> | M6X20  | 200 | <a href="#">07820.060.020</a> | M12X20  | 100 | <a href="#">07820.120.020</a> |
| M3X10 | 200 | <a href="#">07820.030.010</a> | M6X25  | 200 | <a href="#">07820.060.025</a> | M12X25  | 100 | <a href="#">07820.120.025</a> |
| M3X12 | 200 | <a href="#">07820.030.012</a> | M6X30  | 200 | <a href="#">07820.060.030</a> | M12X30  | 100 | <a href="#">07820.120.030</a> |
| M3X16 | 200 | <a href="#">07820.030.016</a> | M6X40  | 200 | <a href="#">07820.060.040</a> | M12X35  | 100 | <a href="#">07820.120.035</a> |
| M3X20 | 200 | <a href="#">07820.030.020</a> | M6X50  | 200 | <a href="#">07820.060.050</a> | M12X40  | 100 | <a href="#">07820.120.040</a> |
|       |     |                               |        |     |                               | M12X45  | 100 | <a href="#">07820.120.045</a> |
| M4X6  | 200 | <a href="#">07820.040.006</a> | M8X8   | 200 | <a href="#">07820.080.008</a> | M12X50  | 100 | <a href="#">07820.120.050</a> |
| M4X8  | 200 | <a href="#">07820.040.008</a> | M8X10  | 200 | <a href="#">07820.080.010</a> |         |     |                               |
| M4X10 | 200 | <a href="#">07820.040.010</a> | M8X12  | 200 | <a href="#">07820.080.012</a> | M16X16  | 50  | <a href="#">07820.160.016</a> |
| M4X12 | 200 | <a href="#">07820.040.012</a> | M8X16  | 200 | <a href="#">07820.080.016</a> | M16X20  | 50  | <a href="#">07820.160.020</a> |
| M4X16 | 200 | <a href="#">07820.040.016</a> | M8X20  | 200 | <a href="#">07820.080.020</a> | M16X25  | 50  | <a href="#">07820.160.025</a> |
| M4X20 | 200 | <a href="#">07820.040.020</a> | M8X25  | 200 | <a href="#">07820.080.025</a> | M16X30  | 50  | <a href="#">07820.160.030</a> |
| M4X25 | 200 | <a href="#">07820.040.025</a> | M8X30  | 200 | <a href="#">07820.080.030</a> | M16X35  | 50  | <a href="#">07820.160.035</a> |
| M4X30 | 200 | <a href="#">07820.040.030</a> | M8X35  | 100 | <a href="#">07820.080.035</a> | M16X40  | 50  | <a href="#">07820.160.040</a> |
|       |     |                               | M8X40  | 100 | <a href="#">07820.080.040</a> | M16X50  | 50  | <a href="#">07820.160.050</a> |
| M5X6  | 200 | <a href="#">07820.050.006</a> | M8X45  | 100 | <a href="#">07820.080.045</a> | M16X60  | 25  | <a href="#">07820.160.060</a> |
| M5X8  | 200 | <a href="#">07820.050.008</a> | M8X50  | 100 | <a href="#">07820.080.050</a> |         |     |                               |
| M5X10 | 200 | <a href="#">07820.050.010</a> |        |     |                               | M20X30  | 25  | <a href="#">07820.200.030</a> |
| M5X12 | 200 | <a href="#">07820.050.012</a> | M10X12 | 200 | <a href="#">07820.100.012</a> | M20X40  | 25  | <a href="#">07820.200.040</a> |
| M5X16 | 200 | <a href="#">07820.050.016</a> | M10X16 | 200 | <a href="#">07820.100.016</a> | M20X50  | 10  | <a href="#">07820.200.050</a> |
| M5X20 | 200 | <a href="#">07820.050.020</a> | M10X20 | 200 | <a href="#">07820.100.020</a> | M20X60  | 25  | <a href="#">07820.200.060</a> |
| M5X25 | 200 | <a href="#">07820.050.025</a> | M10X25 | 100 | <a href="#">07820.100.025</a> | M20X70  | 25  | <a href="#">07820.200.070</a> |
| M5X30 | 200 | <a href="#">07820.050.030</a> | M10X30 | 100 | <a href="#">07820.100.030</a> | M20X140 | 25  | <a href="#">07820.200.140</a> |
| M5X40 | 200 | <a href="#">07820.050.040</a> | M10X35 | 100 | <a href="#">07820.100.035</a> |         |     |                               |
|       |     |                               | M10X40 | 100 | <a href="#">07820.100.040</a> |         |     |                               |
| M6X6  | 200 | <a href="#">07820.060.006</a> | M10X45 | 100 | <a href="#">07820.100.045</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

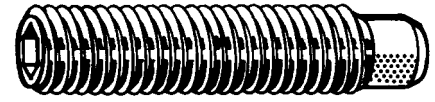
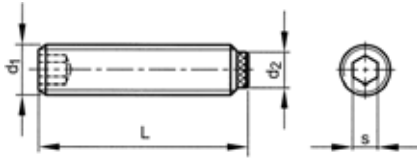
**51230 Hexagon socket set screw with dog point**
**R03A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard


**2**

| d x L     | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|-----------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M2X3 *    | 500 | <a href="#">51230.020.003</a> | M5X12   | 200 | <a href="#">51230.050.012</a> | M8X50 *  | 200 | <a href="#">51230.080.050</a> |
| M2X5 *    | 500 | <a href="#">51230.020.005</a> | M5X16   | 200 | <a href="#">51230.050.016</a> | M8X60 *  | 200 | <a href="#">51230.080.060</a> |
| M2X6 *    | 500 | <a href="#">51230.020.006</a> | M5X18 * | 500 | <a href="#">51230.050.018</a> |          |     |                               |
|           |     |                               | M5X20   | 200 | <a href="#">51230.050.020</a> | M10X10 * | 200 | <a href="#">51230.100.010</a> |
| M2,5X4 *  | 500 | <a href="#">51230.025.004</a> | M5X25 * | 200 | <a href="#">51230.050.025</a> | M10X12   | 100 | <a href="#">51230.100.012</a> |
| M2,5X5 *  | 500 | <a href="#">51230.025.005</a> | M5X30 * | 200 | <a href="#">51230.050.030</a> | M10X16   | 100 | <a href="#">51230.100.016</a> |
| M2,5X6 *  | 500 | <a href="#">51230.025.006</a> | M5X35 * | 200 | <a href="#">51230.050.035</a> | M10X20   | 100 | <a href="#">51230.100.020</a> |
| M2,5X8 *  | 500 | <a href="#">51230.025.008</a> | M5X40 * | 200 | <a href="#">51230.050.040</a> | M10X25   | 100 | <a href="#">51230.100.025</a> |
| M2,5X12 * | 500 | <a href="#">51230.025.012</a> |         |     |                               | M10X30   | 100 | <a href="#">51230.100.030</a> |
|           |     |                               | M6X6    | 200 | <a href="#">51230.060.006</a> | M10X35 * | 200 | <a href="#">51230.100.035</a> |
| M3X3 *    | 500 | <a href="#">51230.030.003</a> | M6X8    | 200 | <a href="#">51230.060.008</a> | M10X40   | 100 | <a href="#">51230.100.040</a> |
| M3X4 *    | 500 | <a href="#">51230.030.004</a> | M6X10   | 200 | <a href="#">51230.060.010</a> | M10X45 * | 200 | <a href="#">51230.100.045</a> |
| M3X5 *    | 500 | <a href="#">51230.030.005</a> | M6X12   | 200 | <a href="#">51230.060.012</a> | M10X50 * | 200 | <a href="#">51230.100.050</a> |
| M3X8 *    | 500 | <a href="#">51230.030.008</a> | M6X16   | 200 | <a href="#">51230.060.016</a> | M10X60 * | 200 | <a href="#">51230.100.060</a> |
| M3X10 *   | 500 | <a href="#">51230.030.010</a> | M6X20   | 200 | <a href="#">51230.060.020</a> |          |     |                               |
| M3X12 *   | 500 | <a href="#">51230.030.012</a> | M6X25   | 200 | <a href="#">51230.060.025</a> | M12X12 * | 100 | <a href="#">51230.120.012</a> |
| M3X20 *   | 500 | <a href="#">51230.030.020</a> | M6X30   | 200 | <a href="#">51230.060.030</a> | M12X20 * | 100 | <a href="#">51230.120.020</a> |
| M3X25 *   | 500 | <a href="#">51230.030.025</a> | M6X35 * | 200 | <a href="#">51230.060.035</a> | M12X25 * | 100 | <a href="#">51230.120.025</a> |
|           |     |                               | M6X40 * | 200 | <a href="#">51230.060.040</a> | M12X30 * | 100 | <a href="#">51230.120.030</a> |
| M4X4 *    | 500 | <a href="#">51230.040.004</a> | M6X45 * | 200 | <a href="#">51230.060.045</a> | M12X35 * | 100 | <a href="#">51230.120.035</a> |
| M4X5 *    | 500 | <a href="#">51230.040.005</a> | M6X50 * | 200 | <a href="#">51230.060.050</a> | M12X40 * | 100 | <a href="#">51230.120.040</a> |
| M4X6      | 200 | <a href="#">51230.040.006</a> | M6X60 * | 200 | <a href="#">51230.060.060</a> | M12X45 * | 100 | <a href="#">51230.120.045</a> |
| M4X8      | 200 | <a href="#">51230.040.008</a> |         |     |                               | M12X50 * | 100 | <a href="#">51230.120.050</a> |
| M4X10     | 200 | <a href="#">51230.040.010</a> | M8X8 *  | 200 | <a href="#">51230.080.008</a> | M12X55 * | 100 | <a href="#">51230.120.055</a> |
| M4X16 *   | 500 | <a href="#">51230.040.016</a> | M8X10   | 200 | <a href="#">51230.080.010</a> | M12X60 * | 100 | <a href="#">51230.120.060</a> |
| M4X20 *   | 500 | <a href="#">51230.040.020</a> | M8X12   | 200 | <a href="#">51230.080.012</a> |          |     |                               |
| M4X25 *   | 500 | <a href="#">51230.040.025</a> | M8X16   | 200 | <a href="#">51230.080.016</a> | M16X20 * | 50  | <a href="#">51230.160.020</a> |
| M4X30 *   | 200 | <a href="#">51230.040.030</a> | M8X20   | 200 | <a href="#">51230.080.020</a> | M16X25   | 50  | <a href="#">51230.160.025</a> |
|           |     |                               | M8X25   | 100 | <a href="#">51230.080.025</a> | M16X30 * | 50  | <a href="#">51230.160.030</a> |
| M5X5 *    | 500 | <a href="#">51230.050.005</a> | M8X30   | 100 | <a href="#">51230.080.030</a> | M16X40 * | 50  | <a href="#">51230.160.040</a> |
| M5X6      | 200 | <a href="#">51230.050.006</a> | M8X35 * | 200 | <a href="#">51230.080.035</a> | M16X50 * | 50  | <a href="#">51230.160.050</a> |
| M5X8      | 200 | <a href="#">51230.050.008</a> | M8X40   | 100 | <a href="#">51230.080.040</a> |          |     |                               |
| M5X10     | 200 | <a href="#">51230.050.010</a> | M8X45 * | 200 | <a href="#">51230.080.045</a> |          |     |                               |

## Hexagon socket set screw with nylon dog point



2

### Technical data

| d1  | P    | d2  | s   |
|-----|------|-----|-----|
| M4  | 0,7  | 2,5 | 2   |
| M5  | 0,8  | 3   | 2,5 |
| M6  | 1    | 4   | 3   |
| M8  | 1,25 | 5,5 | 4   |
| M10 | 1,5  | 7   | 5   |

- These hexagon socket set screws with nylon dog point are suitable for pressure, without causing damage, e.g. threaded rods, studs and fasteners with a surface coating.

### 56949 Hexagon socket set screw with nylon dog point

W03A

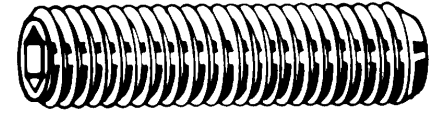
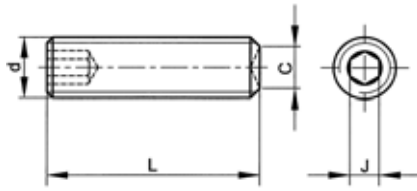
|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 5.8           |
| <b>Packaging</b> | Standard      |



| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L    | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|----------|----|-------------------------------|
| M4X6,5  | 25 | <a href="#">56949.040.006</a> | M5X11   | 25 | <a href="#">56949.050.011</a> | M8X12    | 10 | <a href="#">56949.080.012</a> |
| M4X7    | 25 | <a href="#">56949.040.007</a> | M5X12,5 | 25 | <a href="#">56949.050.012</a> | M8X13,6  | 10 | <a href="#">56949.080.013</a> |
| M4X8    | 25 | <a href="#">56949.040.008</a> | M5X16   | 25 | <a href="#">56949.050.016</a> | M8X20    | 10 | <a href="#">56949.080.020</a> |
| M4X9    | 25 | <a href="#">56949.040.009</a> | M5X17   | 25 | <a href="#">56949.050.017</a> |          |    |                               |
| M4X10,5 | 25 | <a href="#">56949.040.010</a> |         |    |                               | M10X16   | 10 | <a href="#">56949.100.016</a> |
| M4X11   | 25 | <a href="#">56949.040.011</a> | M6X10   | 25 | <a href="#">56949.060.010</a> | M10X18   | 10 | <a href="#">56949.100.018</a> |
|         |    |                               | M6X11,3 | 25 | <a href="#">56949.060.011</a> | M10X26,9 | 10 | <a href="#">56949.100.026</a> |
| M5X8,5  | 25 | <a href="#">56949.050.008</a> | M6X26,3 | 10 | <a href="#">56949.060.026</a> | M10X27   | 10 | <a href="#">56949.100.027</a> |
| M5X9    | 25 | <a href="#">56949.050.009</a> |         |    |                               |          |    |                               |
| M5X10   | 25 | <a href="#">56949.050.010</a> | M8X10   | 10 | <a href="#">56949.080.010</a> |          |    |                               |

## Hexagon socket set screws with cup point UNC

ANSI ≈B18.3  
BS ≈2470



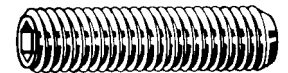
### Technical data

| d     | Threads per inch | C (max.) | J     |
|-------|------------------|----------|-------|
| No.2  | 56               | 1,19     | 0.035 |
| No.3  | 48               | 1,37     | 0.050 |
| No.4  | 40               | 1,55     | 0.050 |
| No.5  | 40               | 1,7      | 1/16  |
| No.6  | 32               | 1,88     | 1/16  |
| No.8  | 32               | 2,2      | 5/64  |
| No.10 | 24               | 2,59     | 3/32  |
| 1/4   | 20               | 3,3      | 1/8   |
| 5/16  | 18               | 4,3      | 5/32  |
| 3/8   | 16               | 5,3      | 3/16  |
| 1/2   | 13               | 7,3      | 1/4   |

### 07950 Hexagon socket set screws with cup point UNC

X05A

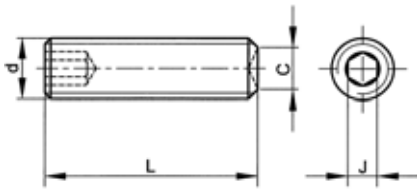
**Thread** Unified National Coarse  
**Material** Steel  
**Class** 45H  
**Packaging** Standard



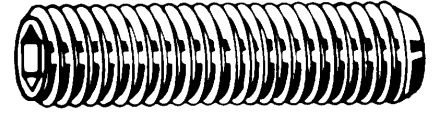
| d x L     | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| No.2X1/8  | 100 | <a href="#">07950.021.003</a> | No.6X5/8    | 100 | <a href="#">07950.035.015</a> |            |     |                               |
| No.2X3/16 | 100 | <a href="#">07950.021.004</a> | No.6X3/4    | 100 | <a href="#">07950.035.019</a> |            |     |                               |
| No.2X1/4  | 100 | <a href="#">07950.021.006</a> | No.8X3/16   | 100 | <a href="#">07950.041.004</a> | 5/16X5/16  | 100 | <a href="#">07950.079.007</a> |
| No.2X3/8  | 100 | <a href="#">07950.021.009</a> | No.8X1/4    | 100 | <a href="#">07950.041.006</a> | 5/16X1/2   | 100 | <a href="#">07950.079.012</a> |
| No.3X1/8  | 100 | <a href="#">07950.025.003</a> | No.8X3/8    | 100 | <a href="#">07950.041.009</a> | 5/16X5/8   | 100 | <a href="#">07950.079.015</a> |
| No.3X3/16 | 100 | <a href="#">07950.025.004</a> | NO.8X1/2    | 100 | <a href="#">07950.041.012</a> | 5/16X3/4   | 100 | <a href="#">07950.079.019</a> |
| No.3X1/4  | 100 | <a href="#">07950.025.006</a> | No.8X5/8    | 100 | <a href="#">07950.041.015</a> | 5/16X1.IN. | 100 | <a href="#">07950.079.025</a> |
| No.3X3/8  | 100 | <a href="#">07950.025.009</a> | No.8X3/4    | 100 | <a href="#">07950.041.019</a> | 5/16X1.1/2 | 100 | <a href="#">07950.079.038</a> |
| No.4X1/8  | 100 | <a href="#">07950.028.003</a> | No.8X1.IN.  | 100 | <a href="#">07950.041.025</a> |            |     |                               |
| No.4X3/16 | 100 | <a href="#">07950.028.004</a> | No.10X3/16  | 100 | <a href="#">07950.048.004</a> | 3/8X3/8    | 100 | <a href="#">07950.096.009</a> |
| No.4X1/4  | 100 | <a href="#">07950.028.006</a> | No.10X1/4   | 100 | <a href="#">07950.048.006</a> | 3/8X1/2    | 100 | <a href="#">07950.096.012</a> |
| No.4X5/16 | 100 | <a href="#">07950.028.007</a> | No.10X5/16  | 100 | <a href="#">07950.048.007</a> | 3/8X5/8    | 100 | <a href="#">07950.096.015</a> |
| No.4X3/8  | 100 | <a href="#">07950.028.009</a> | No.10X3/8   | 100 | <a href="#">07950.048.009</a> | 3/8X3/4    | 100 | <a href="#">07950.096.019</a> |
| No.4X1/2  | 100 | <a href="#">07950.028.012</a> | No.10X1/2   | 100 | <a href="#">07950.048.012</a> | 3/8X1.IN.  | 100 | <a href="#">07950.096.025</a> |
| No.4X5/8  | 100 | <a href="#">07950.028.015</a> | No.10X3/4   | 100 | <a href="#">07950.048.019</a> | 3/8X1.1/4  | 100 | <a href="#">07950.096.031</a> |
| No.4X3/4  | 100 | <a href="#">07950.028.019</a> | No.10X1.IN. | 100 | <a href="#">07950.048.025</a> | 3/8X1.1/2  | 100 | <a href="#">07950.096.038</a> |
| No.5X1/4  | 100 | <a href="#">07950.031.006</a> | No.10X1.1/2 | 100 | <a href="#">07950.048.038</a> |            |     |                               |
| No.5X3/8  | 100 | <a href="#">07950.031.009</a> | No.10X1.3/4 | 100 | <a href="#">07950.048.044</a> | 1/2X1/2    | 100 | <a href="#">07950.127.012</a> |
| No.5X1/2  | 100 | <a href="#">07950.031.012</a> | No.10X2.IN. | 100 | <a href="#">07950.048.050</a> | 1/2X5/8    | 100 | <a href="#">07950.127.015</a> |
| No.5X5/8  | 100 | <a href="#">07950.031.015</a> | 1/4X1/4     | 100 | <a href="#">07950.063.006</a> | 1/2X3/4    | 100 | <a href="#">07950.127.019</a> |
| No.5X3/4  | 100 | <a href="#">07950.031.019</a> | 1/4X5/16    | 100 | <a href="#">07950.063.007</a> | 1/2X1.IN.  | 50  | <a href="#">07950.127.025</a> |
| No.6X1/8  | 100 | <a href="#">07950.035.003</a> | 1/4X3/8     | 100 | <a href="#">07950.063.009</a> | 1/2X1.1/4  | 50  | <a href="#">07950.127.031</a> |
| No.6X3/16 | 100 | <a href="#">07950.035.004</a> | 1/4X1/2     | 100 | <a href="#">07950.063.012</a> | 1/2X1.1/2  | 50  | <a href="#">07950.127.038</a> |
| No.6X1/4  | 100 | <a href="#">07950.035.006</a> | 1/4X5/8     | 100 | <a href="#">07950.063.015</a> | 1/2X2.IN.  | 25  | <a href="#">07950.127.050</a> |
| No.6X5/16 | 100 | <a href="#">07950.035.007</a> | 1/4X3/4     | 100 | <a href="#">07950.063.019</a> |            |     |                               |
| No.6X3/8  | 100 | <a href="#">07950.035.009</a> | 1/4X1.IN.   | 100 | <a href="#">07950.063.025</a> |            |     |                               |
| No.6X1/2  | 100 | <a href="#">07950.035.012</a> | 1/4X1.1/4   | 100 | <a href="#">07950.063.031</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon socket set screw with cup point BSW



ANSI =B18.3  
BS =2470



2

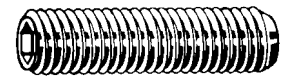
### Technical data

|                  |     |
|------------------|-----|
| d                | 1/2 |
| Threads per inch | 12  |
| C                | 7,3 |
| J                | 1/4 |

### 07940 Hexagon socket set screw with cup point BSW

X08A

**Thread** British Standard Whitworth  
**Material** Steel  
**Class** 45H  
**Packaging** Standard

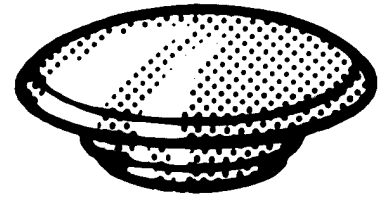
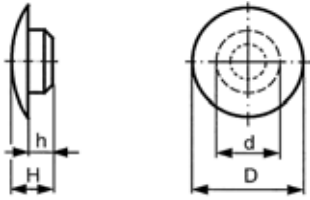


| d x L   | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|---------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| 1/2X1/2 | 100 | <a href="#">07940.127.012</a> | 1/2X3/4   | 100 | <a href="#">07940.127.020</a> | 1/2X1.1/2 | 50 | <a href="#">07940.127.040</a> |
| 1/2X5/8 | 100 | <a href="#">07940.127.016</a> | 1/2X1.IN. | 50  | <a href="#">07940.127.025</a> |           |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Cover for hexagon socket screws

2



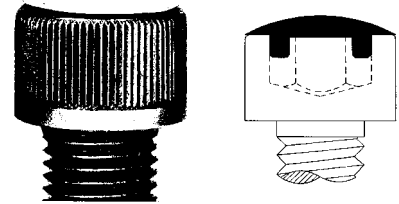
### Technical data

| For use with | s  | d    | D    | H   | h   |
|--------------|----|------|------|-----|-----|
| M5           | 4  | 4,3  | 9,1  | 2,8 | 1,5 |
| M6           | 5  | 5,4  | 10,1 | 3,2 | 1,8 |
| M8           | 6  | 6,3  | 13,1 | 3,8 | 2,4 |
| M10          | 8  | 8,2  | 16   | 4,3 | 2,8 |
| M12          | 10 | 10,5 | 18,2 | 5,5 | 3,4 |
| M14          | 12 | 12,5 | 22,1 | 6,3 | 3,5 |
| M16          | 14 | 14,5 | 23,8 | 7,5 | 3,8 |
| M20          | 17 | 17,6 | 30,1 | 7,4 | 4,4 |

### Examples of application

Special features for covers for hexagon socket screws:

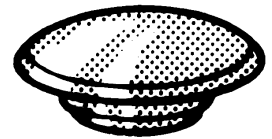
- prevent corrosion and dirt accumulation in socket hole
- neat appearance
- easy to assemble and re-useable
- temperature resistant from  $-60^{\circ}\text{C}$  up to  $+120^{\circ}\text{C}$
- colour traffic grey A RAL 7042
- **ATTENTION:** heads of hexagon socket screws can be **partly** covered by these covers



### 07760 Cover for hexagon socket screws

D91A

**Material** Plastic Polyethylene  
**Colour** Grey  
**Packaging** Standard

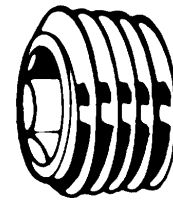
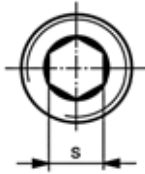
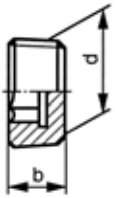


| For use with / s | ☒   | Art.number                    | For use with / s | ☒   | Art.number                    | For use with / s | ☒   | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|-----|-------------------------------|
| M5/s=4           | 100 | <a href="#">07760.050.001</a> | M10/s=8          | 100 | <a href="#">07760.100.001</a> | M16/s=14         | 100 | <a href="#">07760.160.001</a> |
| M6/s=5           | 100 | <a href="#">07760.060.001</a> | M12/s=10         | 100 | <a href="#">07760.120.001</a> | M20/s=17         | 50  | <a href="#">07760.200.001</a> |
| M8/s=6           | 100 | <a href="#">07760.080.001</a> | M14/s=12         | 100 | <a href="#">07760.140.001</a> |                  |     |                               |



**Hexagon socket pipe plug with external taper screw thread MF**

DIN 906



2

**Technical data**

| d   | b (js16) | s (D12) | d   | b (js16) | s (D12) | d   | b (js16) | s (D12) |
|-----|----------|---------|-----|----------|---------|-----|----------|---------|
| M8  | 8        | 4       | M18 | 10       | 8       | M30 | 12       | 17      |
| M10 | 8        | 5       | M20 | 10       | 10      | M36 | 15       | 19      |
| M12 | 10       | 6       | M22 | 10       | 10      | M42 | 18       | 22      |
| M14 | 10       | 7       | M24 | 12       | 12      |     |          |         |
| M16 | 10       | 8       | M26 | 12       | 12      |     |          |         |

**07660 Hexagon socket pipe plug with external taper screw thread MF**

D90A

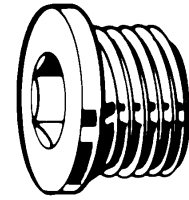
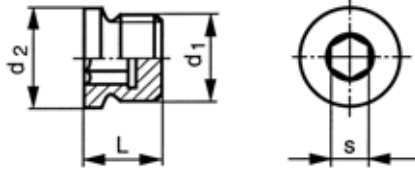
**Thread** Metric fine thread  
**Material** Steel  
**Packaging** Standard



| d x P    | ☒  | Art.number                    | d x P    | ☒  | Art.number                    | d x P    | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M8X1,00  | 50 | <a href="#">07660.080.100</a> | M18X1,50 | 25 | <a href="#">07660.180.150</a> | M30X1,50 | 10 | <a href="#">07660.300.150</a> |
| M10X1,00 | 50 | <a href="#">07660.100.100</a> | M20X1,50 | 25 | <a href="#">07660.200.150</a> | M36X1,50 | 10 | <a href="#">07660.360.150</a> |
| M12X1,50 | 50 | <a href="#">07660.120.150</a> | M22X1,50 | 25 | <a href="#">07660.220.150</a> | M42X1,50 | 10 | <a href="#">07660.420.150</a> |
| M14X1,50 | 50 | <a href="#">07660.140.150</a> | M24X1,50 | 25 | <a href="#">07660.240.150</a> |          |    |                               |
| M16X1,50 | 50 | <a href="#">07660.160.150</a> | M26X1,50 | 25 | <a href="#">07660.260.150</a> |          |    |                               |

## Hexagon socket screw plug MF

DIN 908



2

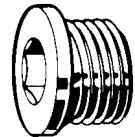
### Technical data

| d1        | d <sub>2</sub> (h14) | s (D12) | L ≈ |
|-----------|----------------------|---------|-----|
| M8 (#DIN) | 12                   | 4       | 10  |
| M10       | 14                   | 5       | 11  |
| M12       | 17                   | 6       | 15  |
| M14       | 19                   | 6       | 15  |
| M16       | 21                   | 8       | 15  |
| M18       | 23                   | 8       | 16  |
| M20       | 25                   | 10      | 18  |
| M22       | 27                   | 10      | 18  |
| M24       | 29                   | 12      | 18  |
| M26       | 31                   | 12      | 20  |
| M27       | 32                   | 12      | 20  |
| M30       | 36                   | 17      | 20  |
| M33       | 39                   | 17      | 21  |
| M36       | 42                   | 19      | 21  |
| M38       | 44                   | 19      | 21  |
| M42       | 49                   | 22      | 21  |
| M45       | 52                   | 22      | 21  |
| M48       | 55                   | 24      | 21  |
| M52       | 60                   | 24      | 21  |
| M56       | 64                   | 32      | 25  |
| M60       | 68                   | 32      | 25  |
| M64       | 72                   | 32      | 25  |

### 07640 Hexagon socket screw plug MF

D90A

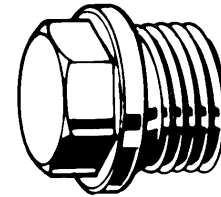
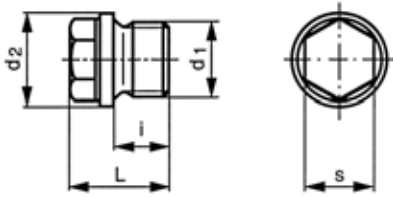
**Thread** Metric fine thread  
**Material** Steel  
**Packaging** Standard



| d1 x P   | ☒  | Art.number                    | d1 x P   | ☒  | Art.number                    | d1 x P   | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M8X1,00  | 50 | <a href="#">07640.080.100</a> | M30X1,50 | 10 | <a href="#">07640.300.150</a> | M48X1,50 | 10 | <a href="#">07640.480.150</a> |
| M10X1,00 | 50 | <a href="#">07640.100.100</a> | M33X2,00 | 10 | <a href="#">07640.330.200</a> | M48X2,00 | 10 | <a href="#">07640.480.200</a> |
| M12X1,50 | 50 | <a href="#">07640.120.150</a> | M36X1,50 | 10 | <a href="#">07640.360.150</a> |          |    |                               |
| M14X1,50 | 50 | <a href="#">07640.140.150</a> | M36X2,00 | 10 | <a href="#">07640.360.200</a> |          |    |                               |
| M16X1,50 | 50 | <a href="#">07640.160.150</a> |          |    |                               | M52X1,50 | 5  | <a href="#">07640.520.150</a> |
| M18X1,50 | 25 | <a href="#">07640.180.150</a> | M38X1,50 | 10 | <a href="#">07640.380.150</a> | M52X2,00 | 5  | <a href="#">07640.520.200</a> |
| M20X1,50 | 25 | <a href="#">07640.200.150</a> | M42X1,50 | 10 | <a href="#">07640.420.150</a> |          |    |                               |
| M22X1,50 | 25 | <a href="#">07640.220.150</a> | M42X2,00 | 10 | <a href="#">07640.420.200</a> |          |    |                               |
| M24X1,50 | 25 | <a href="#">07640.240.150</a> |          |    |                               | M56X2,00 | 5  | <a href="#">07640.560.200</a> |
| M26X1,50 | 25 | <a href="#">07640.260.150</a> | M45X1,50 | 10 | <a href="#">07640.450.150</a> | M60X2,00 | 3  | <a href="#">07640.600.200</a> |
| M27X2,00 | 25 | <a href="#">07640.270.200</a> | M45X2,00 | 10 | <a href="#">07640.450.200</a> | M64X2,00 | 3  | <a href="#">07640.640.200</a> |

## Hexagon head screw plug MF

DIN 910



2

### Technical data

| d1        | d <sub>2</sub> (h14) | s  | L ≈ | i  |
|-----------|----------------------|----|-----|----|
| M8 (#DIN) | 14                   | 10 | 17  | 8  |
| M10       | 14                   | 10 | 17  | 8  |
| M12       | 17                   | 13 | 21  | 12 |
| M14       | 19                   | 13 | 21  | 12 |
| M16       | 21                   | 17 | 21  | 12 |
| M18       | 23                   | 17 | 24  | 12 |
| M20       | 25                   | 19 | 26  | 14 |
| M22       | 27                   | 19 | 26  | 14 |
| M24       | 29                   | 22 | 27  | 14 |
| M26       | 31                   | 24 | 30  | 16 |
| M27       | 32                   | 24 | 30  | 16 |
| M30       | 36                   | 24 | 30  | 16 |
| M36       | 42                   | 27 | 32  | 16 |
| M42       | 49                   | 30 | 33  | 16 |

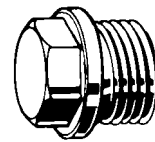
### Article groups

| Thread | Driving features | Material  | Packaging | Code  | Page |
|--------|------------------|-----------|-----------|-------|------|
| MF     | hexagon          | St        | Standard  | 07680 | 2-71 |
| MF     | hexagon          | St.St. A4 | Standard  | 55965 | 2-71 |

#### 07680 Hexagon head screw plug MF

D90A

**Thread** Metric fine thread  
**Material** Steel  
**Packaging** Standard

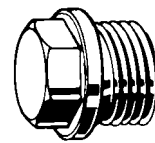


| d1 x P   | ☒  | Art.number                    | d1 x P   | ☒  | Art.number                    | d1 x P   | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M8X1,00  | 50 | <a href="#">07680.080.100</a> | M18X1,50 | 25 | <a href="#">07680.180.150</a> | M30X1,50 | 10 | <a href="#">07680.300.150</a> |
| M10X1,00 | 50 | <a href="#">07680.100.100</a> | M20X1,50 | 25 | <a href="#">07680.200.150</a> | M36X1,50 | 10 | <a href="#">07680.360.150</a> |
| M12X1,50 | 50 | <a href="#">07680.120.150</a> | M22X1,50 | 25 | <a href="#">07680.220.150</a> | M42X1,50 | 10 | <a href="#">07680.420.150</a> |
| M14X1,50 | 50 | <a href="#">07680.140.150</a> | M24X1,50 | 25 | <a href="#">07680.240.150</a> |          |    |                               |
| M16X1,50 | 50 | <a href="#">07680.160.150</a> | M26X1,50 | 25 | <a href="#">07680.260.150</a> |          |    |                               |

#### 55965 Hexagon head screw plug MF

R49A

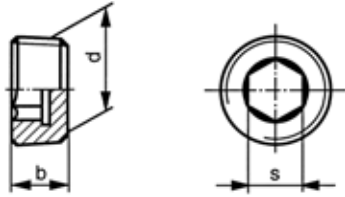
**Thread** Metric fine thread  
**Material** Stainless steel A4  
**Packaging** Standard



| d1 x P   | ☒  | Art.number                    | d1 x P     | ☒  | Art.number                    | d1 x P     | ☒  | Art.number                    |
|----------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| M10X1,00 | 25 | <a href="#">55965.100.100</a> | M20X1,50   | 10 | <a href="#">55965.200.150</a> | M30X1,50 * | 10 | <a href="#">55965.300.150</a> |
| M12X1,50 | 25 | <a href="#">55965.120.150</a> | M22X1,50   | 10 | <a href="#">55965.220.150</a> | M30X2,00 * | 5  | <a href="#">55965.300.200</a> |
| M14X1,50 | 25 | <a href="#">55965.140.150</a> | M24X1,50   | 10 | <a href="#">55965.240.150</a> |            |    |                               |
| M16X1,50 | 25 | <a href="#">55965.160.150</a> | M26X1,50 * | 10 | <a href="#">55965.260.150</a> |            |    |                               |
| M18X1,50 | 10 | <a href="#">55965.180.150</a> | M27X2,00 * | 10 | <a href="#">55965.270.200</a> |            |    |                               |

**Hexagon socket pipe plug with external taper pipe thread**

DIN 906



2

**Technical data**

| d      | Threads per inch | b (js16) | s (D12) |
|--------|------------------|----------|---------|
| R1/8   | 28               | 8        | 5       |
| R1/4   | 19               | 10       | 7       |
| R3/8   | 19               | 10       | 8       |
| R1/2   | 14               | 10       | 10      |
| R3/4   | 14               | 12       | 12      |
| R1.IN. | 11               | 12       | 17      |
| R1.1/4 | 11               | 18       | 22      |
| R1.1/2 | 11               | 20       | 24      |
| R2.IN. | 11               | 22       | 30      |

**07650 Hexagon socket pipe plug with external taper pipe thread**

D90A

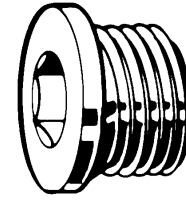
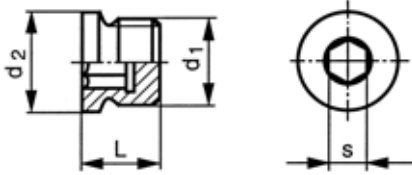
**Thread** Conical pipe thread  
**Material** Steel  
**Packaging** Standard



| d    | ☒   | Art.number                    | d      | ☒  | Art.number                    | d      | ☒  | Art.number                    |
|------|-----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| R1/8 | 100 | <a href="#">07650.031.001</a> | R1/2   | 50 | <a href="#">07650.127.001</a> | R1.1/4 | 10 | <a href="#">07650.317.001</a> |
| R1/4 | 50  | <a href="#">07650.063.001</a> | R3/4   | 25 | <a href="#">07650.191.001</a> | R1.1/2 | 10 | <a href="#">07650.381.001</a> |
| R3/8 | 50  | <a href="#">07650.096.001</a> | R1.IN. | 25 | <a href="#">07650.254.001</a> | R2.IN. | 10 | <a href="#">07650.508.001</a> |

## Hexagon socket screw plug pipe thread

DIN 908



2

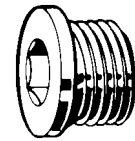
### Technical data

| d1      | Threads per inch | d <sub>2</sub> (h14) | s (D12) | L ≈ |
|---------|------------------|----------------------|---------|-----|
| G1/8A   | 28               | 14                   | 5       | 11  |
| G1/4A   | 19               | 18                   | 6       | 15  |
| G3/8A   | 19               | 22                   | 8       | 15  |
| G1/2A   | 14               | 26                   | 10      | 18  |
| G3/4A   | 14               | 32                   | 12      | 20  |
| G1.IN.A | 11               | 39                   | 17      | 21  |
| G1.1/4A | 11               | 49                   | 22      | 21  |
| G1.1/2A | 11               | 55                   | 24      | 21  |

### 07620 Hexagon socket screw plug pipe thread

D90A

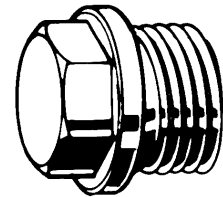
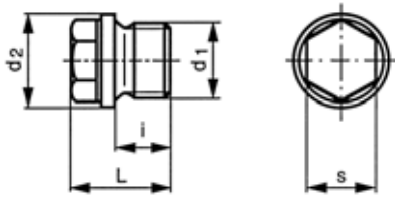
**Thread** Cylindrical pipe thread  
**Material** Steel  
**Packaging** Standard



| d1    | ☒  | Art.number                    | d1      | ☒  | Art.number                    | d1      | ☒  | Art.number                    |
|-------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| G1/8A | 50 | <a href="#">07620.031.001</a> | G1/2A   | 50 | <a href="#">07620.127.001</a> | G1.1/4A | 10 | <a href="#">07620.317.001</a> |
| G1/4A | 50 | <a href="#">07620.063.001</a> | G3/4A   | 25 | <a href="#">07620.191.001</a> | G1.1/2A | 10 | <a href="#">07620.381.001</a> |
| G3/8A | 50 | <a href="#">07620.096.001</a> | G1.IN.A | 25 | <a href="#">07620.254.001</a> |         |    |                               |

## Hexagon head screw plug cylindrical pipe thread

DIN 910



2

### Technical data

| d1             | Threads per inch | d <sub>2</sub> (h14) | s  | L ≈ | i  |
|----------------|------------------|----------------------|----|-----|----|
| G1/8A          | 28               | 14                   | 10 | 17  | 8  |
| G1/4A          | 19               | 18                   | 13 | 21  | 12 |
| G3/8A          | 19               | 22                   | 17 | 21  | 12 |
| G3/8Ax8        | 19               | 22                   | 17 | 17  | 8  |
| G1/2A          | 14               | 26                   | 19 | 26  | 14 |
| G1/2Ax10       | 14               | 26                   | 19 | 22  | 10 |
| G5/8A (#DIN)   | 14               | 28                   | 19 | 26  | 14 |
| G3/4A          | 14               | 32                   | 24 | 30  | 16 |
| G3/4Ax12       | 14               | 32                   | 24 | 26  | 12 |
| G1.IN.A        | 11               | 39                   | 27 | 32  | 16 |
| G1.1/8A        | 11               | 44                   | 27 | 32  | 16 |
| G1.1/4A        | 11               | 49                   | 30 | 33  | 16 |
| G1.1/2A        | 11               | 55                   | 30 | 33  | 16 |
| G1.3/4A        | 11               | 62                   | 36 | 40  | 20 |
| G2.IN.A        | 11               | 68                   | 36 | 40  | 20 |
| G2.1/2A (#DIN) | 11               | 85                   | 36 | 40  | 20 |

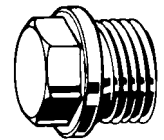
### Article groups

| Thread | Driving features | Material  | Packaging | Code  | Page |
|--------|------------------|-----------|-----------|-------|------|
| G      | hexagon          | St        | Standard  | 07670 | 2-74 |
| G      | hexagon          | St.St. A4 | Standard  | 55966 | 2-74 |

#### 07670 Hexagon head screw plug cylindrical pipe thread

D90A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Cylindrical pipe thread |
| <b>Material</b>  | Steel                   |
| <b>Packaging</b> | Standard                |

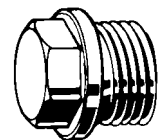


| d1      | ☒  | Art.number                    | d1      | ☒  | Art.number                    | d1             | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|----------------|----|-------------------------------|
| G1/8A   | 50 | <a href="#">07670.031.001</a> | G1/2A   | 50 | <a href="#">07670.127.001</a> | G1.1/4A        | 10 | <a href="#">07670.317.001</a> |
| G1/4A   | 50 | <a href="#">07670.063.001</a> | G3/4A   | 25 | <a href="#">07670.191.001</a> | G1.1/2A        | 10 | <a href="#">07670.381.001</a> |
| G3/8A   | 50 | <a href="#">07670.096.001</a> | 3/4X12  | 25 | <a href="#">07670.191.012</a> | G2.IN.A        | 10 | <a href="#">07670.508.001</a> |
| G3/8Ax8 | 50 | <a href="#">07670.096.008</a> | G1.IN.A | 25 | <a href="#">07670.254.001</a> | G2.1/2A (#DIN) | 10 | <a href="#">07670.635.001</a> |

#### 55966 Hexagon head screw plug cylindrical pipe thread

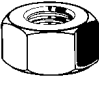
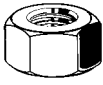
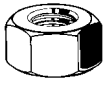
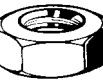


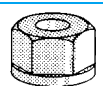

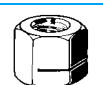

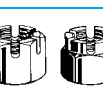
R49A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Cylindrical pipe thread |
| <b>Material</b>  | Stainless steel A4      |
| <b>Packaging</b> | Standard                |



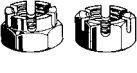












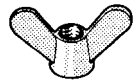

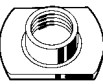










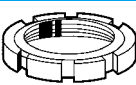





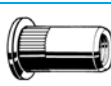
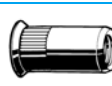
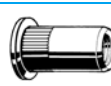
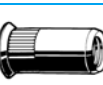

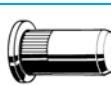
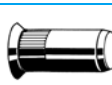
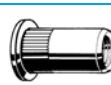

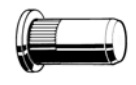
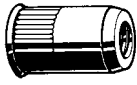







| d1      | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒ | Art.number                    |
|---------|----|-------------------------------|-----------|----|-------------------------------|-----------|---|-------------------------------|
| G1/8A * | 25 | <a href="#">55966.031.001</a> | G5/8A *   | 25 | <a href="#">55966.158.001</a> | G1.1/4A * | 5 | <a href="#">55966.317.001</a> |
| G1/4A   | 25 | <a href="#">55966.063.001</a> | G3/4A     | 10 | <a href="#">55966.191.001</a> | G1.3/4A * | 5 | <a href="#">55966.444.001</a> |
| G3/8A   | 25 | <a href="#">55966.096.001</a> | G1.IN.A   | 10 | <a href="#">55966.254.001</a> | G2.IN.A   | 5 | <a href="#">55966.508.001</a> |
| G1/2A   | 25 | <a href="#">55966.127.001</a> | G1.1/8A * | 5  | <a href="#">55966.285.001</a> |           |   |                               |

## Nuts/rivet nuts/inserts **3**

|   |  |  |  |   |
|---|--|--|--|---|
|  <p>Page 3-4<br/>DIN 934 (1987)<br/>NEN 1560</p> <p><b>DIN Metric</b></p>      |  <p>Page 3-13<br/>ISO 4032</p> <p><b>ISO Metric</b></p>                               |  <p>Page 3-16<br/>DIN 934 (1987)<br/>NEN 1560</p> <p><b>Metric fine</b></p>                         |  <p>Page 3-19<br/>ANSI ≈B18.6.3</p> <p><b>Machine screw nut UNC</b></p>                |  <p>Page 3-20<br/>ANSI ≈B18.2.2<br/>BS ≈1768</p> <p><b>UNC</b></p>                   |
|  <p>Page 3-22<br/>ANSI ≈B18.2.2<br/>BS ≈1768</p> <p><b>UNF</b></p>             |  <p>Page 3-24<br/>ANSI B18.6.3</p> <p><b>Machine screw nut UNF</b></p>                |  <p>Page 3-25<br/>BS ≈1083<br/>(1965)</p> <p><b>BSF</b></p>   |  <p>Page 3-26<br/>DIN ≈934 (1954)<br/>NEN ≈2338<br/>(1960)</p> <p><b>BSW</b></p>       |  <p>Page 3-28<br/>DIN ≈934 (1954)<br/>NEN ≈2338<br/>(1960)</p> <p><b>1xd BSW</b></p> |
|  <p>Page 3-29<br/>DIN ≈934 (1987)<br/>NEN ≈1560</p> <p><b>1xd Metric</b></p>   |  <p>Page 3-30<br/>DIN 555 (1987)<br/>NEN 697</p> <p><b>≤4  Metric</b></p>             |  <p>Page 3-31<br/>DIN 439 B (1987)<br/>NEN 2334 B</p> <p><b>Metric</b></p>                          |  <p>Page 3-34<br/>DIN 439 B (1987)<br/>NEN 2334 B</p> <p><b>Metric fine</b></p>        |  <p>Page 3-37<br/>ANSI ≈B18.2.2</p> <p><b>UNC</b></p>                                |
|  <p>Page 3-38<br/>ANSI ≈B18.2.2</p> <p><b>UNF</b></p>                         |  <p>Page 3-39<br/>DIN ≈431 A</p> <p><b>Pipe thread</b></p>                           |  <p>Page 3-40</p> <p><b>Trackshoe nut UNF</b></p>  |  <p>Page 3-41</p> <p><b>Exhaust nut</b></p>   |  <p>Page 3-42</p> <p><b>3xd Metric</b></p>  |
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|  <p>Page 3-52<br/>ISO 10512<br/>DIN 985 (1987)</p> <p><b>Metric fine</b></p> |  <p>Page 3-54<br/>ISO 7040<br/>DIN 982</p> <p><b>High Metric</b></p>                |  <p>Page 3-55</p> <p><b>UNC</b></p>   |  <p>Page 3-56</p> <p><b>UNF</b></p>  |  <p>Page 3-57</p> <p><b>BSF</b></p>  |
|  <p>Page 3-58</p> <p><b>BSW</b></p>  |  <p>Page 3-59</p> <p><b>Stainless steel Metric</b></p>                              |  <p>Page 3-60</p> <p><b>Plastic, metric</b></p>   |  <p>Page 3-61<br/>ISO 7042<br/>DIN 980V (1987)</p> <p><b>Metric</b></p>              |  <p>Page 3-63<br/>ISO 10513<br/>DIN 980V (1987)</p> <p><b>Metric fine</b></p>      |
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|  <p>Page 3-71</p> <p><b>TENSILOCK Metric</b></p>                             |  <p>Page 3-73<br/>ISO 4161<br/>DIN 6923 (1983)</p> <p><b>With flange Metric</b></p> |  <p>Page 3-75<br/>ISO ≈4161<br/>DIN ≈6923<br/>(1983)</p> <p><b>With toothed flange Metric</b></p> |  <p>Page 3-76<br/>ISO 7043<br/>DIN 6926</p> <p><b>With plastic insert Metric</b></p> |  <p>Page 3-76</p> <p><b>NORDLOCK</b></p>   |
|  <p>Page 3-77</p> <p><b>COMBI Metric</b></p>                                 |  <p>Page 3-78<br/>DIN 7967<br/>NF E27-460</p> <p><b>PAL Metric</b></p>              |  <p>Page 3-79<br/>DIN 935-1<br/>NEN 729</p> <p><b>Metric</b></p>                                  |  <p>Page 3-81<br/>DIN 935<br/>NEN 729</p> <p><b>Metric fine</b></p>                  |  <p>Page 3-82<br/>DIN 979</p> <p><b>Low Metric</b></p>                             |

## Nuts/rievt nuts/inserts **3**

**3**

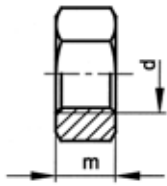
|  |  |   |  |  |
|--|--|---|--|--|
| <br>Page 3-83<br>DIN 979<br><b>Low Metric fine</b>                    | <br>Page 3-84<br>BS ≈1768<br><b>UNF</b>   | <br>Page 3-86<br><b>KALEI Metric</b>                                       | <br>Page 3-88<br><b>Round Metric</b>  | <br>Page 3-89<br>DIN 1587 (1987)<br>NEN 1618<br><b>Metric</b>                 |
| <br>Page 3-92<br><b>BSW</b>   | <br>Page 3-93<br>DIN ≈1587 (1987)<br>NEN ≈1618<br><b>With welded cap Metric</b> | <br>Page 3-94<br>ISO 1617<br>DIN 917<br><b>Low Metric</b>                  | <br>Page 3-96<br>DIN ≈986<br><b>With plastic insert Metric</b>                | <br>Page 3-97<br>ANSI ≈B18.17<br><b>American model Metric</b>                 |
| <br>Page 3-98<br>DIN 315<br>NEN 1625<br><b>Round wings Metric</b>     | <br>Page 3-99<br>DIN ≈313 (1956)<br>NEN ≈2324 (1960)<br><b>BSW</b>              | <br>Page 3-100<br><b>With collar Metric, plastic</b>                       | <br>Page 3-100<br><b>Metric, plastic</b>                                      | <br>Page 3-101<br>DIN 929<br><b>Hexagon Metric</b>                            |
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| <br>Page 3-114<br><b>Type SNU</b>                                   | <br>Page 3-115<br>DIN 1804 W<br><b>For hook spanner Metric</b>                | <br>Page 3-117<br>DIN 546<br><b>With slotted Metric</b>                  | <br>Page 3-118<br><b>Round Metric</b>                                       | <br>Page 3-119<br><b>Type GUK Metric fine</b>                               |
| <br>Page 3-120<br><b>With slot Metric</b>                           | <br>Page 3-122<br><b>Jacknut</b>  | <br>Page 3-123<br><b>Blind rivet nuts cylindrical stainless steel</b>    | <br>Page 3-124<br><b>Blind rivet nuts counters. stainless steel</b>         | <br>Page 3-125<br><b>Blind rivet nuts cylindrical</b>                       |
| <br>Page 3-126<br><b>Blind rivet nuts counters. open steel zinc</b> | <br>Page 3-127<br><b>Blind rivet nuts cyl. steel zinc hexagon</b>             | <br>Page 3-128<br><b>Blind rivet nuts cylindrical steel zinc</b>         | <br>Page 3-129<br><b>Blind rivet nuts countersunk steel zinc</b>            | <br>Page 3-130<br><b>Blind rivet nuts cylindrical aluminium</b>             |
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| <br>Page 3-135<br><b>Blind rivet screw cylindrical steel zinc</b>   | <br>Page 3-136<br><b>Blind rivet tool</b>                                     | <br>Page 3-138<br><b>Set</b>   | <br>Page 3-140<br><b>AMECOIL Machine tap Metric</b>                         | <br>Page 3-141<br><b>AMECOIL Machine tap Metric fine</b>                    |



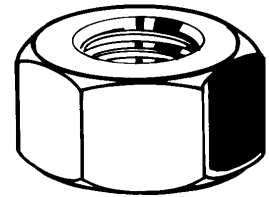
## Nuts/rivet nuts/inserts **3**

|  |  |   |  |  |
|--|--|---|--|--|
| <br>Page 3-142<br><b>AMECOIL Machine tap spark plug Metric fine</b> | <br>Page 3-142<br><b>AMECOIL Machine tap UNC</b>  | <br>Page 3-143<br><b>AMECOIL Machine tap UNF</b> | <br>Page 3-144<br>DIN 8140-1A<br><b>AMECOIL Metric</b> | <br>Page 3-145<br>DIN 8140-1A<br><b>AMECOIL Metric fine</b> |
| <br>Page 3-146<br>DIN 8140-1A<br><b>AMECOIL Metric extra fine</b>   | <br>Page 3-147<br><b>AMECOIL UNC</b>              | <br>Page 3-148<br><b>AMECOIL UNF</b>             | <br>Page 3-149<br><b>AMECOIL Metric</b>                | <br>Page 3-149<br><b>AMECOIL Metric fine</b>                |
| <br>Page 3-150<br><b>AMECOIL Metric extra fine</b>                  | <br>Page 3-151<br><b>AMECOIL UNC</b>              | <br>Page 3-151<br><b>AMECOIL UNF</b>             | <br>Page 3-152<br><b>AMECOIL BSW</b>                   | <br>Page 3-153<br><b>AMECOIL Assortment</b>                 |
| <br>Page 3-154<br><b>AMECOIL Metric/Non Metric</b>                 | <br>Page 3-155<br><b>AMECOIL Complete Metric</b> | <br>Page 3-156<br><b>AMECOIL Metric</b>         | <br>Page 3-158<br><b>AMECOIL Carrier adapter</b>      | <br>Page 3-158<br><b>AMECOIL Tang break</b>                |
| <br>Page 3-159<br><b>AMECOIL Extractor</b>                        | <br>Page 3-161<br><b>Type 302</b>               | <br>Page 3-163<br><b>Type 307-308</b>          | <br>Page 3-164<br><b>Type 302 2</b>                  | <br>Page 3-165<br><b>Type 308 2</b>                       |
| <br>Page 3-166<br><b>Type 610</b>                                 | <br>Page 3-167<br><b>Type 620</b>               | <br>Page 3-168<br><b>Type 620</b>              | <br>Page 3-169<br><b>Type 6102</b>                   |  |

## Hexagon nut



DIN 934 (1987)  
NEN 1560  
NF E25-401



### Technical data

| d           | P    | m   | s   |
|-------------|------|-----|-----|
| M1          | 0,25 | 0,8 | 2,5 |
| M1,2        | 0,25 | 1   | 3   |
| M1,4        | 0,3  | 1,2 | 3   |
| M1,6        | 0,35 | 1,3 | 3,2 |
| M1,7 (#DIN) | 0,35 | 1,4 | 3,5 |
| M2          | 0,4  | 1,6 | 4   |
| M2,3 (#DIN) | 0,4  | 1,8 | 4,5 |
| M2,5        | 0,45 | 2   | 5   |
| M2,6 (#DIN) | 0,45 | 2   | 5   |
| M3          | 0,5  | 2,4 | 5,5 |
| M3,5        | 0,6  | 2,8 | 6   |
| M4          | 0,7  | 3,2 | 7   |
| M5          | 0,8  | 4   | 8   |
| M6          | 1    | 5   | 10  |
| M7          | 1    | 5,5 | 11  |
| M8          | 1,25 | 6,5 | 13  |
| M10 (#DIN)  | 1,5  | 8   | 15  |
| M10         | 1,5  | 8   | 17  |
| M12         | 1,75 | 10  | 19  |
| M14         | 2    | 11  | 22  |
| M16         | 2    | 13  | 24  |
| M18         | 2,5  | 15  | 27  |
| M20         | 2,5  | 16  | 30  |
| M22         | 2,5  | 18  | 32  |
| M24         | 3    | 19  | 36  |
| M27         | 3    | 22  | 41  |
| M30         | 3,5  | 24  | 46  |
| M33         | 3,5  | 26  | 50  |
| M36         | 4    | 29  | 55  |
| M39         | 4    | 31  | 60  |
| M42         | 4,5  | 34  | 65  |
| M45         | 4,5  | 36  | 70  |
| M48         | 5    | 38  | 75  |
| M52         | 5    | 42  | 80  |
| M56         | 5,5  | 45  | 85  |
| M60         | 5,5  | 48  | 90  |
| M64         | 6    | 51  | 95  |
| M68         | 6    | 54  | 100 |
| M72X6       | 6    | 58  | 105 |
| M76X6       | 6    | 61  | 110 |
| M80X6       | 6    | 64  | 115 |
| M90X6       | 6    | 72  | 130 |
| M100X6      | 6    | 80  | 145 |
| M110X6      | 6    | 88  | 155 |

### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Colour     | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|------------|-----------|-------|------|
| M      | hexagon          | St       | 8     |                   |            | Standard  | 01100 | 3-5  |
| M      | hexagon          | St       | 8     |                   |            | Large     | 01110 | 3-5  |
| M      | hexagon          | St       | 8     |                   | left-hand  | Standard  | 11040 | 3-5  |
| M      | hexagon          | St       | 8     | ZNTHP-NC6         |            | Standard  | 01325 | 3-6  |
| M      | hexagon          | St       | 8     | Zipl              |            | Standard  | 01300 | 3-6  |
| M      | hexagon          | St       | 8     | Zipl              |            | Large     | 01310 | 3-6  |
| M      | hexagon          | St       | 8     | Zipl              | left hand  | Standard  | 11042 | 3-6  |
| M      | hexagon          | St       | 8     | Zipl yell.p.      |            | Standard  | 01320 | 3-7  |
| M      | hexagon          | St       | 8     | Zipl blk p.       |            | Standard  | 01326 | 3-7  |
| M      | hexagon          | St       | 8     | Hot d.g.          | iso metric | Standard  | 01500 | 3-7  |
| M      | hexagon          | St       | 8     | Hot d.g.          | oversized  | Standard  | 01560 | 3-7  |

| Thread | Driving features | Material           | Class  | Surface treatment | Colour    | Packaging | Code  | Page |
|--------|------------------|--------------------|--------|-------------------|-----------|-----------|-------|------|
| M      | hexagon          | St                 | 10     |                   |           | Standard  | 04120 | 3-8  |
| M      | hexagon          | St                 | 8      | FLZNNC-NC6        |           | Standard  | 01336 | 3-8  |
| M      | hexagon          | St                 | 10     | FLZNNC-NC6        |           | Standard  | 04125 | 3-8  |
| M      | hexagon          | St                 | 10     | Zipl              |           | Standard  | 04121 | 3-8  |
| M      | hexagon          | St                 | 12     |                   |           | Standard  | 04190 | 3-8  |
| M      | hexagon          | Free-cutting steel | 6      | Zipl              | turned    | Standard  | 11300 | 3-9  |
| M      | hexagon          | St.St. A2          | 70     |                   |           | Standard  | 51080 | 3-9  |
| M      | hexagon          | St.St. A2          | 70     |                   | COMBIFLON | Standard  | 51082 | 3-9  |
| M      | hexagon          | St.St. A2          | 70     |                   |           | Large     | 51100 | 3-9  |
| M      | hexagon          | St.St. A2          | 70     |                   | METALFORM | Standard  | 51089 | 3-10 |
| M      | hexagon          | St.St. A2          | 70     |                   | left hand | Standard  | 51162 | 3-10 |
| M      | hexagon          | St.St. A4          | 70     |                   |           | Standard  | 55080 | 3-10 |
| M      | hexagon          | St.St. A4          | 70     |                   |           | Large     | 55100 | 3-10 |
| M      | hexagon          | St.St. A4          | 80     |                   |           | Standard  | 53580 | 3-11 |
| M      | hexagon          | Al Sopral P40      |        |                   |           | Standard  | 45080 | 3-11 |
| M      | hexagon          | Al Sopral P60      |        |                   |           | Standard  | 45280 | 3-11 |
| M      | hexagon          | Kuprodur Cu5       | 60     |                   |           | Standard  | 45850 | 3-11 |
| M      | hexagon          | Ti ASTM            | Gr.2   |                   |           | Standard  | 45920 | 3-11 |
| M      | hexagon          | Br Cu2/Cu3         |        | Ni.pl.            |           | Standard  | 47000 | 3-12 |
| M      | hexagon          | Plastic PA         | PA 6.6 |                   | White     | Standard  | 56200 | 3-12 |

3

**01100 Hexagon nut** A01B

Thread: Metric thread  
 Material: Steel  
 Class: |8|  
 Packaging: Standard

| d    | Art.number                        | d   | Art.number                       | d         | Art.number                      |
|------|-----------------------------------|-----|----------------------------------|-----------|---------------------------------|
| M2,5 | 250 <a href="#">01100.025.001</a> | M20 | 50 <a href="#">01100.200.001</a> | M56       | 1 <a href="#">01100.560.001</a> |
| M3   | 250 <a href="#">01100.030.001</a> | M22 | 25 <a href="#">01100.220.001</a> | M60       | 1 <a href="#">01100.600.001</a> |
| M4   | 250 <a href="#">01100.040.001</a> | M24 | 25 <a href="#">01100.240.001</a> | M64       | 1 <a href="#">01100.640.001</a> |
| M5   | 250 <a href="#">01100.050.001</a> | M27 | 10 <a href="#">01100.270.001</a> | M68       | 1 <a href="#">01100.680.001</a> |
| M6   | 250 <a href="#">01100.060.001</a> | M30 | 10 <a href="#">01100.300.001</a> | M72X6,00  | 1 <a href="#">01100.720.001</a> |
| M7   | 250 <a href="#">01100.070.001</a> | M33 | 5 <a href="#">01100.330.001</a>  | M76X6,00  | 1 <a href="#">01100.760.001</a> |
| M8   | 250 <a href="#">01100.080.001</a> | M36 | 5 <a href="#">01100.360.001</a>  | M80X6,00  | 1 <a href="#">01100.800.001</a> |
| M10  | 250 <a href="#">01100.100.001</a> | M39 | 5 <a href="#">01100.390.001</a>  | M90X6,00  | 1 <a href="#">01100.900.001</a> |
| M12  | 100 <a href="#">01100.120.001</a> | M42 | 5 <a href="#">01100.420.001</a>  | M100X6,00 | 1 <a href="#">01100.982.001</a> |
| M14  | 100 <a href="#">01100.140.001</a> | M45 | 4 <a href="#">01100.450.001</a>  | M110X6,00 | 1 <a href="#">01100.984.001</a> |
| M16  | 100 <a href="#">01100.160.001</a> | M48 | 4 <a href="#">01100.480.001</a>  |           |                                 |
| M18  | 50 <a href="#">01100.180.001</a>  | M52 | 1 <a href="#">01100.520.001</a>  |           |                                 |

**01110 Hexagon nut** A01B

Thread: Metric thread  
 Material: Steel  
 Class: |8|  
 Packaging: Large

| d  | Art.number                         | d   | Art.number                         | d   | Art.number                        |
|----|------------------------------------|-----|------------------------------------|-----|-----------------------------------|
| M3 | 2500 <a href="#">01110.030.001</a> | M10 | 1000 <a href="#">01110.100.001</a> | M20 | 150 <a href="#">01110.200.001</a> |
| M4 | 2500 <a href="#">01110.040.001</a> | M12 | 700 <a href="#">01110.120.001</a>  | M24 | 50 <a href="#">01110.240.001</a>  |
| M5 | 2500 <a href="#">01110.050.001</a> | M14 | 400 <a href="#">01110.140.001</a>  | M27 | 50 <a href="#">01110.270.001</a>  |
| M6 | 2000 <a href="#">01110.060.001</a> | M16 | 300 <a href="#">01110.160.001</a>  | M30 | 50 <a href="#">01110.300.001</a>  |
| M8 | 2000 <a href="#">01110.080.001</a> | M18 | 200 <a href="#">01110.180.001</a>  |     |                                   |

**11040 Hexagon nut left hand thread** F01A

Thread: Metric thread  
 Material: Steel  
 Class: |8|  
 Packaging: Standard

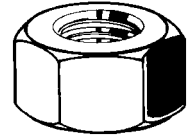
| d        | Art.number                        | d   | Art.number                       | d   | Art.number                       |
|----------|-----------------------------------|-----|----------------------------------|-----|----------------------------------|
| M4       | 250 <a href="#">11040.040.001</a> | M12 | 50 <a href="#">11040.120.001</a> | M22 | 10 <a href="#">11040.220.001</a> |
| M5       | 250 <a href="#">11040.050.001</a> | M14 | 50 <a href="#">11040.140.001</a> | M24 | 10 <a href="#">11040.240.001</a> |
| M6       | 250 <a href="#">11040.060.001</a> | M16 | 50 <a href="#">11040.160.001</a> | M27 | 5 <a href="#">11040.270.001</a>  |
| M8       | 100 <a href="#">11040.080.001</a> | M18 | 25 <a href="#">11040.180.001</a> | M30 | 5 <a href="#">11040.300.001</a>  |
| M10      | 100 <a href="#">11040.100.001</a> | M20 | 25 <a href="#">11040.200.001</a> | M33 | 2 <a href="#">11040.330.001</a>  |
| M10 s=15 | 100 <a href="#">11040.100.150</a> |     |                                  | M36 | 2 <a href="#">11040.360.001</a>  |
|          |                                   |     |                                  | M39 | 2 <a href="#">11040.390.001</a>  |

**11040 Hexagon nut left hand thread**

| d   | ☒ | Art.number                    | d | ☒ | Art.number | d | ☒ | Art.number |
|-----|---|-------------------------------|---|---|------------|---|---|------------|
| M42 | 2 | <a href="#">11040.420.001</a> |   |   |            |   |   |            |
| M48 | 2 | <a href="#">11040.480.001</a> |   |   |            |   |   |            |

**01325 Hexagon nut**
**A95A**

|                          |                                  |
|--------------------------|----------------------------------|
| <b>Thread</b>            | Metric thread                    |
| <b>Material</b>          | Steel                            |
| <b>Class</b>             | [8]                              |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated |
| <b>Packaging</b>         | Standard                         |

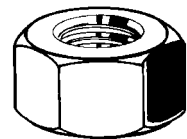


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M4 | 250 | <a href="#">01325.040.001</a> | M8  | 250 | <a href="#">01325.080.001</a> | M16 | 100 | <a href="#">01325.160.001</a> |
| M5 | 250 | <a href="#">01325.050.001</a> | M10 | 250 | <a href="#">01325.100.001</a> |     |     |                               |
| M6 | 250 | <a href="#">01325.060.001</a> | M12 | 100 | <a href="#">01325.120.001</a> |     |     |                               |

- Technical brochure available on request.

**01300 Hexagon nut**
**A05B**

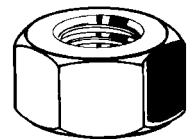
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | [8]           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d    | ☒    | Art.number                    | d   | ☒   | Art.number                    | d   | ☒ | Art.number                    |
|------|------|-------------------------------|-----|-----|-------------------------------|-----|---|-------------------------------|
| M2   | 1000 | <a href="#">01300.020.001</a> | M14 | 100 | <a href="#">01300.140.001</a> | M39 | 5 | <a href="#">01300.390.001</a> |
| M2,5 | 1000 | <a href="#">01300.025.001</a> | M16 | 100 | <a href="#">01300.160.001</a> | M42 | 5 | <a href="#">01300.420.001</a> |
| M3   | 250  | <a href="#">01300.030.001</a> | M18 | 50  | <a href="#">01300.180.001</a> | M45 | 4 | <a href="#">01300.450.001</a> |
| M4   | 250  | <a href="#">01300.040.001</a> | M20 | 50  | <a href="#">01300.200.001</a> | M48 | 4 | <a href="#">01300.480.001</a> |
| M5   | 250  | <a href="#">01300.050.001</a> | M22 | 25  | <a href="#">01300.220.001</a> | M52 | 1 | <a href="#">01300.520.001</a> |
| M6   | 250  | <a href="#">01300.060.001</a> | M24 | 25  | <a href="#">01300.240.001</a> | M56 | 1 | <a href="#">01300.560.001</a> |
| M7   | 250  | <a href="#">01300.070.001</a> | M27 | 10  | <a href="#">01300.270.001</a> | M60 | 1 | <a href="#">01300.600.001</a> |
| M8   | 250  | <a href="#">01300.080.001</a> | M30 | 10  | <a href="#">01300.300.001</a> | M64 | 1 | <a href="#">01300.640.001</a> |
| M10  | 250  | <a href="#">01300.100.001</a> | M33 | 5   | <a href="#">01300.330.001</a> |     |   |                               |
| M12  | 100  | <a href="#">01300.120.001</a> | M36 | 5   | <a href="#">01300.360.001</a> |     |   |                               |

**01310 Hexagon nut**
**A05B**

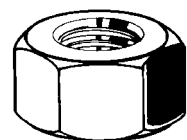
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | [8]           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Large         |



| d  | ☒    | Art.number                    | d   | ☒    | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|-----|------|-------------------------------|-----|-----|-------------------------------|
| M3 | 2500 | <a href="#">01310.030.001</a> | M10 | 1000 | <a href="#">01310.100.001</a> | M20 | 150 | <a href="#">01310.200.001</a> |
| M4 | 2500 | <a href="#">01310.040.001</a> | M12 | 700  | <a href="#">01310.120.001</a> | M24 | 50  | <a href="#">01310.240.001</a> |
| M5 | 2500 | <a href="#">01310.050.001</a> | M14 | 400  | <a href="#">01310.140.001</a> | M27 | 50  | <a href="#">01310.270.001</a> |
| M6 | 2000 | <a href="#">01310.060.001</a> | M16 | 300  | <a href="#">01310.160.001</a> | M30 | 50  | <a href="#">01310.300.001</a> |
| M8 | 2000 | <a href="#">01310.080.001</a> | M18 | 200  | <a href="#">01310.180.001</a> |     |     |                               |

**11042 Hexagon nut left hand thread**
**F01A**

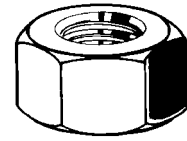
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | [8]           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">11042.040.001</a> | M8  | 100 | <a href="#">11042.080.001</a> | M16 | 50 | <a href="#">11042.160.001</a> |
| M5 | 250 | <a href="#">11042.050.001</a> | M10 | 100 | <a href="#">11042.100.001</a> |     |    |                               |
| M6 | 250 | <a href="#">11042.060.001</a> | M12 | 50  | <a href="#">11042.120.001</a> |     |    |                               |

**3**

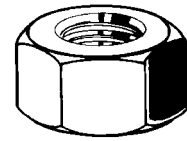
| 01320 Hexagon nut        |                               | A06A |  |
|--------------------------|-------------------------------|------|--|
| <b>Thread</b>            | Metric thread                 |      |  |
| <b>Material</b>          | Steel                         |      |  |
| <b>Class</b>             | 8                             |      |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |      |  |
| <b>Packaging</b>         | Standard                      |      |  |



| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3  | 250 | <a href="#">01320.030.001</a> | M12 | 100 | <a href="#">01320.120.001</a> | M27 | 10 | <a href="#">01320.270.001</a> |
| M4  | 250 | <a href="#">01320.040.001</a> | M14 | 100 | <a href="#">01320.140.001</a> | M30 | 10 | <a href="#">01320.300.001</a> |
| M5  | 250 | <a href="#">01320.050.001</a> | M16 | 100 | <a href="#">01320.160.001</a> | M33 | 5  | <a href="#">01320.330.001</a> |
| M6  | 250 | <a href="#">01320.060.001</a> | M18 | 50  | <a href="#">01320.180.001</a> | M36 | 5  | <a href="#">01320.360.001</a> |
| M7  | 250 | <a href="#">01320.070.001</a> | M20 | 50  | <a href="#">01320.200.001</a> | M39 | 5  | <a href="#">01320.390.001</a> |
| M8  | 250 | <a href="#">01320.080.001</a> | M22 | 25  | <a href="#">01320.220.001</a> | M42 | 5  | <a href="#">01320.420.001</a> |
| M10 | 250 | <a href="#">01320.100.001</a> | M24 | 25  | <a href="#">01320.240.001</a> |     |    |                               |

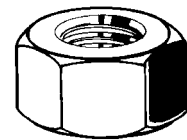
3

| 01326 Hexagon nut        |                              | A06A |  |
|--------------------------|------------------------------|------|--|
| <b>Thread</b>            | Metric thread                |      |  |
| <b>Material</b>          | Steel                        |      |  |
| <b>Class</b>             | 8                            |      |  |
| <b>Surface treatment</b> | Zinc plated black passivated |      |  |
| <b>Packaging</b>         | Standard                     |      |  |



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M3 | 250 | <a href="#">01326.030.001</a> | M8  | 250 | <a href="#">01326.080.001</a> | M16 | 100 | <a href="#">01326.160.001</a> |
| M4 | 250 | <a href="#">01326.040.001</a> | M10 | 250 | <a href="#">01326.100.001</a> | M20 | 50  | <a href="#">01326.200.001</a> |
| M5 | 250 | <a href="#">01326.050.001</a> | M12 | 100 | <a href="#">01326.120.001</a> | M24 | 25  | <a href="#">01326.240.001</a> |
| M6 | 250 | <a href="#">01326.060.001</a> | M14 | 100 | <a href="#">01326.140.001</a> |     |     |                               |

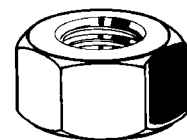
| 01500 Hexagon nut iso-metric fitting thread |                    | A07A |  |
|---|--------------------|------|--|
| <b>Thread</b>                               | Metric thread      |      |  |
| <b>Material</b>                             | Steel              |      |  |
| <b>Class</b>                                | 8                  |      |  |
| <b>Surface treatment</b>                    | Hot dip galvanized |      |  |
| <b>Packaging</b>                            | Standard           |      |  |



| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 100 | <a href="#">01500.060.001</a> | M18 | 50 | <a href="#">01500.180.001</a> | M33 | 5 | <a href="#">01500.330.001</a> |
| M8  | 100 | <a href="#">01500.080.001</a> | M20 | 50 | <a href="#">01500.200.001</a> | M36 | 5 | <a href="#">01500.360.001</a> |
| M10 | 100 | <a href="#">01500.100.001</a> | M22 | 50 | <a href="#">01500.220.001</a> | M39 | 3 | <a href="#">01500.390.001</a> |
| M12 | 100 | <a href="#">01500.120.001</a> | M24 | 50 | <a href="#">01500.240.001</a> | M42 | 3 | <a href="#">01500.420.001</a> |
| M14 | 100 | <a href="#">01500.140.001</a> | M27 | 10 | <a href="#">01500.270.001</a> |     |   |                               |
| M16 | 50  | <a href="#">01500.160.001</a> | M30 | 10 | <a href="#">01500.300.001</a> |     |   |                               |

- These hexagon nuts are used among other to hot dip galvanized bolts and screws with ISO-METRIC FITTING thread and to hot dip galvanized threaded rods with ISO-METRIC FITTING thread.
- The nuts are tapped AFTER galvanizing and meet the tolerances 6H.
- The corrosion resistance is not influenced disadvantageously, with assembled nuts, by the uncoated thread.

| 01560 Hexagon nut oversized thread |                    | A07A |  |
|------------------------------------|--------------------|------|--|
| <b>Thread</b>                      | Metric thread      |      |  |
| <b>Material</b>                    | Steel              |      |  |
| <b>Class</b>                       | 8                  |      |  |
| <b>Surface treatment</b>           | Hot dip galvanized |      |  |
| <b>Packaging</b>                   | Standard           |      |  |



| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M8  | 250 | <a href="#">01560.080.001</a> | M22 | 25 | <a href="#">01560.220.001</a> | M42 | 5 | <a href="#">01560.420.001</a> |
| M10 | 250 | <a href="#">01560.100.001</a> | M24 | 25 | <a href="#">01560.240.001</a> | M45 | 4 | <a href="#">01560.450.001</a> |
| M12 | 100 | <a href="#">01560.120.001</a> | M27 | 25 | <a href="#">01560.270.001</a> | M48 | 4 | <a href="#">01560.480.001</a> |
| M14 | 100 | <a href="#">01560.140.001</a> | M30 | 10 | <a href="#">01560.300.001</a> | M52 | 1 | <a href="#">01560.520.001</a> |
| M16 | 100 | <a href="#">01560.160.001</a> | M33 | 5  | <a href="#">01560.330.001</a> | M60 | 1 | <a href="#">01560.600.001</a> |
| M18 | 50  | <a href="#">01560.180.001</a> | M36 | 5  | <a href="#">01560.360.001</a> | M64 | 1 | <a href="#">01560.640.001</a> |
| M20 | 50  | <a href="#">01560.200.001</a> | M39 | 5  | <a href="#">01560.390.001</a> |     |   |                               |

- These hexagon nuts are used among other to hot dip galvanized hexagon bolts with OVERSIZED thread and to hot dip galvanized threaded rods with OVERSIZED thread.
- The nuts are tapped AFTER galvanizing and DO NOT meet the ISO-metric tolerances.
- The corrosion resistance is not influenced disadvantageously, with assembled nuts, by the uncoated thread.

3

|                  |                    |  |  |  |  |  |   |
|------------------|--------------------|--|--|--|--|--|---|
| <b>04120</b>     | <b>Hexagon nut</b> |  |  |  |  |  | <b>C01C</b>   |
| <b>Thread</b>    | Metric thread      |  |  |  |  |  |  |
| <b>Material</b>  | Steel              |  |  |  |  |  |   |
| <b>Class</b>     | [10]               |  |  |  |  |  |   |
| <b>Packaging</b> | Standard           |  |  |  |  |  |   |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5  | 250 | <a href="#">04120.050.001</a> | M16 | 100 | <a href="#">04120.160.001</a> | M30 | 25 | <a href="#">04120.300.001</a> |
| M6  | 250 | <a href="#">04120.060.001</a> | M18 | 50  | <a href="#">04120.180.001</a> | M33 | 5  | <a href="#">04120.330.001</a> |
| M8  | 250 | <a href="#">04120.080.001</a> | M20 | 50  | <a href="#">04120.200.001</a> | M36 | 5  | <a href="#">04120.360.001</a> |
| M10 | 250 | <a href="#">04120.100.001</a> | M22 | 25  | <a href="#">04120.220.001</a> | M39 | 5  | <a href="#">04120.390.001</a> |
| M12 | 100 | <a href="#">04120.120.001</a> | M24 | 25  | <a href="#">04120.240.001</a> | M42 | 5  | <a href="#">04120.420.001</a> |
| M14 | 100 | <a href="#">04120.140.001</a> | M27 | 25  | <a href="#">04120.270.001</a> | M48 | 5  | <a href="#">04120.480.001</a> |

|                          |   |  |  |  |  |  |   |
|--------------------------|---|--|--|--|--|--|---|
| <b>01336</b>             | <b>Hexagon nut</b>                      |  |  |  |  |  | <b>A96A</b>   |
| <b>Thread</b>            | Metric thread                           |  |  |  |  |  |  |
| <b>Material</b>          | Steel                                   |  |  |  |  |  |   |
| <b>Class</b>             | [8]                                     |  |  |  |  |  |   |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |  |  |  |  |  |   |
| <b>Packaging</b>         | Standard                                |  |  |  |  |  |   |

| d   | ☒    | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|-----|------|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M4  | 250  | <a href="#">01336.040.001</a> | M12 | 700 | <a href="#">01336.120.001</a> | M22 | 125 | <a href="#">01336.220.001</a> |
| M5  | 250  | <a href="#">01336.050.001</a> | M14 | 400 | <a href="#">01336.140.001</a> | M24 | 50  | <a href="#">01336.240.001</a> |
| M6  | 2000 | <a href="#">01336.060.001</a> | M16 | 300 | <a href="#">01336.160.001</a> | M27 | 50  | <a href="#">01336.270.001</a> |
| M8  | 2000 | <a href="#">01336.080.001</a> | M18 | 200 | <a href="#">01336.180.001</a> | M30 | 50  | <a href="#">01336.300.001</a> |
| M10 | 1000 | <a href="#">01336.100.001</a> | M20 | 150 | <a href="#">01336.200.001</a> | M36 | 25  | <a href="#">01336.360.001</a> |

|                          |   |  |  |  |  |  |   |
|--------------------------|---|--|--|--|--|--|---|
| <b>04125</b>             | <b>Hexagon nut</b>                      |  |  |  |  |  | <b>C02A</b>   |
| <b>Thread</b>            | Metric thread                           |  |  |  |  |  |  |
| <b>Material</b>          | Steel                                   |  |  |  |  |  |   |
| <b>Class</b>             | [10]                                    |  |  |  |  |  |   |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |  |  |  |  |  |   |
| <b>Packaging</b>         | Standard                                |  |  |  |  |  |   |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">04125.040.001</a> | M10 | 250 | <a href="#">04125.100.001</a> | M20 | 50 | <a href="#">04125.200.001</a> |
| M5 | 250 | <a href="#">04125.050.001</a> | M12 | 100 | <a href="#">04125.120.001</a> | M24 | 25 | <a href="#">04125.240.001</a> |
| M6 | 250 | <a href="#">04125.060.001</a> | M14 | 100 | <a href="#">04125.140.001</a> | M30 | 25 | <a href="#">04125.300.001</a> |
| M8 | 250 | <a href="#">04125.080.001</a> | M16 | 100 | <a href="#">04125.160.001</a> |     |    |                               |

• Technical brochure available on request.

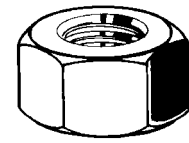
|                          |                    |  |  |  |  |  |   |
|--------------------------|--------------------|--|--|--|--|--|---|
| <b>04121</b>             | <b>Hexagon nut</b> |  |  |  |  |  | <b>C01C</b>   |
| <b>Thread</b>            | Metric thread      |  |  |  |  |  |  |
| <b>Material</b>          | Steel              |  |  |  |  |  |   |
| <b>Class</b>             | [10]               |  |  |  |  |  |   |
| <b>Surface treatment</b> | Zinc plated        |  |  |  |  |  |   |
| <b>Packaging</b>         | Standard           |  |  |  |  |  |   |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M3 | 250 | <a href="#">04121.030.001</a> | M8  | 250 | <a href="#">04121.080.001</a> | M16 | 100 | <a href="#">04121.160.001</a> |
| M4 | 250 | <a href="#">04121.040.001</a> | M10 | 250 | <a href="#">04121.100.001</a> | M20 | 50  | <a href="#">04121.200.001</a> |
| M5 | 250 | <a href="#">04121.050.001</a> | M12 | 100 | <a href="#">04121.120.001</a> | M24 | 25  | <a href="#">04121.240.001</a> |
| M6 | 250 | <a href="#">04121.060.001</a> | M14 | 100 | <a href="#">04121.140.001</a> |     |     |                               |

|                  |                    |  |  |  |  |  |   |
|------------------|--------------------|--|--|--|--|--|---|
| <b>04190</b>     | <b>Hexagon nut</b> |  |  |  |  |  | <b>C01C</b>   |
| <b>Thread</b>    | Metric thread      |  |  |  |  |  |  |
| <b>Material</b>  | Steel              |  |  |  |  |  |   |
| <b>Class</b>     | [12]               |  |  |  |  |  |   |
| <b>Packaging</b> | Standard           |  |  |  |  |  |   |

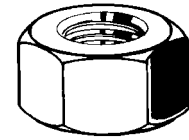
| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">04190.060.001</a> | M12 | 100 | <a href="#">04190.120.001</a> | M20 | 50 | <a href="#">04190.200.001</a> |
| M8  | 250 | <a href="#">04190.080.001</a> | M14 | 100 | <a href="#">04190.140.001</a> | M24 | 25 | <a href="#">04190.240.001</a> |
| M10 | 250 | <a href="#">04190.100.001</a> | M16 | 100 | <a href="#">04190.160.001</a> | M30 | 25 | <a href="#">04190.300.001</a> |

| 11300 Hexagon nut turned |                    | F01A |  |
|--------------------------|--------------------|------|--|
| <b>Thread</b>            | Metric thread      |      |  |
| <b>Material</b>          | Free-cutting steel |      |  |
| <b>Class</b>             | 6                  |      |  |
| <b>Surface treatment</b> | Zinc plated        |      |  |
| <b>Packaging</b>         | Standard           |      |  |



| d    | ☒   | Art.number                    | d    | ☒   | Art.number                    | d    | ☒   | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|------|-----|-------------------------------|
| M1,6 | 500 | <a href="#">11300.016.001</a> | M2,3 | 500 | <a href="#">11300.023.001</a> | M2,6 | 500 | <a href="#">11300.026.001</a> |
| M2   | 500 | <a href="#">11300.020.001</a> | M2,5 | 500 | <a href="#">11300.025.001</a> | M3,5 | 250 | <a href="#">11300.035.001</a> |

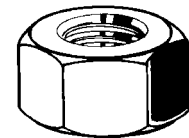
| 51080 Hexagon nut |                    | Q01A |  |
|-------------------|--------------------|------|--|
| <b>Thread</b>     | Metric thread      |      |  |
| <b>Material</b>   | Stainless steel A2 |      |  |
| <b>Class</b>      | 70                 |      |  |
| <b>Packaging</b>  | Standard           |      |  |



| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-------|----|-------------------------------|
| M1   | 200 | <a href="#">51080.010.001</a> | M7  | 200 | <a href="#">51080.070.001</a> | M27   | 10 | <a href="#">51080.270.001</a> |
| M1,2 | 200 | <a href="#">51080.012.001</a> | M8  | 200 | <a href="#">51080.080.001</a> | M30   | 5  | <a href="#">51080.300.001</a> |
| M1,4 | 200 | <a href="#">51080.014.001</a> | M10 | 200 | <a href="#">51080.100.001</a> | M33   | 5  | <a href="#">51080.330.001</a> |
| M1,6 | 200 | <a href="#">51080.016.001</a> | M12 | 200 | <a href="#">51080.120.001</a> | M36   | 5  | <a href="#">51080.360.001</a> |
| M2   | 500 | <a href="#">51080.020.001</a> | M14 | 100 | <a href="#">51080.140.001</a> | M39   | 5  | <a href="#">51080.390.001</a> |
| M2,5 | 500 | <a href="#">51080.025.001</a> | M16 | 100 | <a href="#">51080.160.001</a> | M42   | 5  | <a href="#">51080.420.001</a> |
| M3   | 500 | <a href="#">51080.030.001</a> | M18 | 50  | <a href="#">51080.180.001</a> | M45   | 5  | <a href="#">51080.450.001</a> |
| M4   | 500 | <a href="#">51080.040.001</a> | M20 | 50  | <a href="#">51080.200.001</a> | M48   | 5  | <a href="#">51080.480.001</a> |
| M5   | 500 | <a href="#">51080.050.001</a> | M22 | 20  | <a href="#">51080.220.001</a> | M52 * | 5  | <a href="#">51080.520.001</a> |
| M6   | 500 | <a href="#">51080.060.001</a> | M24 | 20  | <a href="#">51080.240.001</a> |       |    |                               |

• Sizes with a diameter > M24 are minimal property class 50.

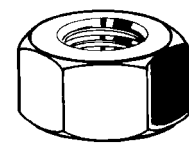
| 51082 Hexagon nut COMBIFLON |                    | R09A |  |
|-----------------------------|--------------------|------|--|
| <b>Thread</b>               | Metric thread      |      |  |
| <b>Material</b>             | Stainless steel A2 |      |  |
| <b>Class</b>                | 70                 |      |  |
| <b>Packaging</b>            | Standard           |      |  |



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6 | 250 | <a href="#">51082.060.001</a> | M10 | 100 | <a href="#">51082.100.001</a> | M16 | 50 | <a href="#">51082.160.001</a> |
| M8 | 100 | <a href="#">51082.080.001</a> | M12 | 100 | <a href="#">51082.120.001</a> | M20 | 25 | <a href="#">51082.200.001</a> |

- Specific features Combiflon:
- It's a fixed dry film coating, colour silver, with reducing effect on galling.
- It levels out the big scatter in coefficient of friction and reduces the average value.
- For a bolt /nut assembly only one product (e.g. the nut) needs to be treated with Combiflon.
- Reduces Bi-metallic corrosion.

| 51100 Hexagon nut |                    | Q01A |  |
|-------------------|--------------------|------|--|
| <b>Thread</b>     | Metric thread      |      |  |
| <b>Material</b>   | Stainless steel A2 |      |  |
| <b>Class</b>      | 70                 |      |  |
| <b>Packaging</b>  | Large              |      |  |



| d  | ☒    | Art.number                    | d   | ☒    | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|-----|------|-------------------------------|-----|-----|-------------------------------|
| M3 | 2500 | <a href="#">51100.030.001</a> | M8  | 2000 | <a href="#">51100.080.001</a> | M20 | 150 | <a href="#">51100.200.001</a> |
| M4 | 2500 | <a href="#">51100.040.001</a> | M10 | 1000 | <a href="#">51100.100.001</a> | M24 | 50  | <a href="#">51100.240.001</a> |
| M5 | 2500 | <a href="#">51100.050.001</a> | M12 | 700  | <a href="#">51100.120.001</a> | M27 | 25  | <a href="#">51100.270.001</a> |
| M6 | 2000 | <a href="#">51100.060.001</a> | M16 | 300  | <a href="#">51100.160.001</a> | M30 | 10  | <a href="#">51100.300.001</a> |

• Sizes with a diameter > M24 are minimal property class 50.

| 51089 Hexagon nut METALFORM |                    | Q01A |
|-----------------------------|--------------------|------|
| <b>Thread</b>               | Metric thread      |      |
| <b>Material</b>             | Stainless steel A2 |      |
| <b>Class</b>                | 70                 |      |
| <b>Packaging</b>            | Standard           |      |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">51089.040.001</a> | M8  | 100 | <a href="#">51089.080.001</a> | M16 | 50 | <a href="#">51089.160.001</a> |
| M5 | 250 | <a href="#">51089.050.001</a> | M10 | 100 | <a href="#">51089.100.001</a> | M20 | 25 | <a href="#">51089.200.001</a> |
| M6 | 250 | <a href="#">51089.060.001</a> | M12 | 100 | <a href="#">51089.120.001</a> | M24 | 10 | <a href="#">51089.240.001</a> |

3

- Special features of METALFORM:
- Is a dry partly visible lubricant which eliminates the possibility of seizure of threaded stainless steel fasteners.
- In addition the friction coefficient is reduced to a more constant value.
- In a bolt/nut combination it's sufficient that only the nut is lubricated to prevent seizure with METALFORM.
- Can be removed very easily with a solvent after application, so there's no objection of using this application in the food industry.

| 51162 Hexagon nut left hand thread |                    | R09A |
|------------------------------------|--------------------|------|
| <b>Thread</b>                      | Metric thread      |      |
| <b>Material</b>                    | Stainless steel A2 |      |
| <b>Class</b>                       | 70                 |      |
| <b>Packaging</b>                   | Standard           |      |

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-------|----|-------------------------------|
| M4  | 100 | <a href="#">51162.040.001</a> | M12 | 25 | <a href="#">51162.120.001</a> | M22   | 5  | <a href="#">51162.220.001</a> |
| M5  | 100 | <a href="#">51162.050.001</a> | M14 | 25 | <a href="#">51162.140.001</a> | M24   | 5  | <a href="#">51162.240.001</a> |
| M6  | 100 | <a href="#">51162.060.001</a> | M16 | 10 | <a href="#">51162.160.001</a> | M27 * | 10 | <a href="#">51162.270.001</a> |
| M8  | 50  | <a href="#">51162.080.001</a> | M18 | 10 | <a href="#">51162.180.001</a> | M30   | 3  | <a href="#">51162.300.001</a> |
| M10 | 50  | <a href="#">51162.100.001</a> | M20 | 10 | <a href="#">51162.200.001</a> |       |    |                               |

- Sizes with a diameter > M24 are minimal property class 50.

| 55080 Hexagon nut |                    | Q41A |
|-------------------|--------------------|------|
| <b>Thread</b>     | Metric thread      |      |
| <b>Material</b>   | Stainless steel A4 |      |
| <b>Class</b>      | 70                 |      |
| <b>Packaging</b>  | Standard           |      |

| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d     | ☒ | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-------|---|-------------------------------|
| M1,6 | 200 | <a href="#">55080.016.001</a> | M10 | 200 | <a href="#">55080.100.001</a> | M30   | 5 | <a href="#">55080.300.001</a> |
| M2   | 500 | <a href="#">55080.020.001</a> | M12 | 200 | <a href="#">55080.120.001</a> | M33   | 5 | <a href="#">55080.330.001</a> |
| M2,5 | 500 | <a href="#">55080.025.001</a> | M14 | 100 | <a href="#">55080.140.001</a> | M36   | 5 | <a href="#">55080.360.001</a> |
| M3   | 500 | <a href="#">55080.030.001</a> | M16 | 100 | <a href="#">55080.160.001</a> | M39   | 5 | <a href="#">55080.390.001</a> |
| M4   | 500 | <a href="#">55080.040.001</a> | M18 | 50  | <a href="#">55080.180.001</a> | M42   | 5 | <a href="#">55080.420.001</a> |
| M5   | 500 | <a href="#">55080.050.001</a> | M20 | 50  | <a href="#">55080.200.001</a> | M45   | 5 | <a href="#">55080.450.001</a> |
| M6   | 500 | <a href="#">55080.060.001</a> | M22 | 20  | <a href="#">55080.220.001</a> | M48   | 5 | <a href="#">55080.480.001</a> |
| M7   | 200 | <a href="#">55080.070.001</a> | M24 | 20  | <a href="#">55080.240.001</a> | M52 * | 5 | <a href="#">55080.520.001</a> |
| M8   | 200 | <a href="#">55080.080.001</a> | M27 | 10  | <a href="#">55080.270.001</a> |       |   |                               |

- Sizes with a diameter > M24 are minimal property class 50.

| 55100 Hexagon nut |                    | Q41A |
|-------------------|--------------------|------|
| <b>Thread</b>     | Metric thread      |      |
| <b>Material</b>   | Stainless steel A4 |      |
| <b>Class</b>      | 70                 |      |
| <b>Packaging</b>  | Large              |      |

| d  | ☒    | Art.number                    | d   | ☒    | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|-----|------|-------------------------------|-----|-----|-------------------------------|
| M3 | 2500 | <a href="#">55100.030.001</a> | M6  | 2000 | <a href="#">55100.060.001</a> | M12 | 700 | <a href="#">55100.120.001</a> |
| M4 | 2500 | <a href="#">55100.040.001</a> | M8  | 2000 | <a href="#">55100.080.001</a> | M16 | 300 | <a href="#">55100.160.001</a> |
| M5 | 2500 | <a href="#">55100.050.001</a> | M10 | 1000 | <a href="#">55100.100.001</a> |     |     |                               |

- Sizes with a diameter > M24 are minimal property class 50.



|                  |                    |  |  |  |  |  |             |
|------------------|--------------------|--|--|--|--|--|-------------|
| <b>53580</b>     | <b>Hexagon nut</b> |  |  |  |  |  | <b>R11A</b> |
| <b>Thread</b>    | Metric thread      |  |  |  |  |  |             |
| <b>Material</b>  | Stainless steel A4 |  |  |  |  |  |             |
| <b>Class</b>     | 80                 |  |  |  |  |  |             |
| <b>Packaging</b> | Standard           |  |  |  |  |  |             |

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6  | 100 | <a href="#">53580.060.001</a> | M12 | 25 | <a href="#">53580.120.001</a> | M24 | 10 | <a href="#">53580.240.001</a> |
| M8  | 50  | <a href="#">53580.080.001</a> | M16 | 25 | <a href="#">53580.160.001</a> |     |    |                               |
| M10 | 50  | <a href="#">53580.100.001</a> | M20 | 10 | <a href="#">53580.200.001</a> |     |    |                               |

|                  |                      |  |  |  |  |  |             |
|------------------|----------------------|--|--|--|--|--|-------------|
| <b>45080</b>     | <b>Hexagon nut</b>   |  |  |  |  |  | <b>W01A</b> |
| <b>Thread</b>    | Metric thread        |  |  |  |  |  |             |
| <b>Material</b>  | Aluminium Sopral P40 |  |  |  |  |  |             |
| <b>Packaging</b> | Standard             |  |  |  |  |  |             |
|                  |                      |  |  |  |  |  |             |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M3 | 250 | <a href="#">45080.030.001</a> | M6  | 250 | <a href="#">45080.060.001</a> | M12 | 100 | <a href="#">45080.120.001</a> |
| M4 | 250 | <a href="#">45080.040.001</a> | M8  | 100 | <a href="#">45080.080.001</a> |     |     |                               |
| M5 | 250 | <a href="#">45080.050.001</a> | M10 | 100 | <a href="#">45080.100.001</a> |     |     |                               |

|                  |                      |  |  |  |  |  |             |
|------------------|----------------------|--|--|--|--|--|-------------|
| <b>45280</b>     | <b>Hexagon nut</b>   |  |  |  |  |  | <b>W01A</b> |
| <b>Thread</b>    | Metric thread        |  |  |  |  |  |             |
| <b>Material</b>  | Aluminium Sopral P60 |  |  |  |  |  |             |
| <b>Packaging</b> | Standard             |  |  |  |  |  |             |
|                  |                      |  |  |  |  |  |             |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">45280.060.001</a> | M12 | 100 | <a href="#">45280.120.001</a> | M24 | 10 | <a href="#">45280.240.001</a> |
| M8  | 100 | <a href="#">45280.080.001</a> | M16 | 50  | <a href="#">45280.160.001</a> |     |    |                               |
| M10 | 100 | <a href="#">45280.100.001</a> | M20 | 25  | <a href="#">45280.200.001</a> |     |    |                               |

|                  |                    |  |  |  |  |  |             |
|------------------|--------------------|--|--|--|--|--|-------------|
| <b>45850</b>     | <b>Hexagon nut</b> |  |  |  |  |  | <b>M11A</b> |
| <b>Thread</b>    | Metric thread      |  |  |  |  |  |             |
| <b>Material</b>  | Kuprodur Cu5       |  |  |  |  |  |             |
| <b>Class</b>     | 60                 |  |  |  |  |  |             |
| <b>Packaging</b> | Standard           |  |  |  |  |  |             |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6 | 100 | <a href="#">45850.060.001</a> | M10 | 50 | <a href="#">45850.100.001</a> | M16 | 10 | <a href="#">45850.160.001</a> |
| M8 | 50  | <a href="#">45850.080.001</a> | M12 | 25 | <a href="#">45850.120.001</a> |     |    |                               |

|                  |                    |  |  |  |  |  |             |
|------------------|--------------------|--|--|--|--|--|-------------|
| <b>45920</b>     | <b>Hexagon nut</b> |  |  |  |  |  | <b>W01A</b> |
| <b>Thread</b>    | Metric thread      |  |  |  |  |  |             |
| <b>Material</b>  | Titanium ASTM      |  |  |  |  |  |             |
| <b>Class</b>     | Gr.2               |  |  |  |  |  |             |
| <b>Packaging</b> | Standard           |  |  |  |  |  |             |
|                  | DIN ≈934 (1987)    |  |  |  |  |  |             |
|                  | NEN ≈1560          |  |  |  |  |  |             |
|                  | NF ≈E25-401        |  |  |  |  |  |             |

| d  | ☒  | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M6 | 25 | <a href="#">45920.060.001</a> | M8 | 25 | <a href="#">45920.080.001</a> | M10 | 10 | <a href="#">45920.100.001</a> |

- Titanium ASTM Grade 2 (materialnumber 3.7035) with a high percentage of pure titanium, ensures product stability and -suitability in extremely corrosive environments where other materials i.e. stainless steel fail.
- Titanium Grade 2 is also suitable for other light loaded applications.

3

| 47000 Hexagon nut |               | M01A |
|-------------------|---------------|------|
| <b>Thread</b>     | Metric thread |      |
| <b>Material</b>   | Brass Cu2/Cu3 |      |
| <b>Packaging</b>  | Standard      |      |

| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M2   | 250 | <a href="#">47000.020.001</a> | M7  | 250 | <a href="#">47000.070.001</a> | M18 | 10 | <a href="#">47000.180.001</a> |
| M2,5 | 250 | <a href="#">47000.025.001</a> | M8  | 250 | <a href="#">47000.080.001</a> | M20 | 10 | <a href="#">47000.200.001</a> |
| M3   | 250 | <a href="#">47000.030.001</a> | M10 | 100 | <a href="#">47000.100.001</a> | M22 | 10 | <a href="#">47000.220.001</a> |
| M4   | 250 | <a href="#">47000.040.001</a> | M12 | 50  | <a href="#">47000.120.001</a> | M24 | 10 | <a href="#">47000.240.001</a> |
| M5   | 250 | <a href="#">47000.050.001</a> | M14 | 50  | <a href="#">47000.140.001</a> | M27 | 10 | <a href="#">47000.270.001</a> |
| M6   | 250 | <a href="#">47000.060.001</a> | M16 | 25  | <a href="#">47000.160.001</a> | M30 | 5  | <a href="#">47000.300.001</a> |

| 47050 Hexagon nut        |               | M01A |
|--------------------------|---------------|------|
| <b>Thread</b>            | Metric thread |      |
| <b>Material</b>          | Brass Cu2/Cu3 |      |
| <b>Surface treatment</b> | Nickel plated |      |
| <b>Packaging</b>         | Standard      |      |

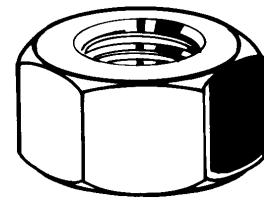
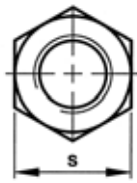
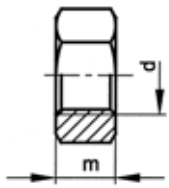
| d    | ☒   | Art.number                    | d    | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-----|-----|-------------------------------|
| M1,4 | 500 | <a href="#">47050.014.001</a> | M3,5 | 250 | <a href="#">47050.035.001</a> | M10 | 100 | <a href="#">47050.100.001</a> |
| M1,6 | 500 | <a href="#">47050.016.001</a> | M4   | 250 | <a href="#">47050.040.001</a> | M12 | 50  | <a href="#">47050.120.001</a> |
| M2   | 250 | <a href="#">47050.020.001</a> | M5   | 250 | <a href="#">47050.050.001</a> | M16 | 25  | <a href="#">47050.160.001</a> |
| M2,5 | 250 | <a href="#">47050.025.001</a> | M6   | 250 | <a href="#">47050.060.001</a> |     |     |                               |
| M3   | 250 | <a href="#">47050.030.001</a> | M8   | 250 | <a href="#">47050.080.001</a> |     |     |                               |

| 56200 Hexagon nut plastic |   | W02A |
|---------------------------|---|------|
| <b>Thread</b>             | Metric thread                               |      |
| <b>Material</b>           | Plastic Polyamide (nylon)                   |      |
| <b>Class</b>              | PA 6.6                                      |      |
| <b>Colour</b>             | White                                       |      |
| <b>Packaging</b>          | Standard                                    |      |
|                           | DIN ≈934 (1987)<br>NEN ≈1560<br>NF ≈E25-401 |      |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 200 | <a href="#">56200.030.001</a> | M8  | 50 | <a href="#">56200.080.001</a> | M16 | 25 | <a href="#">56200.160.001</a> |
| M4 | 200 | <a href="#">56200.040.001</a> | M10 | 50 | <a href="#">56200.100.001</a> | M20 | 10 | <a href="#">56200.200.001</a> |
| M5 | 200 | <a href="#">56200.050.001</a> | M12 | 25 | <a href="#">56200.120.001</a> |     |    |                               |
| M6 | 100 | <a href="#">56200.060.001</a> | M14 | 25 | <a href="#">56200.140.001</a> |     |    |                               |

## Hexagon nut ISO

ISO 4032



### Technical data

| d    | P    | m (max.) | s   |
|------|------|----------|-----|
| M2   | 0,4  | 1,6      | 4   |
| M2,5 | 0,45 | 2        | 5   |
| M3   | 0,5  | 2,4      | 5,5 |
| M4   | 0,7  | 3,2      | 7   |
| M5   | 0,8  | 4,7      | 8   |
| M6   | 1    | 5,2      | 10  |
| M8   | 1,25 | 6,8      | 13  |

| d   | P    | m (max.) | s  |
|-----|------|----------|----|
| M10 | 1,5  | 8,4      | 16 |
| M12 | 1,75 | 10,8     | 18 |
| M14 | 2    | 12,8     | 21 |
| M16 | 2    | 14,8     | 24 |
| M18 | 2,5  | 15,8     | 27 |
| M20 | 2,5  | 18       | 30 |
| M22 | 2,5  | 19,4     | 34 |

| d   | P   | m (max.) | s  |
|-----|-----|----------|----|
| M24 | 3   | 21,5     | 36 |
| M27 | 3   | 23,8     | 41 |
| M30 | 3,5 | 25,6     | 46 |
| M33 | 3,5 | 28,7     | 50 |
| M36 | 4   | 31       | 55 |
| M39 | 4,5 | 34       | 60 |

3

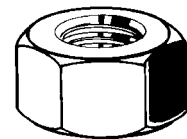
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 8     |                   | Standard  | 01104 | 3-13 |
| M      | hexagon          | St       | 8     | Zipl              | Standard  | 01301 | 3-13 |
| M      | hexagon          | St       | 8     | Zipl yell.p.      | Standard  | 01321 | 3-14 |
| M      | hexagon          | St       | 8     | FLZNNC-NC6        | Standard  | 01337 | 3-14 |
| M      | hexagon          | St       | 10    |                   | Standard  | 04124 | 3-14 |
| M      | hexagon          | St       | 10    | Zipl              | Standard  | 04127 | 3-14 |
| M      | hexagon          | St       | 10    | FLZNNC-NC6        | Standard  | 04130 | 3-14 |
| M      | hexagon          | St       | 5-2   |                   | Standard  | 08781 | 3-15 |

#### 01104 Hexagon nut ISO

A01B

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Packaging** Standard

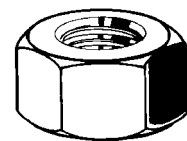


| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3  | 250 | <a href="#">01104.030.001</a> | M12 | 100 | <a href="#">01104.120.001</a> | M30 | 10 | <a href="#">01104.300.001</a> |
| M4  | 250 | <a href="#">01104.040.001</a> | M14 | 100 | <a href="#">01104.140.001</a> | M33 | 5  | <a href="#">01104.330.001</a> |
| M5  | 250 | <a href="#">01104.050.001</a> | M16 | 100 | <a href="#">01104.160.001</a> | M36 | 5  | <a href="#">01104.360.001</a> |
| M6  | 250 | <a href="#">01104.060.001</a> | M20 | 50  | <a href="#">01104.200.001</a> | M39 | 5  | <a href="#">01104.390.001</a> |
| M8  | 250 | <a href="#">01104.080.001</a> | M24 | 25  | <a href="#">01104.240.001</a> |     |    |                               |
| M10 | 250 | <a href="#">01104.100.001</a> | M27 | 10  | <a href="#">01104.270.001</a> |     |    |                               |

#### 01301 Hexagon nut ISO

A05B

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d    | ☒    | Art.number                    | d   | ☒   | Art.number                    | d    | ☒  | Art.number                    |
|------|------|-------------------------------|-----|-----|-------------------------------|------|----|-------------------------------|
| M2   | 1000 | <a href="#">01301.020.001</a> | M10 | 250 | <a href="#">01301.100.001</a> | M24  | 25 | <a href="#">01301.240.001</a> |
| M2,5 | 1000 | <a href="#">01301.025.001</a> | M12 | 100 | <a href="#">01301.120.001</a> | M27  | 10 | <a href="#">01301.270.001</a> |
| M3   | 250  | <a href="#">01301.030.001</a> | M14 | 100 | <a href="#">01301.140.001</a> | M30  | 10 | <a href="#">01301.300.001</a> |
| M4   | 250  | <a href="#">01301.040.001</a> | M16 | 100 | <a href="#">01301.160.001</a> | M33  | 5  | <a href="#">01301.330.001</a> |
| M5   | 250  | <a href="#">01301.050.001</a> | M18 | 50  | <a href="#">01301.180.001</a> | M36  | 5  | <a href="#">01301.360.001</a> |
| M6   | 250  | <a href="#">01301.060.001</a> | M20 | 50  | <a href="#">01301.200.001</a> | M 39 | 5  | <a href="#">01301.390.001</a> |
| M8   | 250  | <a href="#">01301.080.001</a> | M22 | 25  | <a href="#">01301.220.001</a> |      |    |                               |

3

| 01321 Hexagon nut ISO    |                               | A06A |
|--------------------------|-------------------------------|------|
| <b>Thread</b>            | Metric thread                 |      |
| <b>Material</b>          | Steel                         |      |
| <b>Class</b>             | 8                             |      |
| <b>Surface treatment</b> | Zinc plated yellow passivated |      |
| <b>Packaging</b>         | Standard                      |      |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3  | 250 | <a href="#">01321.030.001</a> | M12 | 100 | <a href="#">01321.120.001</a> | M27 | 10 | <a href="#">01321.270.001</a> |
| M4  | 250 | <a href="#">01321.040.001</a> | M14 | 100 | <a href="#">01321.140.001</a> | M30 | 10 | <a href="#">01321.300.001</a> |
| M5  | 250 | <a href="#">01321.050.001</a> | M16 | 100 | <a href="#">01321.160.001</a> | M33 | 5  | <a href="#">01321.330.001</a> |
| M6  | 250 | <a href="#">01321.060.001</a> | M18 | 50  | <a href="#">01321.180.001</a> | M36 | 5  | <a href="#">01321.360.001</a> |
| M8  | 250 | <a href="#">01321.080.001</a> | M20 | 50  | <a href="#">01321.200.001</a> |     |    |                               |
| M10 | 250 | <a href="#">01321.100.001</a> | M24 | 25  | <a href="#">01321.240.001</a> |     |    |                               |

| 01337 Hexagon nut ISO    |   | A96A |
|--------------------------|---|------|
| <b>Thread</b>            | Metric thread                           |      |
| <b>Material</b>          | Steel                                   |      |
| <b>Class</b>             | 8                                       |      |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |      |
| <b>Packaging</b>         | Standard                                |      |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3  | 250 | <a href="#">01337.030.001</a> | M12 | 100 | <a href="#">01337.120.001</a> | M30 | 10 | <a href="#">01337.300.001</a> |
| M4  | 250 | <a href="#">01337.040.001</a> | M14 | 100 | <a href="#">01337.140.001</a> | M33 | 5  | <a href="#">01337.330.001</a> |
| M5  | 250 | <a href="#">01337.050.001</a> | M16 | 100 | <a href="#">01337.160.001</a> | M36 | 5  | <a href="#">01337.360.001</a> |
| M6  | 250 | <a href="#">01337.060.001</a> | M20 | 50  | <a href="#">01337.200.001</a> | M39 | 5  | <a href="#">01337.390.001</a> |
| M8  | 250 | <a href="#">01337.080.001</a> | M24 | 25  | <a href="#">01337.240.001</a> |     |    |                               |
| M10 | 250 | <a href="#">01337.100.001</a> | M27 | 10  | <a href="#">01337.270.001</a> |     |    |                               |

| 04124 Hexagon nut ISO |               | A05B |
|-----------------------|---------------|------|
| <b>Thread</b>         | Metric thread |      |
| <b>Material</b>       | Steel         |      |
| <b>Class</b>          | 10            |      |
| <b>Packaging</b>      | Standard      |      |
|                       |               |      |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5  | 250 | <a href="#">04124.050.001</a> | M16 | 100 | <a href="#">04124.160.001</a> | M30 | 10 | <a href="#">04124.300.001</a> |
| M6  | 250 | <a href="#">04124.060.001</a> | M18 | 50  | <a href="#">04124.180.001</a> | M33 | 5  | <a href="#">04124.330.001</a> |
| M8  | 250 | <a href="#">04124.080.001</a> | M20 | 50  | <a href="#">04124.200.001</a> | M36 | 5  | <a href="#">04124.360.001</a> |
| M10 | 250 | <a href="#">04124.100.001</a> | M22 | 50  | <a href="#">04124.220.001</a> | M39 | 5  | <a href="#">04124.390.001</a> |
| M12 | 100 | <a href="#">04124.120.001</a> | M24 | 25  | <a href="#">04124.240.001</a> |     |    |                               |
| M14 | 100 | <a href="#">04124.140.001</a> | M27 | 10  | <a href="#">04124.270.001</a> |     |    |                               |

| 04127 Hexagon nut ISO    |               | A05B |
|--------------------------|---------------|------|
| <b>Thread</b>            | Metric thread |      |
| <b>Material</b>          | Steel         |      |
| <b>Class</b>             | 10            |      |
| <b>Surface treatment</b> | Zinc plated   |      |
| <b>Packaging</b>         | Standard      |      |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3  | 250 | <a href="#">04127.030.001</a> | M12 | 100 | <a href="#">04127.120.001</a> | M24 | 25 | <a href="#">04127.240.001</a> |
| M4  | 250 | <a href="#">04127.040.001</a> | M14 | 100 | <a href="#">04127.140.001</a> | M27 | 10 | <a href="#">04127.270.001</a> |
| M5  | 250 | <a href="#">04127.050.001</a> | M16 | 100 | <a href="#">04127.160.001</a> | M30 | 10 | <a href="#">04127.300.001</a> |
| M6  | 250 | <a href="#">04127.060.001</a> | M18 | 50  | <a href="#">04127.180.001</a> | M33 | 5  | <a href="#">04127.330.001</a> |
| M8  | 250 | <a href="#">04127.080.001</a> | M20 | 50  | <a href="#">04127.200.001</a> | M36 | 5  | <a href="#">04127.360.001</a> |
| M10 | 250 | <a href="#">04127.100.001</a> | M22 | 50  | <a href="#">04127.220.001</a> | M39 | 5  | <a href="#">04127.390.001</a> |

| 04130 Hexagon nut ISO    |   | C02A |
|--------------------------|---|------|
| <b>Thread</b>            | Metric thread                           |      |
| <b>Material</b>          | Steel                                   |      |
| <b>Class</b>             | 10                                      |      |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |      |
| <b>Packaging</b>         | Standard                                |      |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 250 | <a href="#">04130.050.001</a> | M8  | 250 | <a href="#">04130.080.001</a> | M12 | 250 | <a href="#">04130.120.001</a> |
| M6 | 250 | <a href="#">04130.060.001</a> | M10 | 250 | <a href="#">04130.100.001</a> | M14 | 250 | <a href="#">04130.140.001</a> |

**04130 Hexagon nut ISO** ←

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M16 | 100 | <a href="#">04130.160.001</a> | M24 | 25 | <a href="#">04130.240.001</a> | M36 | 5 | <a href="#">04130.360.001</a> |
| M18 | 100 | <a href="#">04130.180.001</a> | M27 | 10 | <a href="#">04130.270.001</a> | M39 | 5 | <a href="#">04130.390.001</a> |
| M20 | 100 | <a href="#">04130.200.001</a> | M30 | 10 | <a href="#">04130.300.001</a> |     |   |                               |
| M22 | 50  | <a href="#">04130.220.001</a> | M33 | 5  | <a href="#">04130.330.001</a> |     |   |                               |

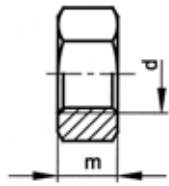
**08781 Hexagon nut for pressure vessels etc.** E11A

|                  |               |  |
|------------------|---------------|--|
| <b>Thread</b>    | Metric thread |  |
| <b>Material</b>  | Steel         |  |
| <b>Class</b>     | 5-2           |  |
| <b>Packaging</b> | Standard      |  |

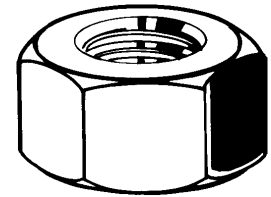
| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|---|-------------------------------|
| M8  | 250 | <a href="#">08781.080.001</a> | M20 | 100 | <a href="#">08781.200.001</a> | M33 | 5 | <a href="#">08781.330.001</a> |
| M10 | 250 | <a href="#">08781.100.001</a> | M24 | 50  | <a href="#">08781.240.001</a> | M36 | 5 | <a href="#">08781.360.001</a> |
| M12 | 100 | <a href="#">08781.120.001</a> | M27 | 50  | <a href="#">08781.270.001</a> |     |   |                               |
| M16 | 100 | <a href="#">08781.160.001</a> | M30 | 25  | <a href="#">08781.300.001</a> |     |   |                               |

- Special features hexagon nuts for pressure vessels etc.:
- Are intended for use in pressure vessels, steam apparatus, equipment and flanged joints at temperatures from – 10°C up to + 300°C, overpressures max. 40 bar and sizes up to and including M30.
- Meet the requirements of AD-Merkblatt W7, TRD 106 of the "Technischer Überwachungsverein (TÜV)" and resp. ISO 898-2 and DIN 267-13.
- According to TÜV-Merkblatt Werkstoffe 1253, the manufacturer has been certified to deliver these bolts without a 3.1 certificate, the trademark and class designation are sufficient.
- This certification is also accepted by the Dutch "STOOMWEZEN BV" and meets the requirements M0802.

## Hexagon nut MF



DIN 934 (1987)  
 NEN 1560  
 NF E25-401



### Technical data

| d          | m   | s  |
|------------|-----|----|
| M4 (#DIN)  | 3,2 | 7  |
| M5 (#DIN)  | 4   | 8  |
| M6 (#DIN)  | 5   | 10 |
| M8         | 6,5 | 13 |
| M10        | 8   | 17 |
| M12 (#DIN) | 10  | 19 |
| M12        | 10  | 19 |
| M14        | 11  | 22 |
| M16        | 13  | 24 |
| M18 (#DIN) | 15  | 27 |
| M18        | 15  | 27 |
| M20        | 16  | 30 |
| M22 (#DIN) | 18  | 32 |
| M22        | 18  | 32 |
| M24 (#DIN) | 19  | 36 |
| M24        | 19  | 36 |

| d          | m  | s  |
|------------|----|----|
| M26 (#DIN) | 22 | 41 |
| M27 (#DIN) | 22 | 41 |
| M27        | 22 | 41 |
| M28 (#DIN) | 22 | 41 |
| M30 (#DIN) | 24 | 46 |
| M30        | 24 | 46 |
| M32 (#DIN) | 26 | 50 |
| M33 (#DIN) | 26 | 50 |
| M33        | 26 | 50 |
| M36 (#DIN) | 29 | 55 |
| M36        | 29 | 55 |
| M38 (#DIN) | 31 | 60 |
| M39 (#DIN) | 31 | 60 |
| M39        | 31 | 60 |
| M40 (#DIN) | 31 | 60 |
| M42 (#DIN) | 34 | 65 |

| d          | m  | s   |
|------------|----|-----|
| M42        | 34 | 65  |
| M45 (#DIN) | 36 | 70  |
| M45        | 36 | 70  |
| M48 (#DIN) | 38 | 75  |
| M48        | 38 | 75  |
| M52 (#DIN) | 42 | 80  |
| M52        | 42 | 80  |
| M56 (#DIN) | 45 | 85  |
| M56        | 45 | 85  |
| M60 (#DIN) | 48 | 90  |
| M60        | 48 | 90  |
| M64        | 51 | 95  |
| M68        | 54 | 100 |

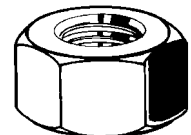
### Article groups

| Thread | Driving features | Material           | Class | Surface treatment | Packaging | Code     | Page       |
|--------|------------------|--------------------|-------|-------------------|-----------|----------|------------|
| MF     | hexagon          | St                 | 8     |                   | Standard  | 01120    | 3-16       |
| MF     | hexagon          | St                 | 8     |                   | left hand | Standard | 01130 3-17 |
| MF     | hexagon          | St                 | 8     | Zipl              | Standard  | 01330    | 3-17       |
| MF     | hexagon          | St                 | 8     | Zipl yell.p.      | Standard  | 01340    | 3-17       |
| MF     | hexagon          | St                 | 10    |                   | Standard  | 04180    | 3-17       |
| MF     | hexagon          | Free-cutting steel | 6     |                   | left hand | Standard | 11007 3-18 |
| MF     | hexagon          | St.St. A2          | 70    |                   | Standard  | 51160    | 3-18       |
| MF     | hexagon          | St.St. A4          | 70    |                   | Standard  | 55160    | 3-18       |

### 01120 Hexagon nut MF

A09A

**Thread** Metric fine thread  
**Material** Steel  
**Class** |8|  
**Packaging** Standard



| d x P           | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒ | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|---|-------------------------------|
| M4X0,75 (#DIN)  | 250 | <a href="#">01120.040.075</a> | M24X1,50 (#DIN) | 25 | <a href="#">01120.240.150</a> | M40X1,50 (#DIN) | 2 | <a href="#">01120.400.150</a> |
| M6X0,75 (#DIN)  | 250 | <a href="#">01120.060.075</a> | M24X2,00        | 25 | <a href="#">01120.240.200</a> | M40X2,00 (#DIN) | 2 | <a href="#">01120.400.200</a> |
| M8X1,00         | 250 | <a href="#">01120.080.100</a> | M26X1,50 (#DIN) | 10 | <a href="#">01120.260.150</a> | M42X1,50 (#DIN) | 5 | <a href="#">01120.420.150</a> |
| M10X1,00        | 250 | <a href="#">01120.100.100</a> | M27X1,50 (#DIN) | 25 | <a href="#">01120.270.150</a> | M42X3,00        | 5 | <a href="#">01120.420.300</a> |
| M10X1,25        | 250 | <a href="#">01120.100.125</a> | M27X2,00        | 25 | <a href="#">01120.270.200</a> | M45X1,50 (#DIN) | 4 | <a href="#">01120.450.150</a> |
| M12X1,00 (#DIN) | 100 | <a href="#">01120.120.100</a> | M28X2,00 (#DIN) | 10 | <a href="#">01120.280.200</a> | M45X3,00        | 4 | <a href="#">01120.450.300</a> |
| M12X1,25        | 100 | <a href="#">01120.120.125</a> | M30X1,00 (#DIN) | 10 | <a href="#">01120.300.100</a> | M48X1,50 (#DIN) | 4 | <a href="#">01120.480.150</a> |
| M12X1,50        | 100 | <a href="#">01120.120.150</a> | M30X1,50 (#DIN) | 25 | <a href="#">01120.300.150</a> | M48X2,00 (#DIN) | 2 | <a href="#">01120.480.200</a> |
| M14X1,50        | 100 | <a href="#">01120.140.150</a> | M30X2,00        | 25 | <a href="#">01120.300.200</a> | M48X3,00        | 4 | <a href="#">01120.480.300</a> |
| M16X1,00        | 50  | <a href="#">01120.160.100</a> | M32X2,00 (#DIN) | 5  | <a href="#">01120.320.200</a> | M52X1,50 (#DIN) | 1 | <a href="#">01120.520.150</a> |
| M16X1,50        | 100 | <a href="#">01120.160.150</a> | M33X1,00 (#DIN) | 10 | <a href="#">01120.330.150</a> | M52X3,00        | 1 | <a href="#">01120.520.300</a> |
| M18X1,00 (#DIN) | 25  | <a href="#">01120.180.100</a> | M33X2,00        | 10 | <a href="#">01120.330.200</a> | M56X2,00 (#DIN) | 1 | <a href="#">01120.560.200</a> |
| M18X1,50        | 50  | <a href="#">01120.180.150</a> | M36X1,50 (#DIN) | 10 | <a href="#">01120.360.150</a> | M56X4,00        | 1 | <a href="#">01120.560.400</a> |
| M18X2,00        | 50  | <a href="#">01120.180.200</a> | M36X2,00 (#DIN) | 10 | <a href="#">01120.360.200</a> | M60X2,00 (#DIN) | 1 | <a href="#">01120.600.200</a> |
| M20X1,50        | 50  | <a href="#">01120.200.150</a> | M36X3,00        | 10 | <a href="#">01120.360.300</a> | M60X4,00        | 1 | <a href="#">01120.600.400</a> |
| M20X2,00        | 50  | <a href="#">01120.200.200</a> | M38X1,50 (#DIN) | 2  | <a href="#">01120.380.150</a> | M64X4,00        | 1 | <a href="#">01120.640.400</a> |
| M22X1,00 (#DIN) | 10  | <a href="#">01120.220.100</a> | M39X1,50 (#DIN) | 5  | <a href="#">01120.390.150</a> |                 |   |                               |
| M22X1,50        | 25  | <a href="#">01120.220.150</a> | M39X3,00        | 5  | <a href="#">01120.390.300</a> |                 |   |                               |
| M22X2,00        | 25  | <a href="#">01120.220.200</a> |                 |    |                               |                 |   |                               |

| 01120 Hexagon nut MF |   |            |                               |   |            |       |   |            |
|----------------------|---|------------|-------------------------------|---|------------|-------|---|------------|
| d x P                | ☒ | Art.number | d x P                         | ☒ | Art.number | d x P | ☒ | Art.number |
| M68X4,00             |   | 1          | <a href="#">01120.680.400</a> |   |            |       |   |            |

| 01130 Hexagon nut left hand thread |                    |  |  |  |  |  | A09A |
|------------------------------------|--------------------|--|--|--|--|--|------|
| <b>Thread</b>                      | Metric fine thread |  |  |  |  |  |      |
| <b>Material</b>                    | Steel              |  |  |  |  |  |      |
| <b>Class</b>                       | 8                  |  |  |  |  |  |      |
| <b>Packaging</b>                   | Standard           |  |  |  |  |  |      |

| d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒ | Art.number                    |
|-----------------|----|-------------------------------|-----------------|----|-------------------------------|-----------------|---|-------------------------------|
| M12X1,25        | 50 | <a href="#">01130.120.125</a> | M24X2,00        | 10 | <a href="#">01130.240.200</a> | M36X1,50 (#DIN) | 2 | <a href="#">01130.360.150</a> |
| M12X1,50        | 50 | <a href="#">01130.120.150</a> |                 |    |                               | M36X2,00 (#DIN) | 2 | <a href="#">01130.360.200</a> |
| M14X1,50        | 50 | <a href="#">01130.140.150</a> | M27X1,50 (#DIN) | 10 | <a href="#">01130.270.150</a> | M42X1,50 (#DIN) | 1 | <a href="#">01130.420.150</a> |
| M16X1,50        | 25 | <a href="#">01130.160.150</a> | M27X2,00        | 10 | <a href="#">01130.270.200</a> | M45X3,00        | 1 | <a href="#">01130.450.300</a> |
| M18X1,50        | 10 | <a href="#">01130.180.150</a> | M30X1,50 (#DIN) | 10 | <a href="#">01130.300.150</a> | M48X1,50 (#DIN) | 1 | <a href="#">01130.480.150</a> |
| M20X2,00        | 10 | <a href="#">01130.200.200</a> | M30X2,00        | 10 | <a href="#">01130.300.200</a> | M48X3,00        | 1 | <a href="#">01130.480.300</a> |
| M22X2,00        | 10 | <a href="#">01130.220.200</a> |                 |    |                               |                 |   |                               |
| M24X1,50 (#DIN) | 10 | <a href="#">01130.240.150</a> | M33X2,00        | 5  | <a href="#">01130.330.200</a> |                 |   |                               |

| 01330 Hexagon nut MF     |                    |  |  |  |  |  | A09A |
|--------------------------|--------------------|--|--|--|--|--|------|
| <b>Thread</b>            | Metric fine thread |  |  |  |  |  |      |
| <b>Material</b>          | Steel              |  |  |  |  |  |      |
| <b>Class</b>             | 8                  |  |  |  |  |  |      |
| <b>Surface treatment</b> | Zinc plated        |  |  |  |  |  |      |
| <b>Packaging</b>         | Standard           |  |  |  |  |  |      |

| d x P    | ☒   | Art.number                    | d x P    | ☒   | Art.number                    | d x P    | ☒  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M10X1,00 | 250 | <a href="#">01330.100.100</a> | M12X1,50 | 100 | <a href="#">01330.120.150</a> | M18X1,50 | 50 | <a href="#">01330.180.150</a> |
| M10X1,25 | 250 | <a href="#">01330.100.125</a> |          |     |                               | M20X1,50 | 50 | <a href="#">01330.200.150</a> |
| M12X1,25 | 100 | <a href="#">01330.120.125</a> | M14X1,50 | 100 | <a href="#">01330.140.150</a> |          |    |                               |
|          |     |                               | M16X1,50 | 100 | <a href="#">01330.160.150</a> |          |    |                               |

| 01340 Hexagon nut MF     |                               |  |  |  |  |  | A09A |
|--------------------------|-------------------------------|--|--|--|--|--|------|
| <b>Thread</b>            | Metric fine thread            |  |  |  |  |  |      |
| <b>Material</b>          | Steel                         |  |  |  |  |  |      |
| <b>Class</b>             | 8                             |  |  |  |  |  |      |
| <b>Surface treatment</b> | Zinc plated yellow passivated |  |  |  |  |  |      |
| <b>Packaging</b>         | Standard                      |  |  |  |  |  |      |

| d x P           | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| M6X0,75 (#DIN)  | 250 | <a href="#">01340.060.075</a> | M18X2,00        | 50 | <a href="#">01340.180.200</a> | M27X2,00        | 25 | <a href="#">01340.270.200</a> |
| M8X1,00         | 250 | <a href="#">01340.080.100</a> |                 |    |                               | M30X1,50 (#DIN) | 25 | <a href="#">01340.300.150</a> |
| M10X1,00        | 250 | <a href="#">01340.100.100</a> | M20X1,50        | 50 | <a href="#">01340.200.150</a> | M30X2,00        | 25 | <a href="#">01340.300.200</a> |
| M10X1,25        | 250 | <a href="#">01340.100.125</a> | M20X2,00        | 50 | <a href="#">01340.200.200</a> |                 |    |                               |
| M12X1,00 (#DIN) | 100 | <a href="#">01340.120.100</a> | M22X1,50        | 25 | <a href="#">01340.220.150</a> | M33X1,50 (#DIN) | 10 | <a href="#">01340.330.150</a> |
| M12X1,25 (#DIN) | 100 | <a href="#">01340.120.125</a> | M22X2,00        | 25 | <a href="#">01340.220.200</a> | M33X2,00        | 10 | <a href="#">01340.330.200</a> |
| M12X1,50 (#DIN) | 100 | <a href="#">01340.120.150</a> |                 |    |                               |                 |    |                               |
| M14X1,50        | 100 | <a href="#">01340.140.150</a> | M24X1,50 (#DIN) | 25 | <a href="#">01340.240.150</a> | M36X1,50 (#DIN) | 10 | <a href="#">01340.360.150</a> |
| M16X1,50        | 100 | <a href="#">01340.160.150</a> | M24X2,00        | 25 | <a href="#">01340.240.200</a> | M36X3,00        | 10 | <a href="#">01340.360.300</a> |
| M18X1,50        | 50  | <a href="#">01340.180.150</a> | M27X1,50 (#DIN) | 25 | <a href="#">01340.270.150</a> |                 |    |                               |

| 04180 Hexagon nut MF |                    |  |  |  |  |  | C02A |
|----------------------|--------------------|--|--|--|--|--|------|
| <b>Thread</b>        | Metric fine thread |  |  |  |  |  |      |
| <b>Material</b>      | Steel              |  |  |  |  |  |      |
| <b>Class</b>         | 10                 |  |  |  |  |  |      |
| <b>Packaging</b>     | Standard           |  |  |  |  |  |      |

| d x P    | ☒   | Art.number                    | d x P    | ☒   | Art.number                    | d x P    | ☒  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M8X1,00  | 250 | <a href="#">04180.080.100</a> | M12X1,50 | 100 | <a href="#">04180.120.150</a> | M20X1,50 | 50 | <a href="#">04180.200.150</a> |
| M10X1,00 | 250 | <a href="#">04180.100.100</a> |          |     |                               | M22X1,50 | 50 | <a href="#">04180.220.150</a> |
| M10X1,25 | 250 | <a href="#">04180.100.125</a> | M14X1,50 | 100 | <a href="#">04180.140.150</a> | M24X2,00 | 50 | <a href="#">04180.240.200</a> |
|          |     |                               | M16X1,50 | 100 | <a href="#">04180.160.150</a> | M27X2,00 | 10 | <a href="#">04180.270.200</a> |
| M12X1,25 | 100 | <a href="#">04180.120.125</a> | M18X1,50 | 50  | <a href="#">04180.180.150</a> | M30X2,00 | 5  | <a href="#">04180.300.200</a> |

3

|   |                    |             |
|---|--------------------|-------------|
| <b>11007 Hexagon nut turned, left hand thread</b> |                    | <b>F01B</b> |
| <b>Thread</b>                                     | Metric fine thread |             |
| <b>Material</b>                                   | Free-cutting steel |             |
| <b>Class</b>                                      | [6]                |             |
| <b>Packaging</b>                                  | Standard           |             |

| d x P    | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒ | Art.number                    |
|----------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|---|-------------------------------|
| M10X1,00 | 250 | <a href="#">11007.100.100</a> | M20X2,00        | 50 | <a href="#">11007.200.200</a> | M33X2,00        | 5 | <a href="#">11007.330.200</a> |
| M12X1,25 | 100 | <a href="#">11007.120.125</a> | M24X1,50 (≠DIN) | 25 | <a href="#">11007.240.150</a> | M36X1,50 (≠DIN) | 5 | <a href="#">11007.360.150</a> |
| M12X1,50 | 100 | <a href="#">11007.120.150</a> | M24X2,00        | 25 | <a href="#">11007.240.200</a> | M45X3,00        | 4 | <a href="#">11007.450.300</a> |
| M14X1,50 | 100 | <a href="#">11007.140.150</a> | M27X2,00        | 25 | <a href="#">11007.270.200</a> | M48X1,50 (≠DIN) | 4 | <a href="#">11007.480.150</a> |
| M16X1,50 | 100 | <a href="#">11007.160.150</a> | M30X1,50 (≠DIN) | 25 | <a href="#">11007.300.150</a> |                 |   |                               |
| M18X1,50 | 50  | <a href="#">11007.180.150</a> | M30X2,00        | 25 | <a href="#">11007.300.200</a> |                 |   |                               |

|                             |                    |             |
|-----------------------------|--------------------|-------------|
| <b>51160 Hexagon nut MF</b> |                    | <b>R09A</b> |
| <b>Thread</b>               | Metric fine thread |             |
| <b>Material</b>             | Stainless steel A2 |             |
| <b>Class</b>                | 70                 |             |
| <b>Packaging</b>            | Standard           |             |

| d x P      | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P      | ☒  | Art.number                    |
|------------|-----|-------------------------------|-----------------|----|-------------------------------|------------|----|-------------------------------|
| M8X1,00    | 100 | <a href="#">51160.080.100</a> | M16X1,50        | 50 | <a href="#">51160.160.150</a> | M27X1,50 * | 25 | <a href="#">51160.270.150</a> |
| M10X1,00   | 100 | <a href="#">51160.100.100</a> | M18X1,50        | 25 | <a href="#">51160.180.150</a> | M27X2,00 * | 25 | <a href="#">51160.270.200</a> |
| M10X1,25   | 100 | <a href="#">51160.100.125</a> | M20X1,50        | 25 | <a href="#">51160.200.150</a> |            |    |                               |
| M12X1,00 * | 50  | <a href="#">51160.120.100</a> | M20X2,00 *      | 50 | <a href="#">51160.200.200</a> | M30X1,50 * | 10 | <a href="#">51160.300.150</a> |
| M12X1,25   | 100 | <a href="#">51160.120.125</a> | M22X1,50        | 10 | <a href="#">51160.220.150</a> | M30X2,00 * | 25 | <a href="#">51160.300.200</a> |
| M12X1,50   | 100 | <a href="#">51160.120.150</a> | M24X1,50 (≠DIN) | 10 | <a href="#">51160.240.150</a> | M36X1,50 * | 10 | <a href="#">51160.360.150</a> |
| M14X1,50   | 50  | <a href="#">51160.140.150</a> | M24X2,00        | 10 | <a href="#">51160.240.200</a> | M36X3,00 * | 10 | <a href="#">51160.360.300</a> |

• Sizes with a diameter > M24 are minimal property class 50.

|                             |                    |             |
|-----------------------------|--------------------|-------------|
| <b>55160 Hexagon nut MF</b> |                    | <b>R49A</b> |
| <b>Thread</b>               | Metric fine thread |             |
| <b>Material</b>             | Stainless steel A4 |             |
| <b>Class</b>                | 70                 |             |
| <b>Packaging</b>            | Standard           |             |

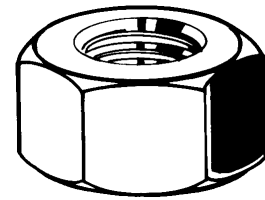
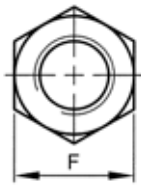
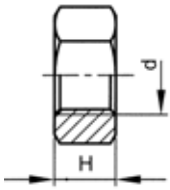
| d x P    | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    |
|----------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| M8X1,00  | 100 | <a href="#">55160.080.100</a> | M14X1,50        | 50 | <a href="#">55160.140.150</a> | M27X1,50 *      | 25 | <a href="#">55160.270.150</a> |
| M10X1,00 | 100 | <a href="#">55160.100.100</a> | M16X1,50        | 50 | <a href="#">55160.160.150</a> | M27X2,00 *      | 25 | <a href="#">55160.270.200</a> |
| M10X1,25 | 100 | <a href="#">55160.100.125</a> | M18X1,50        | 25 | <a href="#">55160.180.150</a> |                 |    |                               |
| M12X1,25 | 100 | <a href="#">55160.120.125</a> | M20X1,50        | 25 | <a href="#">55160.200.150</a> | M30X1,50 (≠DIN) | 25 | <a href="#">55160.300.150</a> |
| M12X1,50 | 100 | <a href="#">55160.120.150</a> | M22X1,50        | 10 | <a href="#">55160.220.150</a> |                 |    |                               |
|          |     |                               | M24X1,50 (≠DIN) | 10 | <a href="#">55160.240.150</a> |                 |    |                               |
|          |     |                               | M24X2,00        | 10 | <a href="#">55160.240.200</a> |                 |    |                               |

• Sizes with a diameter > M24 are minimal property class 50.



## Hexagon machine screw nut UNC

ANSI-B18.6.3



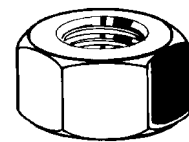
### Technical data

| d     | Threads per inch | H   | F     |
|-------|------------------|-----|-------|
| No.6  | 32               | 2,9 | 5/16  |
| No.8  | 32               | 3,3 | 11/32 |
| No.10 | 24               | 3,3 | 3/8   |
| No.12 | 24               | 4,1 | 7/16  |

### 11740 Hexagon machine screw nut UNC

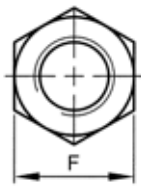
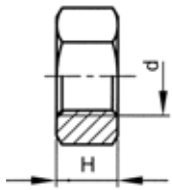
X09A

|                          |                         |
|--------------------------|-------------------------|
| <b>Thread</b>            | Unified National Coarse |
| <b>Material</b>          | Free-cutting steel      |
| <b>Class</b>             | 6                       |
| <b>Surface treatment</b> | Zinc plated             |
| <b>Packaging</b>         | Standard                |

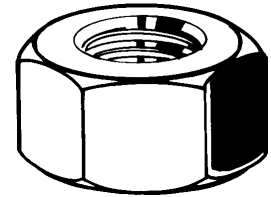


| d             | ☒   | Art.number                    | d              | ☒   | Art.number                    | d | ☒ | Art.number |
|---------------|-----|-------------------------------|----------------|-----|-------------------------------|---|---|------------|
| No.6 = 3,51MM | 250 | <a href="#">11740.035.001</a> | No.10 = 4,83MM | 250 | <a href="#">11740.048.001</a> |   |   |            |
| No.8 = 4,17MM | 250 | <a href="#">11740.041.001</a> | No.12 = 5,49MM | 250 | <a href="#">11740.054.001</a> |   |   |            |

## Hexagon nut UNC



ANSI ≈B18.2.2  
 BS ≈1768



### Technical data

| d     | Threads per inch | H    | F       |
|-------|------------------|------|---------|
| No.2  | 56               | 1,5  | 3/16    |
| No.4  | 40               | 2,3  | 1/4     |
| No.6  | 32               | 2,9  | 5/16    |
| No.8  | 32               | 3,3  | 11/32   |
| No.10 | 24               | 3,2  | 3/8     |
| 1/4   | 20               | 5,6  | 7/16    |
| 5/16  | 18               | 6,7  | 1/2     |
| 3/8   | 16               | 8,3  | 9/16    |
| 7/16  | 14               | 9,5  | 11/16   |
| 1/2   | 13               | 11,1 | 3/4     |
| 9/16  | 12               | 12,3 | 7/8     |
| 5/8   | 11               | 13,9 | 15/16   |
| 3/4   | 10               | 16,3 | 1.1/8   |
| 7/8   | 9                | 19   | 1.5/16  |
| 1.IN. | 8                | 21,8 | 1.1/2   |
| 1.1/8 | 7                | 24,6 | 1.11/16 |
| 1.1/4 | 7                | 27   | 1.7/8   |
| 1.3/8 | 6                | 29,8 | 2.1/16  |
| 1.1/2 | 6                | 32,5 | 2.1/4   |
| 1.3/4 | 5                | 38,1 | 2.5/8   |
| 2.IN. | 4,5              | 43,7 | 3.IN.   |
| 2.1/4 | 4,5              | 48,8 | 3.3/8   |
| 2.1/2 | 4                | 54,4 | 3.3/4   |
| 2.3/4 | 4                | 59,9 | 4.1/8   |
| 3.IN. | 4                | 65,5 | 4.1/2   |

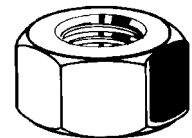
### Article groups

| Thread | Driving features | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|---------|-------------------|-----------|-------|------|
| UNC    | hexagon          | St        | Grade 5 |                   | Standard  | 02560 | 3-20 |
| UNC    | hexagon          | St        | Grade 5 | Zipl              | Standard  | 02600 | 3-21 |
| UNC    | hexagon          | St.St. A2 |         |                   | Standard  | 51086 | 3-21 |
| UNC    | hexagon          | St.St. A4 |         |                   | Standard  | 55086 | 3-21 |

#### 02560 Hexagon nut UNC

X01A

**Thread** Unified National Coarse  
**Material** Steel  
**Class** Grade 5  
**Packaging** Standard



| d    | ✉   | Art.number                    | d     | ✉  | Art.number                    | d     | ✉ | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-------|---|-------------------------------|
| 1/4  | 250 | <a href="#">02560.063.001</a> | 3/4   | 50 | <a href="#">02560.191.001</a> | 1.3/4 | 5 | <a href="#">02560.444.001</a> |
| 5/16 | 250 | <a href="#">02560.079.001</a> | 7/8   | 25 | <a href="#">02560.222.001</a> | 2.IN. | 1 | <a href="#">02560.508.001</a> |
| 3/8  | 250 | <a href="#">02560.096.001</a> | 1.IN. | 25 | <a href="#">02560.254.001</a> | 2.1/4 | 1 | <a href="#">02560.571.001</a> |
| 7/16 | 100 | <a href="#">02560.111.001</a> | 1.1/8 | 10 | <a href="#">02560.285.001</a> | 2.1/2 | 1 | <a href="#">02560.635.001</a> |
| 1/2  | 100 | <a href="#">02560.127.001</a> | 1.1/4 | 10 | <a href="#">02560.317.001</a> | 2.3/4 | 1 | <a href="#">02560.698.001</a> |
| 9/16 | 100 | <a href="#">02560.142.001</a> | 1.3/8 | 5  | <a href="#">02560.349.001</a> | 3.IN. | 1 | <a href="#">02560.762.001</a> |
| 5/8  | 100 | <a href="#">02560.158.001</a> | 1.1/2 | 5  | <a href="#">02560.381.001</a> |       |   |                               |

- Grade 5 acc. to the American standard SAE J995 corresponds much the same with property class 8 acc. to DIN ISO 898-2.
- Depending on availability also the equal class S acc. to BS 1768 (markingsign S) can be supplied.

| 02600 Hexagon nut UNC    |                         | X01A |
|--------------------------|-------------------------|------|
| <b>Thread</b>            | Unified National Coarse |      |
| <b>Material</b>          | Steel                   |      |
| <b>Class</b>             | Grade 5                 |      |
| <b>Surface treatment</b> | Zinc plated             |      |
| <b>Packaging</b>         | Standard                |      |

| d    | ☒   | Art.number                    | d     | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|-----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 250 | <a href="#">02600.063.001</a> | 9/16  | 100 | <a href="#">02600.142.001</a> | 1.1/8 | 10 | <a href="#">02600.285.001</a> |
| 5/16 | 250 | <a href="#">02600.079.001</a> | 5/8   | 100 | <a href="#">02600.158.001</a> | 1.1/4 | 10 | <a href="#">02600.317.001</a> |
| 3/8  | 250 | <a href="#">02600.096.001</a> | 3/4   | 50  | <a href="#">02600.191.001</a> | 1.1/2 | 5  | <a href="#">02600.381.001</a> |
| 7/16 | 100 | <a href="#">02600.111.001</a> | 7/8   | 25  | <a href="#">02600.222.001</a> |       |    |                               |
| 1/2  | 100 | <a href="#">02600.127.001</a> | 1.IN. | 25  | <a href="#">02600.254.001</a> |       |    |                               |

- Grade 5 acc. to the American standard SAE J995 corresponds much the same with property class 8 acc. to DIN ISO 898-2.
- Depending on availability also the equal class S acc. to BS 1768 (markingsign S) can be supplied.

3

| 51086 Hexagon nut UNC |                         | X15A |
|-----------------------|-------------------------|------|
| <b>Thread</b>         | Unified National Coarse |      |
| <b>Material</b>       | Stainless steel A2      |      |
| <b>Packaging</b>      | Standard                |      |
|                       |                         |      |

| d     | ☒   | Art.number                    | d    | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|-------|-----|-------------------------------|------|-----|-------------------------------|-------|----|-------------------------------|
| No.2  | 100 | <a href="#">51086.021.001</a> | 1/4  | 100 | <a href="#">51086.063.001</a> | 5/8   | 25 | <a href="#">51086.158.001</a> |
| No.4  | 100 | <a href="#">51086.028.001</a> | 5/16 | 100 | <a href="#">51086.079.001</a> | 3/4   | 10 | <a href="#">51086.191.001</a> |
| No.6  | 100 | <a href="#">51086.035.001</a> | 3/8  | 50  | <a href="#">51086.096.001</a> | 7/8   | 5  | <a href="#">51086.222.001</a> |
| No.8  | 100 | <a href="#">51086.041.001</a> | 7/16 | 50  | <a href="#">51086.111.001</a> | 1IN   | 5  | <a href="#">51086.254.001</a> |
| No.10 | 100 | <a href="#">51086.048.001</a> | 1/2  | 50  | <a href="#">51086.127.001</a> | 1.1/2 | 1  | <a href="#">51086.381.001</a> |

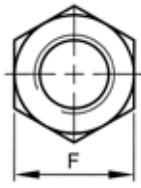
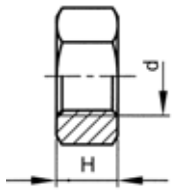
- Depending on availability the austenitic steel type is comparable to AISI 304 with mechanical properties acc. to ASTM F594.

| 55086 Hexagon nut UNC |                         | X15A |
|-----------------------|-------------------------|------|
| <b>Thread</b>         | Unified National Coarse |      |
| <b>Material</b>       | Stainless steel A4      |      |
| <b>Packaging</b>      | Standard                |      |
|                       |                         |      |

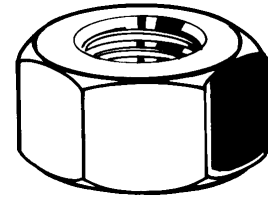
| d    | ☒   | Art.number                    | d   | ☒  | Art.number                    | d     | ☒ | Art.number                    |
|------|-----|-------------------------------|-----|----|-------------------------------|-------|---|-------------------------------|
| 1/4  | 100 | <a href="#">55086.063.001</a> | 5/8 | 25 | <a href="#">55086.158.001</a> | 1.1/4 | 1 | <a href="#">55086.317.001</a> |
| 5/16 | 100 | <a href="#">55086.079.001</a> | 3/4 | 10 | <a href="#">55086.191.001</a> | 1.1/2 | 1 | <a href="#">55086.381.001</a> |
| 3/8  | 50  | <a href="#">55086.096.001</a> | 7/8 | 5  | <a href="#">55086.222.001</a> |       |   |                               |
| 1/2  | 50  | <a href="#">55086.127.001</a> | 1IN | 5  | <a href="#">55086.254.001</a> |       |   |                               |

- Depending on availability the austenitic steel type is comparable to AISI 316 with mechanical properties acc. to ASTM F594.

## Hexagon nut UNF



ANSI ≈B18.2.2  
BS ≈1768



### Technical data

| d         | Threads per inch | H    | F       |
|-----------|------------------|------|---------|
| No.0      | 80               | 1,2  | 5/32    |
| No.10     | 32               | 3,1  | 3/8     |
| 1/4       | 28               | 5,6  | 7/16    |
| 5/16      | 24               | 6,7  | 1/2     |
| 3/8       | 24               | 8,3  | 9/16    |
| 7/16      | 20               | 9,5  | 11/16   |
| 1/2       | 20               | 11,1 | 3/4     |
| 9/16      | 18               | 12,3 | 7/8     |
| 5/8       | 18               | 13,9 | 15/16   |
| 3/4       | 16               | 16,3 | 1.1/8   |
| 7/8       | 14               | 19   | 1.5/16  |
| 1.IN.-12G | 12               | 21,8 | 1.1/2   |
| 1.IN.-14G | 14               | 21,8 | 1.1/2   |
| 1.1/8     | 12               | 24,6 | 1.11/16 |
| 1.1/4     | 12               | 27   | 1.7/8   |
| 1.3/8     | 12               | 29,8 | 2.1/16  |
| 1.1/2     | 12               | 32,5 | 2.1/4   |
| 2.IN.     | 12               | 44   | 3.IN.   |

- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

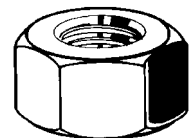
### Article groups

| Thread | Driving features | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|---------|-------------------|-----------|-------|------|
| UNF    | hexagon          | St        | Grade 5 |                   | Standard  | 02060 | 3-22 |
| UNF    | hexagon          | St        | Grade 5 | Zipl              | Standard  | 02100 | 3-22 |
| UNF    | hexagon          | St.St. A2 |         |                   | Standard  | 51087 | 3-23 |

#### 02060 Hexagon nut UNF

X01A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Steel                 |
| <b>Class</b>     | Grade 5               |
| <b>Packaging</b> | Standard              |



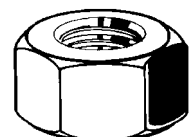
| d    | ☒   | Art.number                    | d     | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|-----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 250 | <a href="#">02060.063.001</a> | 9/16  | 100 | <a href="#">02060.142.001</a> | 1-14G | 25 | <a href="#">02060.256.001</a> |
| 5/16 | 250 | <a href="#">02060.079.001</a> | 5/8   | 100 | <a href="#">02060.158.001</a> | 1.1/8 | 10 | <a href="#">02060.285.001</a> |
| 3/8  | 250 | <a href="#">02060.096.001</a> | 3/4   | 50  | <a href="#">02060.191.001</a> | 1.1/4 | 10 | <a href="#">02060.317.001</a> |
| 7/16 | 100 | <a href="#">02060.111.001</a> | 7/8   | 25  | <a href="#">02060.222.001</a> | 1.3/8 | 5  | <a href="#">02060.349.001</a> |
| 1/2  | 100 | <a href="#">02060.127.001</a> | 1-12G | 25  | <a href="#">02060.255.001</a> | 1.1/2 | 5  | <a href="#">02060.381.001</a> |

- Grade 5 acc. to the American standard SAE J995 corresponds much the same with property class 8 acc. to DIN ISO 898-2.
- Depending on availability also the equal class S acc. to BS 1768 (markingsign S) can be supplied.

#### 02100 Hexagon nut UNF

X01A

|                          |                       |
|--------------------------|-----------------------|
| <b>Thread</b>            | Unified National Fine |
| <b>Material</b>          | Steel                 |
| <b>Class</b>             | Grade 5               |
| <b>Surface treatment</b> | Zinc plated           |
| <b>Packaging</b>         | Standard              |



| d    | ☒   | Art.number                    | d     | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|-----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 250 | <a href="#">02100.063.001</a> | 9/16  | 100 | <a href="#">02100.142.001</a> | 1.1/8 | 10 | <a href="#">02100.285.001</a> |
| 5/16 | 250 | <a href="#">02100.079.001</a> | 5/8   | 100 | <a href="#">02100.158.001</a> | 1.1/4 | 10 | <a href="#">02100.317.001</a> |
| 3/8  | 250 | <a href="#">02100.096.001</a> | 3/4   | 50  | <a href="#">02100.191.001</a> | 1.1/2 | 5  | <a href="#">02100.381.001</a> |
| 7/16 | 100 | <a href="#">02100.111.001</a> | 7/8   | 25  | <a href="#">02100.222.001</a> | 2.IN. | 1  | <a href="#">02100.508.001</a> |
| 1/2  | 100 | <a href="#">02100.127.001</a> | 1-14G | 25  | <a href="#">02100.256.001</a> |       |    |                               |

**02100 Hexagon nut UNF** ←

| d | ✉ | Art.number | d | ✉ | Art.number | d | ✉ | Art.number |
|---|---|------------|---|---|------------|---|---|------------|
|---|---|------------|---|---|------------|---|---|------------|

- Grade 5 acc. to the American standard SAE J995 corresponds much the same with property class 8 acc. to DIN ISO 898-2.
- Depending on availability also the equal class S acc. to BS 1768 (markingsign S) can be supplied.

**51087 Hexagon nut UNF** X15A

|                  |                       |  |
|------------------|-----------------------|--|
| <b>Thread</b>    | Unified National Fine |  |
| <b>Material</b>  | Stainless steel A2    |  |
| <b>Packaging</b> | Standard              |  |

| d | ✉ | Art.number | d | ✉ | Art.number | d | ✉ | Art.number |
|---|---|------------|---|---|------------|---|---|------------|
|---|---|------------|---|---|------------|---|---|------------|

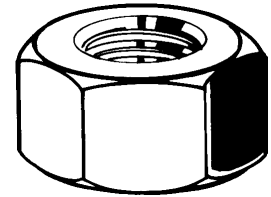
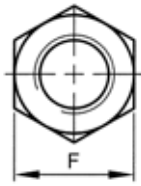
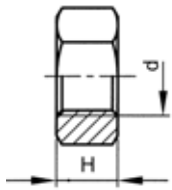
|       |     |                               |      |    |                               |       |   |                               |
|-------|-----|-------------------------------|------|----|-------------------------------|-------|---|-------------------------------|
| No.10 | 100 | <a href="#">51087.048.001</a> | 7/16 | 50 | <a href="#">51087.111.001</a> | 7/8   | 1 | <a href="#">51087.222.001</a> |
| 1/4   | 100 | <a href="#">51087.063.001</a> | 1/2  | 50 | <a href="#">51087.127.001</a> | 1-14G | 1 | <a href="#">51087.256.001</a> |
| 5/16  | 100 | <a href="#">51087.079.001</a> | 5/8  | 25 | <a href="#">51087.158.001</a> |       |   |                               |
| 3/8   | 50  | <a href="#">51087.096.001</a> | 3/4  | 10 | <a href="#">51087.191.001</a> |       |   |                               |

- Depending on availability the austenitic steel type is comparable to AISI 304 with mechanical properties acc. to ASTM F594.

3

## Hexagon machine screw nut UNF

ANSI B18.6.3



### Technical data

| d     | Threads per inch | H   | F     |
|-------|------------------|-----|-------|
| No.4  | 48               | 2,5 | 1/4   |
| No.5  | 44               | 2,9 | 5/16  |
| No.6  | 40               | 2,9 | 5/16  |
| No.8  | 36               | 3,3 | 11/32 |
| No.10 | 32               | 3,3 | 3/8   |

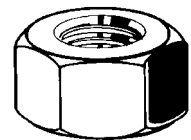
### Article groups

| Thread | Driving features | Material           | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|--------------------|-------|-------------------|-----------|-------|------|
| UNF    | hexagon          | Br Cu3             |       |                   | Standard  | 47170 | 3-24 |
| UNF    | hexagon          | Free-cutting steel | 6     | Zipl              | Standard  | 11750 | 3-24 |

#### 47170 Hexagon machine screw nut UNF

X09A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Brass Cu3             |
| <b>Packaging</b> | Standard              |

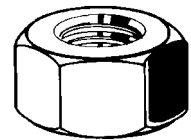


| d                 | Art.number                        | d              | Art.number                        | d              | Art.number                        |
|-------------------|-----------------------------------|----------------|-----------------------------------|----------------|-----------------------------------|
| No.6-40 = 3,52MM  | 250 <a href="#">47170.035.001</a> | No.8 = 4,17MM  | 250 <a href="#">11750.041.001</a> | No.10 = 4,83MM | 250 <a href="#">11750.048.001</a> |
| No.10-32 = 4,83MM | 100 <a href="#">47170.048.001</a> | No.10 = 4,83MM | 250 <a href="#">11750.048.001</a> |                |                                   |

#### 11750 Hexagon machine screw nut UNF

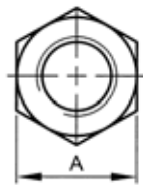
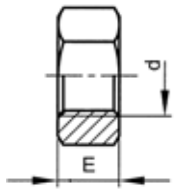
X09A

|                          |                       |
|--------------------------|-----------------------|
| <b>Thread</b>            | Unified National Fine |
| <b>Material</b>          | Free-cutting steel    |
| <b>Class</b>             | 6                     |
| <b>Surface treatment</b> | Zinc plated           |
| <b>Packaging</b>         | Standard              |
|                          | <b>ANSI ≈ B18.6.3</b> |

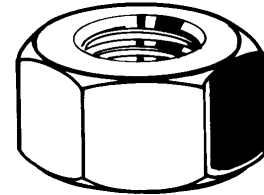


| d             | Art.number                        | d              | Art.number                        | d              | Art.number                        |
|---------------|-----------------------------------|----------------|-----------------------------------|----------------|-----------------------------------|
| No.4 = 2,85MM | 250 <a href="#">11750.028.001</a> | No.8 = 4,17MM  | 250 <a href="#">11750.041.001</a> | No.10 = 4,83MM | 250 <a href="#">11750.048.001</a> |
| No.5 = 3,18MM | 250 <a href="#">11750.031.001</a> | No.10 = 4,83MM | 250 <a href="#">11750.048.001</a> |                |                                   |

## Hexagon nut BSF



BS ≈1083 (1965)



### Technical data

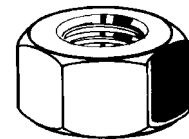
| d     | Threads per inch | E    | A     |
|-------|------------------|------|-------|
| 1/4   | 26               | 5,1  | 0.445 |
| 5/16  | 22               | 6,4  | 0.525 |
| 3/8   | 20               | 7,9  | 0.6   |
| 7/16  | 18               | 9,5  | 0.71  |
| 1/2   | 16               | 11,1 | 0.82  |
| 5/8   | 14               | 14,3 | 1.01  |
| 3/4   | 12               | 17,5 | 1.2   |
| 7/8   | 11               | 19   | 1.3   |
| 1.IN. | 10               | 22,2 | 1.48  |

- Whitworth thread (BSW/BSF) is not internationally recommended.
- It is advised to use metric (M/MF) or unified threads (UNC/UNF).

### 03060 Hexagon nut BSF

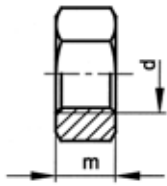
X90A

**Thread** British Standard Fine  
**Material** Steel  
**Class** ≥6  
**Packaging** Standard

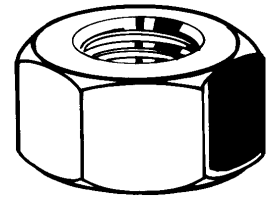


| d    | ☒   | Art.number                    | d    | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 100 | <a href="#">03060.063.001</a> | 7/16 | 100 | <a href="#">03060.111.001</a> | 3/4   | 50 | <a href="#">03060.191.001</a> |
| 5/16 | 100 | <a href="#">03060.079.001</a> | 1/2  | 100 | <a href="#">03060.127.001</a> | 7/8   | 25 | <a href="#">03060.222.001</a> |
| 3/8  | 100 | <a href="#">03060.096.001</a> | 5/8  | 50  | <a href="#">03060.158.001</a> | 1.IN. | 25 | <a href="#">03060.254.001</a> |

## Hexagon nut BSW



DIN ≈934 (1954)  
 NEN ≈2338 (1960)



### Technical data

| d           | Threads per inch | m   | s   |
|-------------|------------------|-----|-----|
| 1/8         | 40               | 2,4 | 5,5 |
| 5/32        | 32               | 3,2 | 7   |
| 3/16        | 24               | 4,8 | 10  |
| 1/4         | 20               | 5,5 | 11  |
| 5/16        | 18               | 6,5 | 14  |
| 5/16 (#DIN) | 18               | 6,5 | 13  |
| 3/8         | 16               | 8   | 17  |
| 7/16        | 14               | 9,5 | 19  |
| 1/2         | 12               | 11  | 22  |
| 9/16        | 12               | 11  | 22  |
| 5/8         | 11               | 13  | 27  |
| 3/4         | 10               | 16  | 32  |
| 7/8         | 9                | 18  | 36  |
| 1.IN.       | 8                | 20  | 41  |
| 1.1/8       | 7                | 22  | 46  |
| 1.1/4       | 7                | 25  | 50  |
| 1.3/8       | 6                | 28  | 55  |
| 1.1/2       | 6                | 30  | 60  |
| 1.5/8       | 5                | 32  | 65  |
| 1.3/4       | 5                | 35  | 70  |
| 2.IN.       | 4,5              | 40  | 80  |
| 2.1/4       | 4                | 45  | 85  |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Depending on availability the dimensions may deviate.

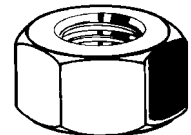
### Article groups

| Thread | Driving features | Material           | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|--------------------|-------|-------------------|-----------|-------|------|
| BSW    | hexagon          | St                 | 8     |                   | Standard  | 03460 | 3-26 |
| BSW    | hexagon          | St                 | 8     | Zipl              | Standard  | 03600 | 3-26 |
| BSW    | hexagon          | Free-cutting steel | 6     |                   | turned    | 11200 | 3-27 |
| BSW    | hexagon          | Br Cu3             |       |                   | Standard  | 47100 | 3-27 |

#### 03460 Hexagon nut BSW

X03A

|                  |                            |
|------------------|----------------------------|
| <b>Thread</b>    | British Standard Whitworth |
| <b>Material</b>  | Steel                      |
| <b>Class</b>     | 8                          |
| <b>Packaging</b> | Standard                   |

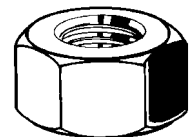


| d    | ☒   | Art.number                    | d    | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-------|----|-------------------------------|
| 3/16 | 250 | <a href="#">03460.047.001</a> | 7/16 | 100 | <a href="#">03460.111.001</a> | 7/8   | 25 | <a href="#">03460.222.001</a> |
| 1/4  | 250 | <a href="#">03460.063.001</a> | 1/2  | 100 | <a href="#">03460.127.001</a> | 1.IN. | 25 | <a href="#">03460.254.001</a> |
| 5/16 | 250 | <a href="#">03460.079.001</a> | 5/8  | 100 | <a href="#">03460.158.001</a> |       |    |                               |
| 3/8  | 250 | <a href="#">03460.096.001</a> | 3/4  | 50  | <a href="#">03460.191.001</a> |       |    |                               |

#### 03600 Hexagon nut BSW

X03A

|                          |                            |
|--------------------------|----------------------------|
| <b>Thread</b>            | British Standard Whitworth |
| <b>Material</b>          | Steel                      |
| <b>Class</b>             | 8                          |
| <b>Surface treatment</b> | Zinc plated                |
| <b>Packaging</b>         | Standard                   |



| d    | ☒   | Art.number                    | d    | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-----|-----|-------------------------------|
| 3/16 | 250 | <a href="#">03600.047.001</a> | 5/16 | 250 | <a href="#">03600.079.001</a> | 1/2 | 100 | <a href="#">03600.127.001</a> |
| 1/4  | 250 | <a href="#">03600.063.001</a> | 3/8  | 250 | <a href="#">03600.096.001</a> | 5/8 | 100 | <a href="#">03600.158.001</a> |



| 03600 Hexagon nut BSW |   |            |                               |     |            |    |                               |            |  |    |                               |
|-----------------------|---|------------|-------------------------------|-----|------------|----|-------------------------------|------------|--|----|-------------------------------|
| d                     | ☒ | Art.number | d                             | ☒   | Art.number | d  | ☒                             | Art.number |  |    |                               |
| 3/4                   |   | 50         | <a href="#">03600.191.001</a> | 7/8 |            | 25 | <a href="#">03600.222.001</a> | 1.IN.      |  | 25 | <a href="#">03600.254.001</a> |

| 11200 Hexagon machine screw nut |                            |  |  |  |  |  |  | X08A |
|---------------------------------|----------------------------|--|--|--|--|--|--|------|
| <b>Thread</b>                   | British Standard Whitworth |  |  |  |  |  |  |      |
| <b>Material</b>                 | Free-cutting steel         |  |  |  |  |  |  |      |
| <b>Class</b>                    | 6                          |  |  |  |  |  |  |      |
| <b>Packaging</b>                | Standard                   |  |  |  |  |  |  |      |

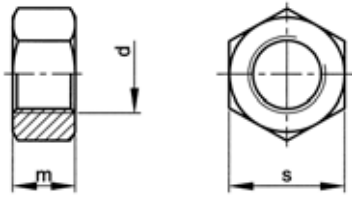
| d           | ☒ | Art.number | d                             | ☒     | Art.number | d   | ☒                             | Art.number |  |    |                               |
|-------------|---|------------|-------------------------------|-------|------------|-----|-------------------------------|------------|--|----|-------------------------------|
| 1/8         |   | 250        | <a href="#">11200.031.001</a> | 1/2   |            | 100 | <a href="#">11200.127.001</a> | 1.1/4      |  | 10 | <a href="#">11200.317.001</a> |
| 5/32        |   | 250        | <a href="#">11200.039.001</a> | 9/16  |            | 100 | <a href="#">11200.142.001</a> | 1.3/8      |  | 10 | <a href="#">11200.349.001</a> |
| 3/16        |   | 250        | <a href="#">11200.047.001</a> | 5/8   |            | 50  | <a href="#">11200.158.001</a> | 1.1/2      |  | 5  | <a href="#">11200.381.001</a> |
| 1/4         |   | 250        | <a href="#">11200.063.001</a> | 3/4   |            | 25  | <a href="#">11200.191.001</a> | 1.5/8      |  | 5  | <a href="#">11200.412.001</a> |
| 5/16 (≠DIN) |   | 250        | <a href="#">11200.079.001</a> | 7/8   |            | 25  | <a href="#">11200.222.001</a> | 1.3/4      |  | 4  | <a href="#">11200.444.001</a> |
| 3/8         |   | 100        | <a href="#">11200.096.001</a> | 1.IN. |            | 25  | <a href="#">11200.254.001</a> | 2.IN.      |  | 1  | <a href="#">11200.508.001</a> |
| 7/16        |   | 100        | <a href="#">11200.111.001</a> | 1.1/8 |            | 25  | <a href="#">11200.285.001</a> | 2.1/4      |  | 1  | <a href="#">11200.571.001</a> |

| 47100 Hexagon nut BSW |                            |  |  |  |  |  |  | X08A |
|-----------------------|----------------------------|--|--|--|--|--|--|------|
| <b>Thread</b>         | British Standard Whitworth |  |  |  |  |  |  |      |
| <b>Material</b>       | Brass Cu3                  |  |  |  |  |  |  |      |
| <b>Packaging</b>      | Standard                   |  |  |  |  |  |  |      |

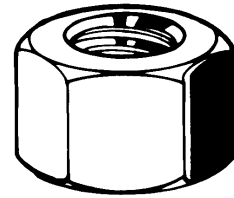
| d    | ☒ | Art.number | d                             | ☒    | Art.number | d   | ☒                             | Art.number |  |    |                               |
|------|---|------------|-------------------------------|------|------------|-----|-------------------------------|------------|--|----|-------------------------------|
| 1/8  |   | 250        | <a href="#">47100.031.001</a> | 5/16 |            | 250 | <a href="#">47100.079.001</a> | 3/4        |  | 10 | <a href="#">47100.191.001</a> |
| 5/32 |   | 250        | <a href="#">47100.039.001</a> | 3/8  |            | 100 | <a href="#">47100.096.001</a> | 7/8        |  | 10 | <a href="#">47100.222.001</a> |
| 3/16 |   | 250        | <a href="#">47100.047.001</a> | 1/2  |            | 50  | <a href="#">47100.127.001</a> | 1IN        |  | 5  | <a href="#">47100.254.001</a> |
| 1/4  |   | 250        | <a href="#">47100.063.001</a> | 5/8  |            | 25  | <a href="#">47100.158.001</a> |            |  |    |                               |

3

## Hexagon machine screw nut BSW 1 x d



DIN ≈934 (1954)  
 NEN ≈2338 (1960)



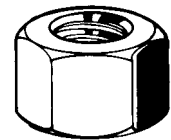
### Technical data

| d     | Threads per inch | m    | s  |
|-------|------------------|------|----|
| 1/4   | 20               | 6,4  | 11 |
| 5/16  | 18               | 7,9  | 13 |
| 3/8   | 16               | 9,5  | 17 |
| 1/2   | 12               | 12,7 | 22 |
| 5/8   | 11               | 15,9 | 27 |
| 3/4   | 10               | 19,1 | 32 |
| 7/8   | 9                | 22,2 | 36 |
| 1.IN. | 8                | 25,4 | 41 |
| 1.1/4 | 7                | 31,8 | 50 |
| 1.1/2 | 6                | 38,1 | 60 |
| 1.5/8 | 5                | 41,3 | 65 |
| 2.1/2 | 4                | 63,5 | 95 |

### 11280 Hexagon machine screw nut BSW 1 x d

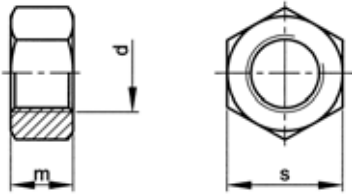
X08A

**Thread** British Standard Whitworth  
**Material** Free-cutting steel  
**Class** 6  
**Packaging** Standard

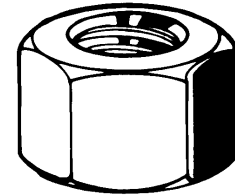


| d    | ☒   | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| 5/16 | 100 | <a href="#">11280.079.001</a> | 5/8   | 50 | <a href="#">11280.158.001</a> | 1.1/4 | 10 | <a href="#">11280.317.001</a> |
| 3/8  | 100 | <a href="#">11280.096.001</a> | 3/4   | 25 | <a href="#">11280.191.001</a> | 1.1/2 | 5  | <a href="#">11280.381.001</a> |
| 1/2  | 50  | <a href="#">11280.127.001</a> | 1.IN. | 10 | <a href="#">11280.254.001</a> | 1.5/8 | 5  | <a href="#">11280.412.001</a> |

## Hexagon nut 1 x d



DIN ≈934 (1987)  
NEN ≈1560  
NF ≈E25-401



### Technical data

| d   | P    | m  | s  |
|-----|------|----|----|
| M4  | 0,7  | 4  | 7  |
| M5  | 0,8  | 5  | 8  |
| M6  | 1    | 6  | 10 |
| M8  | 1,25 | 8  | 13 |
| M10 | 1,5  | 10 | 17 |
| M12 | 1,75 | 12 | 19 |
| M14 | 2    | 14 | 22 |
| M16 | 2    | 16 | 24 |
| M18 | 2,5  | 18 | 27 |

| d   | P   | m  | s  |
|-----|-----|----|----|
| M20 | 2,5 | 20 | 30 |
| M22 | 2,5 | 22 | 32 |
| M24 | 3   | 24 | 36 |
| M27 | 3   | 27 | 41 |
| M30 | 3,5 | 30 | 46 |
| M33 | 3,5 | 33 | 50 |
| M36 | 4   | 36 | 55 |
| M39 | 4   | 39 | 60 |
| M42 | 4,5 | 42 | 65 |

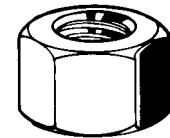
| d     | P   | m  | s   |
|-------|-----|----|-----|
| M45   | 4,5 | 45 | 70  |
| M48   | 5   | 48 | 75  |
| M52   | 5   | 52 | 80  |
| M56   | 5,5 | 56 | 85  |
| M60   | 5,5 | 60 | 90  |
| M64   | 6   | 64 | 95  |
| M68   | 6   | 68 | 100 |
| M72x6 | 6   | 72 | 105 |
| M76x6 | 6   | 76 | 110 |

3

### 11080 Hexagon nut 1 x d

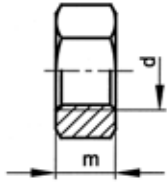
F01A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥|6|  
**Packaging** Standard

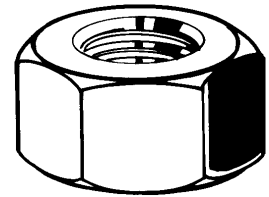


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d        | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|----------|---|-------------------------------|
| M4  | 250 | <a href="#">11080.040.001</a> | M20 | 25 | <a href="#">11080.200.001</a> | M45      | 4 | <a href="#">11080.450.001</a> |
| M5  | 250 | <a href="#">11080.050.001</a> | M22 | 25 | <a href="#">11080.220.001</a> | M48      | 4 | <a href="#">11080.480.001</a> |
| M6  | 250 | <a href="#">11080.060.001</a> | M24 | 25 | <a href="#">11080.240.001</a> | M52      | 1 | <a href="#">11080.520.001</a> |
| M8  | 100 | <a href="#">11080.080.001</a> | M27 | 10 | <a href="#">11080.270.001</a> | M56      | 1 | <a href="#">11080.560.001</a> |
| M10 | 100 | <a href="#">11080.100.001</a> | M30 | 10 | <a href="#">11080.300.001</a> | M60      | 1 | <a href="#">11080.600.001</a> |
| M12 | 100 | <a href="#">11080.120.001</a> | M33 | 10 | <a href="#">11080.330.001</a> | M64      | 1 | <a href="#">11080.640.001</a> |
| M14 | 100 | <a href="#">11080.140.001</a> | M36 | 5  | <a href="#">11080.360.001</a> | M72X6,00 | 1 | <a href="#">11080.720.001</a> |
| M16 | 50  | <a href="#">11080.160.001</a> | M39 | 5  | <a href="#">11080.390.001</a> |          |   |                               |
| M18 | 25  | <a href="#">11080.180.001</a> | M42 | 5  | <a href="#">11080.420.001</a> |          |   |                               |

## Hexagon nut DIN 555



DIN 555 (1987)  
 NEN 697  
 NF E25-402



### Technical data

| d          | P    | m  | s  |
|------------|------|----|----|
| M10        | 1,5  | 8  | 17 |
| M12        | 1,75 | 10 | 19 |
| M16        | 2    | 13 | 24 |
| M18 (#DIN) | 2,5  | 15 | 27 |
| M20        | 2,5  | 16 | 30 |
| M22        | 2,5  | 18 | 32 |
| M24        | 3    | 19 | 36 |

| d   | P   | m  | s  |
|-----|-----|----|----|
| M27 | 3   | 22 | 41 |
| M30 | 3,5 | 24 | 46 |
| M33 | 3,5 | 26 | 50 |
| M36 | 4   | 29 | 55 |
| M39 | 4   | 31 | 60 |
| M42 | 4,5 | 34 | 65 |
| M45 | 4,5 | 36 | 70 |

| d   | P   | m  | s  |
|-----|-----|----|----|
| M48 | 5   | 38 | 75 |
| M52 | 5   | 42 | 80 |
| M56 | 5,5 | 45 | 85 |
| M64 | 6   | 51 | 95 |

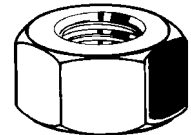
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | ≥ 4   |                   | Standard  | 08100 | 3-30 |
| M      | hexagon          | St       | ≥ 4   | Zipl              | Standard  | 08110 | 3-30 |

#### 08100 Hexagon nut DIN 555

E01A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | ≥ 4           |
| <b>Packaging</b> | Standard      |

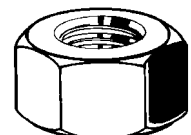


| d          | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|------------|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M10        | 500 | <a href="#">08100.100.001</a> | M24 | 50 | <a href="#">08100.240.001</a> | M42 | 5 | <a href="#">08100.420.001</a> |
| M12        | 500 | <a href="#">08100.120.001</a> | M27 | 25 | <a href="#">08100.270.001</a> | M45 | 4 | <a href="#">08100.450.001</a> |
| M16        | 200 | <a href="#">08100.160.001</a> | M30 | 25 | <a href="#">08100.300.001</a> | M48 | 4 | <a href="#">08100.480.001</a> |
| M18 (#DIN) | 100 | <a href="#">08100.180.001</a> | M33 | 10 | <a href="#">08100.330.001</a> | M52 | 4 | <a href="#">08100.520.001</a> |
| M20        | 100 | <a href="#">08100.200.001</a> | M36 | 10 | <a href="#">08100.360.001</a> | M56 | 1 | <a href="#">08100.560.001</a> |
| M22        | 50  | <a href="#">08100.220.001</a> | M39 | 5  | <a href="#">08100.390.001</a> | M64 | 1 | <a href="#">08100.640.001</a> |

#### 08110 Hexagon nut DIN 555

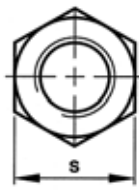
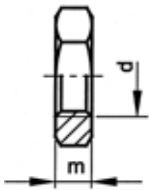
E03A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | ≥ 4           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

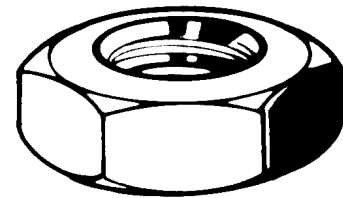


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M12 | 500 | <a href="#">08110.120.001</a> | M27 | 25 | <a href="#">08110.270.001</a> | M42 | 5 | <a href="#">08110.420.001</a> |
| M16 | 200 | <a href="#">08110.160.001</a> | M30 | 25 | <a href="#">08110.300.001</a> | M45 | 4 | <a href="#">08110.450.001</a> |
| M20 | 100 | <a href="#">08110.200.001</a> | M33 | 10 | <a href="#">08110.330.001</a> | M48 | 4 | <a href="#">08110.480.001</a> |
| M24 | 50  | <a href="#">08110.240.001</a> | M36 | 10 | <a href="#">08110.360.001</a> |     |   |                               |

## Hexagon thin nut



DIN 439 B (1987)  
 NEN 2334 B  
 ANSI B18.2.4.5M  
 NF E25-405-1



### Technical data

| d          | P    | m   | s   |
|------------|------|-----|-----|
| M1,6       | 0,35 | 1   | 3,2 |
| M2         | 0,4  | 1,2 | 4   |
| M2,5       | 0,45 | 1,6 | 5   |
| M3         | 0,5  | 1,8 | 5,5 |
| M3,5       | 0,6  | 2   | 6   |
| M4         | 0,7  | 2,2 | 7   |
| M5         | 0,8  | 2,7 | 8   |
| M6         | 1    | 3,2 | 10  |
| M8         | 1,25 | 4   | 13  |
| M10 (#DIN) | 1,5  | 5   | 16  |
| M10        | 1,5  | 5   | 17  |

| d          | P    | m    | s  |
|------------|------|------|----|
| M12 (#DIN) | 1,75 | 6    | 18 |
| M12        | 1,75 | 6    | 19 |
| M14        | 2    | 7    | 22 |
| M16        | 2    | 8    | 24 |
| M18        | 2,5  | 9    | 27 |
| M20        | 2,5  | 10   | 30 |
| M22        | 2,5  | 11   | 32 |
| M24        | 3    | 12   | 36 |
| M27        | 3    | 13,5 | 41 |
| M30        | 3,5  | 15   | 46 |
| M33        | 3,5  | 16,5 | 50 |

| d          | P   | m    | s  |
|------------|-----|------|----|
| M36        | 4   | 18   | 55 |
| M39        | 4   | 19,5 | 60 |
| M42        | 4,5 | 21   | 65 |
| M45        | 4,5 | 22,5 | 70 |
| M48        | 5   | 24   | 75 |
| M52        | 5   | 26   | 80 |
| M56 (#DIN) | 5,5 | 28   | 85 |
| M60 (#DIN) | 5,5 | 30   | 90 |

3

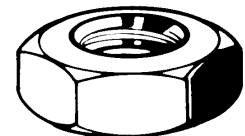
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging  | Code  | Page |
|--------|------------------|-----------|-------|-------------------|------------|-------|------|
| M      | hexagon          | St        | 04    |                   | Standard   | 11060 | 3-31 |
| M      | hexagon          | St        | 04    | Zipl              | Standard   | 11360 | 3-31 |
| M      | hexagon          | St        | 04    | Zipl              | left hand  | 11382 | 3-32 |
| M      | hexagon          | St        | 04    | Zipl yell.p.      | Standard   | 11350 | 3-32 |
| M      | hexagon          | St        | 04    | Hot d.g.          | oversized  | 01580 | 3-32 |
| M      | hexagon          | St        | 04    | Hot d.g.          | iso metric | 01586 | 3-32 |
| M      | hexagon          | St.St. A2 | 70    |                   | Standard   | 51090 | 3-33 |
| M      | hexagon          | St.St. A2 | 70    |                   | left hand  | 51093 | 3-33 |
| M      | hexagon          | St.St. A4 | 70    |                   | Standard   | 55090 | 3-33 |
| M      | hexagon          | Br Cu2    |       |                   | Standard   | 47030 | 3-33 |

#### 11060 Hexagon thin nut

F01A

Thread Metric thread  
 Material Steel  
 Class 04  
 Packaging Standard

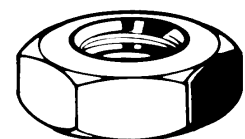


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M3  | 250 | <a href="#">11060.030.001</a> | M16 | 50 | <a href="#">11060.160.001</a> | M36 | 5 | <a href="#">11060.360.001</a> |
| M4  | 250 | <a href="#">11060.040.001</a> | M18 | 25 | <a href="#">11060.180.001</a> | M39 | 5 | <a href="#">11060.390.001</a> |
| M5  | 250 | <a href="#">11060.050.001</a> | M20 | 25 | <a href="#">11060.200.001</a> | M42 | 5 | <a href="#">11060.420.001</a> |
| M6  | 250 | <a href="#">11060.060.001</a> | M22 | 25 | <a href="#">11060.220.001</a> | M45 | 4 | <a href="#">11060.450.001</a> |
| M8  | 100 | <a href="#">11060.080.001</a> | M24 | 25 | <a href="#">11060.240.001</a> | M48 | 4 | <a href="#">11060.480.001</a> |
| M10 | 100 | <a href="#">11060.100.001</a> | M27 | 10 | <a href="#">11060.270.001</a> | M52 | 1 | <a href="#">11060.520.001</a> |
| M12 | 100 | <a href="#">11060.120.001</a> | M30 | 10 | <a href="#">11060.300.001</a> | M56 | 1 | <a href="#">11060.560.001</a> |
| M14 | 100 | <a href="#">11060.140.001</a> | M33 | 10 | <a href="#">11060.330.001</a> | M60 | 1 | <a href="#">11060.600.001</a> |

#### 11360 Hexagon thin nut

F01A

Thread Metric thread  
 Material Steel  
 Class 04  
 Surface treatment Zinc plated  
 Packaging Standard



| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M2   | 250 | <a href="#">11360.020.001</a> | M10 | 100 | <a href="#">11360.100.001</a> | M24 | 25 | <a href="#">11360.240.001</a> |
| M2,5 | 250 | <a href="#">11360.025.001</a> | M12 | 100 | <a href="#">11360.120.001</a> | M27 | 10 | <a href="#">11360.270.001</a> |
| M3   | 250 | <a href="#">11360.030.001</a> | M14 | 100 | <a href="#">11360.140.001</a> | M30 | 10 | <a href="#">11360.300.001</a> |
| M4   | 250 | <a href="#">11360.040.001</a> | M16 | 50  | <a href="#">11360.160.001</a> | M33 | 10 | <a href="#">11360.330.001</a> |
| M5   | 250 | <a href="#">11360.050.001</a> | M18 | 25  | <a href="#">11360.180.001</a> | M36 | 5  | <a href="#">11360.360.001</a> |
| M6   | 250 | <a href="#">11360.060.001</a> | M20 | 25  | <a href="#">11360.200.001</a> | M39 | 5  | <a href="#">11360.390.001</a> |
| M8   | 100 | <a href="#">11360.080.001</a> | M22 | 25  | <a href="#">11360.220.001</a> | M42 | 5  | <a href="#">11360.420.001</a> |

**11360 Hexagon thin nut**

| d   | Art.number                      | d | Art.number | d | Art.number |
|-----|---------------------------------|---|------------|---|------------|
| M45 | 4 <a href="#">11360.450.001</a> |   |            |   |            |
| M48 | 4 <a href="#">11360.480.001</a> |   |            |   |            |

**11382 Hexagon thin nut left hand thread** F01A

|                          |               |   |
|--------------------------|---------------|---|
| <b>Thread</b>            | Metric thread |  |
| <b>Material</b>          | Steel         |   |
| <b>Class</b>             | 04            |   |
| <b>Surface treatment</b> | Zinc plated   |   |
| <b>Packaging</b>         | Standard      |   |

| d   | Art.number                        | d   | Art.number                        | d   | Art.number                       |
|-----|-----------------------------------|-----|-----------------------------------|-----|----------------------------------|
| M5  | 250 <a href="#">11382.050.001</a> | M12 | 100 <a href="#">11382.120.001</a> | M27 | 10 <a href="#">11382.270.001</a> |
| M6  | 250 <a href="#">11382.060.001</a> | M16 | 50 <a href="#">11382.160.001</a>  | M30 | 10 <a href="#">11382.300.001</a> |
| M8  | 100 <a href="#">11382.080.001</a> | M20 | 25 <a href="#">11382.200.001</a>  |     |                                  |
| M10 | 100 <a href="#">11382.100.001</a> | M24 | 25 <a href="#">11382.240.001</a>  |     |                                  |

**11350 Hexagon thin nut** F01A

|                          |                               |   |
|--------------------------|-------------------------------|---|
| <b>Thread</b>            | Metric thread                 |  |
| <b>Material</b>          | Steel                         |   |
| <b>Class</b>             | 04                            |   |
| <b>Surface treatment</b> | Zinc plated yellow passivated |   |
| <b>Packaging</b>         | Standard                      |   |

| d  | Art.number                        | d   | Art.number                        | d   | Art.number                       |
|----|-----------------------------------|-----|-----------------------------------|-----|----------------------------------|
| M3 | 250 <a href="#">11350.030.001</a> | M10 | 100 <a href="#">11350.100.001</a> | M20 | 25 <a href="#">11350.200.001</a> |
| M4 | 250 <a href="#">11350.040.001</a> | M12 | 100 <a href="#">11350.120.001</a> | M22 | 25 <a href="#">11350.220.001</a> |
| M5 | 250 <a href="#">11350.050.001</a> | M14 | 100 <a href="#">11350.140.001</a> | M24 | 25 <a href="#">11350.240.001</a> |
| M6 | 250 <a href="#">11350.060.001</a> | M16 | 50 <a href="#">11350.160.001</a>  | M27 | 10 <a href="#">11350.270.001</a> |
| M8 | 100 <a href="#">11350.080.001</a> | M18 | 25 <a href="#">11350.180.001</a>  | M30 | 10 <a href="#">11350.300.001</a> |

**01580 Hexagon thin nut oversized thread** F01A

|                          |                    |   |
|--------------------------|--------------------|---|
| <b>Thread</b>            | Metric thread      |  |
| <b>Material</b>          | Steel              |   |
| <b>Class</b>             | 04                 |   |
| <b>Surface treatment</b> | Hot dip galvanized |   |
| <b>Packaging</b>         | Standard           |   |

| d   | Art.number                        | d   | Art.number                        | d   | Art.number                       |
|-----|-----------------------------------|-----|-----------------------------------|-----|----------------------------------|
| M12 | 100 <a href="#">01580.120.001</a> | M16 | 100 <a href="#">01580.160.001</a> | M22 | 25 <a href="#">01580.220.001</a> |
| M14 | 100 <a href="#">01580.140.001</a> | M20 | 50 <a href="#">01580.200.001</a>  | M24 | 25 <a href="#">01580.240.001</a> |

- These hexagon nuts are used among other to hot dip galvanized bolts and screws with OVERSIZED thread and to hot dip galvanized threaded rods with OVERSIZED thread.
- The nuts are tapped AFTER galvanizing and DO NOT meet the ISO-metric tolerances.
- The corrosion resistance is not influenced disadvantageously, with assembled nuts, by the uncoated thread.

**01586 Hexagon thin nut iso-metric fitting thread** F01A

|                          |                    |   |
|--------------------------|--------------------|---|
| <b>Thread</b>            | Metric thread      |  |
| <b>Material</b>          | Steel              |   |
| <b>Class</b>             | 04                 |   |
| <b>Surface treatment</b> | Hot dip galvanized |   |
| <b>Packaging</b>         | Standard           |   |

| d   | Art.number                        | d   | Art.number                       | d   | Art.number                       |
|-----|-----------------------------------|-----|----------------------------------|-----|----------------------------------|
| M12 | 100 <a href="#">01586.120.001</a> | M16 | 50 <a href="#">01586.160.001</a> | M24 | 25 <a href="#">01586.240.001</a> |
| M14 | 100 <a href="#">01586.140.001</a> | M20 | 25 <a href="#">01586.200.001</a> |     |                                  |

- These hexagon nuts are used among other to hot dip galvanized bolts and screws with ISO-METRIC FITTING thread and to hot dip galvanized threaded rods with ISO-METRIC FITTING thread.
- The nuts are tapped AFTER galvanizing and meet the tolerances 6H.
- The corrosion resistance is not influenced disadvantageously, with assembled nuts, by the uncoated thread.

**3**

| 51090 Hexagon thin nut |                    | R09A |
|------------------------|--------------------|------|
| <b>Thread</b>          | Metric thread      |      |
| <b>Material</b>        | Stainless steel A2 |      |
| <b>Class</b>           | 70                 |      |
| <b>Packaging</b>       | Standard           |      |

| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d     | ☒   | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-------|-----|-------------------------------|
| M1,6 | 250 | <a href="#">51090.016.001</a> | M10 | 100 | <a href="#">51090.100.001</a> | M27   | 5   | <a href="#">51090.270.001</a> |
| M2   | 250 | <a href="#">51090.020.001</a> | M12 | 50  | <a href="#">51090.120.001</a> | M30   | 3   | <a href="#">51090.300.001</a> |
| M2,5 | 250 | <a href="#">51090.025.001</a> | M14 | 50  | <a href="#">51090.140.001</a> | M33 * | 10  | <a href="#">51090.330.001</a> |
| M3   | 250 | <a href="#">51090.030.001</a> | M16 | 50  | <a href="#">51090.160.001</a> | M36   | 100 | <a href="#">51090.360.001</a> |
| M4   | 250 | <a href="#">51090.040.001</a> | M18 | 25  | <a href="#">51090.180.001</a> | M39 * | 10  | <a href="#">51090.390.001</a> |
| M5   | 250 | <a href="#">51090.050.001</a> | M20 | 25  | <a href="#">51090.200.001</a> | M42 * | 10  | <a href="#">51090.420.001</a> |
| M6   | 250 | <a href="#">51090.060.001</a> | M22 | 10  | <a href="#">51090.220.001</a> | M48 * | 10  | <a href="#">51090.480.001</a> |
| M8   | 100 | <a href="#">51090.080.001</a> | M24 | 10  | <a href="#">51090.240.001</a> |       |     |                               |

• Sizes with a diameter > M24 are minimal property class 50.

| 51093 Hexagon thin nut left hand thread |                    | R09A |
|---|--------------------|------|
| <b>Thread</b>                           | Metric thread      |      |
| <b>Material</b>                         | Stainless steel A2 |      |
| <b>Class</b>                            | 70                 |      |
| <b>Packaging</b>                        | Standard           |      |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5 | 200 | <a href="#">51093.050.001</a> | M10 | 100 | <a href="#">51093.100.001</a> | M20 | 25 | <a href="#">51093.200.001</a> |
| M6 | 200 | <a href="#">51093.060.001</a> | M12 | 50  | <a href="#">51093.120.001</a> | M24 | 25 | <a href="#">51093.240.001</a> |
| M8 | 100 | <a href="#">51093.080.001</a> | M16 | 50  | <a href="#">51093.160.001</a> |     |    |                               |

• Sizes with a diameter > M24 are minimal property class 50.

| 55090 Hexagon thin nut |                    | R49A |
|------------------------|--------------------|------|
| <b>Thread</b>          | Metric thread      |      |
| <b>Material</b>        | Stainless steel A4 |      |
| <b>Class</b>           | 70                 |      |
| <b>Packaging</b>       | Standard           |      |

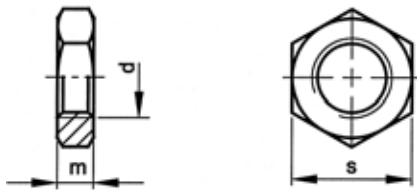
| d    | ☒   | Art.number                    | d   | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|----|-------------------------------|-------|----|-------------------------------|
| M2   | 250 | <a href="#">55090.020.001</a> | M12 | 50 | <a href="#">55090.120.001</a> | M30   | 3  | <a href="#">55090.300.001</a> |
| M2,5 | 250 | <a href="#">55090.025.001</a> | M14 | 50 | <a href="#">55090.140.001</a> | M33 * | 10 | <a href="#">55090.330.001</a> |
| M3   | 250 | <a href="#">55090.030.001</a> | M16 | 50 | <a href="#">55090.160.001</a> | M36 * | 10 | <a href="#">55090.360.001</a> |
| M4   | 250 | <a href="#">55090.040.001</a> | M18 | 25 | <a href="#">55090.180.001</a> | M39 * | 10 | <a href="#">55090.390.001</a> |
| M5   | 250 | <a href="#">55090.050.001</a> | M20 | 25 | <a href="#">55090.200.001</a> | M42 * | 10 | <a href="#">55090.420.001</a> |
| M6   | 250 | <a href="#">55090.060.001</a> | M22 | 10 | <a href="#">55090.220.001</a> | M45 * | 10 | <a href="#">55090.450.001</a> |
| M8   | 100 | <a href="#">55090.080.001</a> | M24 | 10 | <a href="#">55090.240.001</a> | M48 * | 10 | <a href="#">55090.480.001</a> |
| M10  | 100 | <a href="#">55090.100.001</a> | M27 | 5  | <a href="#">55090.270.001</a> |       |    |                               |

• Sizes with a diameter > M24 are minimal property class 50.

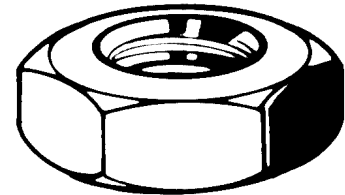
| 47030 Hexagon thin nut |               | M01C |
|------------------------|---------------|------|
| <b>Thread</b>          | Metric thread |      |
| <b>Material</b>        | Brass Cu2     |      |
| <b>Packaging</b>       | Standard      |      |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 250 | <a href="#">47030.030.001</a> | M8  | 100 | <a href="#">47030.080.001</a> | M20 | 50 | <a href="#">47030.200.001</a> |
| M4 | 250 | <a href="#">47030.040.001</a> | M10 | 100 | <a href="#">47030.100.001</a> | M24 | 25 | <a href="#">47030.240.001</a> |
| M5 | 250 | <a href="#">47030.050.001</a> | M12 | 100 | <a href="#">47030.120.001</a> |     |    |                               |
| M6 | 250 | <a href="#">47030.060.001</a> | M16 | 50  | <a href="#">47030.160.001</a> |     |    |                               |

## Hexagon thin nut MF



DIN 439 B (1987)  
 NEN 2334 B  
 ANSI B18.2.4.5M  
 NF E25-453



### Technical data

| d   | m  | s  | d          | m    | s  | d          | m    | s  |
|-----|----|----|------------|------|----|------------|------|----|
| M8  | 4  | 13 | M27        | 13,5 | 41 | M40 (#DIN) | 20   | 60 |
| M10 | 5  | 17 | M28 (#DIN) | 14   | 41 | M42        | 21   | 65 |
| M12 | 6  | 19 | M30        | 15   | 46 | M45        | 22,5 | 70 |
| M14 | 7  | 22 | M32 (#DIN) | 16   | 50 | M48        | 24   | 75 |
| M16 | 8  | 24 | M33        | 16,5 | 50 | M52        | 26   | 80 |
| M18 | 9  | 27 | M35 (#DIN) | 17,5 | 55 | M56 (#DIN) | 28   | 85 |
| M20 | 10 | 30 | M36        | 18   | 55 | M64 (#DIN) | 32   | 95 |
| M22 | 11 | 32 | M38 (#DIN) | 19   | 60 |            |      |    |
| M24 | 12 | 36 | M39        | 19,5 | 60 |            |      |    |

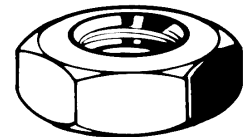
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code     | Page  |      |
|--------|------------------|-----------|-------|-------------------|-----------|----------|-------|------|
| MF     | hexagon          | St        | 04    |                   | Standard  | 11070    | 3-34  |      |
| MF     | hexagon          | St        | 04    |                   | left hand | Standard | 11074 | 3-35 |
| MF     | hexagon          | St        | 04    | Zipl              | Standard  | 11380    | 3-35  |      |
| MF     | hexagon          | St        | 04    | Zipl              | left hand | Standard | 11075 | 3-35 |
| MF     | hexagon          | St.St. A2 | 70    |                   | Standard  | 51092    | 3-35  |      |
| MF     | hexagon          | St.St. A2 | 70    |                   | left hand | Standard | 51166 | 3-36 |
| MF     | hexagon          | St.St. A4 | 70    |                   | Standard  | 55092    | 3-36  |      |

### 11070 Hexagon thin nut MF

F01B

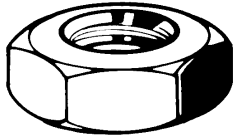
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric fine thread |
| <b>Material</b>  | Steel              |
| <b>Class</b>     | 04                 |
| <b>Packaging</b> | Standard           |



| d x P           | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒ | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|---|-------------------------------|
| M8X1,00         | 100 | <a href="#">11070.080.100</a> | M24X1,50        | 25 | <a href="#">11070.240.150</a> | M40X2,00 (#DIN) | 3 | <a href="#">11070.400.200</a> |
| M10X1,25        | 100 | <a href="#">11070.100.125</a> | M24X2,00 (#DIN) | 25 | <a href="#">11070.240.200</a> | M42X1,50        | 3 | <a href="#">11070.420.150</a> |
| M12X0,75 (#DIN) | 100 | <a href="#">11070.120.075</a> | M27X1,50        | 10 | <a href="#">11070.270.150</a> | M45X1,50        | 1 | <a href="#">11070.450.150</a> |
| M12X1,00 (#DIN) | 100 | <a href="#">11070.120.100</a> | M27X2,00        | 10 | <a href="#">11070.270.200</a> | M45X2,00        | 1 | <a href="#">11070.450.200</a> |
| M12X1,25        | 100 | <a href="#">11070.120.125</a> | M30X1,50        | 10 | <a href="#">11070.300.150</a> | M45X3,00        | 1 | <a href="#">11070.450.300</a> |
| M12X1,50        | 100 | <a href="#">11070.120.150</a> | M30X2,00        | 10 | <a href="#">11070.300.200</a> | M48X1,50        | 1 | <a href="#">11070.480.150</a> |
| M14X1,00 (#DIN) | 100 | <a href="#">11070.140.100</a> | M32X1,50        | 10 | <a href="#">11070.320.150</a> | M48X2,00        | 1 | <a href="#">11070.480.200</a> |
| M14X1,25 (#DIN) | 100 | <a href="#">11070.140.125</a> | M32X2,00        | 5  | <a href="#">11070.320.200</a> | M48X3,00        | 1 | <a href="#">11070.480.300</a> |
| M14X1,50        | 100 | <a href="#">11070.140.150</a> | M33X1,50        | 5  | <a href="#">11070.330.150</a> | M52X1,50        | 1 | <a href="#">11070.520.150</a> |
| M16X1,00 (#DIN) | 50  | <a href="#">11070.160.100</a> | M33X2,00        | 5  | <a href="#">11070.330.200</a> | M52X2,00        | 1 | <a href="#">11070.520.200</a> |
| M16X1,50        | 50  | <a href="#">11070.160.150</a> | M35X1,50 (#DIN) | 3  | <a href="#">11070.350.150</a> | M52X3,00        | 1 | <a href="#">11070.520.300</a> |
| M18X1,00 (#DIN) | 25  | <a href="#">11070.180.100</a> | M36X1,50        | 3  | <a href="#">11070.360.150</a> | M56X2,00 (#DIN) | 1 | <a href="#">11070.560.200</a> |
| M18X2,00        | 25  | <a href="#">11070.180.200</a> | M36X3,00        | 3  | <a href="#">11070.360.300</a> | M56X4,00 (#DIN) | 1 | <a href="#">11070.560.400</a> |
| M20X1,00 (#DIN) | 25  | <a href="#">11070.200.100</a> | M38X1,50 (#DIN) | 3  | <a href="#">11070.380.150</a> | M64X1,50 (#DIN) | 1 | <a href="#">11070.640.150</a> |
| M20X1,50        | 25  | <a href="#">11070.200.150</a> | M39X1,50        | 3  | <a href="#">11070.390.150</a> | M64X2,00 (#DIN) | 1 | <a href="#">11070.640.200</a> |
| M20X2,00        | 25  | <a href="#">11070.200.200</a> | M39X2,00        | 3  | <a href="#">11070.390.200</a> | M64X4,00 (#DIN) | 1 | <a href="#">11070.640.400</a> |
| M22X1,00 (#DIN) | 25  | <a href="#">11070.220.100</a> | M39X3,00        | 3  | <a href="#">11070.390.300</a> |                 |   |                               |
| M22X1,50        | 25  | <a href="#">11070.220.150</a> | M40X1,50 (#DIN) | 3  | <a href="#">11070.400.150</a> |                 |   |                               |
| M22X2,00        | 25  | <a href="#">11070.220.200</a> |                 |    |                               |                 |   |                               |



| 11074 Hexagon thin nut left hand thread |                    | F01B |  |
|---|--------------------|------|--|
| <b>Thread</b>                           | Metric fine thread |      |  |
| <b>Material</b>                         | Steel              |      |  |
| <b>Class</b>                            | 04                 |      |  |
| <b>Packaging</b>                        | Standard           |      |  |



| d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒        | Art.number                    |                               |
|-----------------|----|-------------------------------|-----------------|----|-------------------------------|-----------------|----------|-------------------------------|-------------------------------|
| M10X1,00        | 50 | <a href="#">11074.100.100</a> | M22X1,50        | 10 | <a href="#">11074.220.150</a> | M38X1,50 (#DIN) | 3        | <a href="#">11074.380.150</a> |                               |
| M12X1,00 (#DIN) | 50 | <a href="#">11074.120.100</a> | M22X2,00        | 10 | <a href="#">11074.220.200</a> |                 | M42X1,50 | 3                             | <a href="#">11074.420.150</a> |
| M12X1,50        | 50 | <a href="#">11074.120.150</a> |                 |    |                               |                 | M42X3,00 | 3                             | <a href="#">11074.420.300</a> |
| M14X1,50        | 50 | <a href="#">11074.140.150</a> | M27X1,50        | 5  | <a href="#">11074.270.150</a> | M45X3,00        | 1        | <a href="#">11074.450.300</a> |                               |
| M16X1,00 (#DIN) | 50 | <a href="#">11074.160.100</a> | M27X2,00        | 5  | <a href="#">11074.270.200</a> |                 | M48X1,50 | 1                             | <a href="#">11074.480.150</a> |
| M16X1,50        | 25 | <a href="#">11074.160.150</a> |                 |    |                               |                 | M48X3,00 | 1                             | <a href="#">11074.480.300</a> |
| M18X1,50        | 10 | <a href="#">11074.180.150</a> | M28X1,50 (#DIN) | 5  | <a href="#">11074.280.150</a> |                 |          |                               |                               |
| M20X1,50        | 10 | <a href="#">11074.200.150</a> | M30X2,00        | 5  | <a href="#">11074.300.200</a> |                 |          |                               |                               |
| M20X2,00        | 10 | <a href="#">11074.200.200</a> | M33X1,50        | 5  | <a href="#">11074.330.150</a> |                 |          |                               |                               |
|                 |    |                               | M36X1,50        | 3  | <a href="#">11074.360.150</a> |                 |          |                               |                               |
|                 |    |                               | M36X2,00        | 3  | <a href="#">11074.360.200</a> |                 |          |                               |                               |
|                 |    |                               | M36X3,00        | 3  | <a href="#">11074.360.300</a> |                 |          |                               |                               |

3

| 11380 Hexagon thin nut MF |                    | F01B |  |
|---------------------------|--------------------|------|--|
| <b>Thread</b>             | Metric fine thread |      |  |
| <b>Material</b>           | Steel              |      |  |
| <b>Class</b>              | 04                 |      |  |
| <b>Surface treatment</b>  | Zinc plated        |      |  |
| <b>Packaging</b>          | Standard           |      |  |



| d x P           | ☒   | Art.number                    | d x P           | ☒        | Art.number                    | d x P                         | ☒        | Art.number                    |                               |
|-----------------|-----|-------------------------------|-----------------|----------|-------------------------------|-------------------------------|----------|-------------------------------|-------------------------------|
| M8X1,00         | 100 | <a href="#">11380.080.100</a> | M16X1,00 (#DIN) | 50       | <a href="#">11380.160.100</a> | M24X1,50                      | 25       | <a href="#">11380.240.150</a> |                               |
| M10X1,00        | 100 | <a href="#">11380.100.100</a> |                 | M16X1,50 | 50                            | <a href="#">11380.160.150</a> | M24X2,00 | 25                            | <a href="#">11380.240.200</a> |
| M10X1,25        | 100 | <a href="#">11380.100.125</a> |                 |          |                               | M27X1,50                      | 10       | <a href="#">11380.270.150</a> |                               |
| M12X1,00 (#DIN) | 100 | <a href="#">11380.120.100</a> | M18X1,00 (#DIN) | 25       | <a href="#">11380.180.100</a> |                               | M30X1,50 | 10                            | <a href="#">11380.300.150</a> |
| M12X1,25        | 100 | <a href="#">11380.120.125</a> | M18X1,50        | 25       | <a href="#">11380.180.150</a> |                               | M30X2,00 | 10                            | <a href="#">11380.300.200</a> |
| M12X1,50        | 100 | <a href="#">11380.120.150</a> |                 |          |                               | M36X1,50                      | 3        | <a href="#">11380.360.150</a> |                               |
| M14X1,00 (#DIN) | 100 | <a href="#">11380.140.100</a> | M20X1,00 (#DIN) | 25       | <a href="#">11380.200.100</a> |                               | M36X3,00 | 3                             | <a href="#">11380.360.300</a> |
| M14X1,25 (#DIN) | 100 | <a href="#">11380.140.125</a> | M20X1,50        | 25       | <a href="#">11380.200.150</a> |                               |          |                               |                               |
| M14X1,50        | 100 | <a href="#">11380.140.150</a> | M22X1,50        | 25       | <a href="#">11380.220.150</a> |                               |          |                               |                               |

| 11075 Hexagon thin nut left hand thread |                    | F01B |  |
|---|--------------------|------|--|
| <b>Thread</b>                           | Metric fine thread |      |  |
| <b>Material</b>                         | Steel              |      |  |
| <b>Class</b>                            | 04                 |      |  |
| <b>Surface treatment</b>                | Zinc plated        |      |  |
| <b>Packaging</b>                        | Standard           |      |  |



| d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    | d x P    | ☒  | Art.number                    |
|-----------------|----|-------------------------------|-----------------|----|-------------------------------|----------|----|-------------------------------|
| M12X1,00 (#DIN) | 50 | <a href="#">11075.120.100</a> | M16X1,00 (#DIN) | 50 | <a href="#">11075.160.100</a> | M20X1,50 | 10 | <a href="#">11075.200.150</a> |
| M12X1,50        | 50 | <a href="#">11075.120.150</a> | M16X1,50        | 25 | <a href="#">11075.160.150</a> | M24X2,00 | 10 | <a href="#">11075.240.200</a> |
|                 |    |                               |                 |    |                               | M27X2,00 | 5  | <a href="#">11075.270.200</a> |
| M14X1,50        | 50 | <a href="#">11075.140.150</a> | M18X1,50        | 10 | <a href="#">11075.180.150</a> | M30X2,00 | 5  | <a href="#">11075.300.200</a> |

| 51092 Hexagon thin nut MF |                    | R09A |  |
|---------------------------|--------------------|------|--|
| <b>Thread</b>             | Metric fine thread |      |  |
| <b>Material</b>           | Stainless steel A2 |      |  |
| <b>Class</b>              | 70                 |      |  |
| <b>Packaging</b>          | Standard           |      |  |



| d x P      | ☒   | Art.number                    | d x P      | ☒        | Art.number                    | d x P                         | ☒        | Art.number                    |
|------------|-----|-------------------------------|------------|----------|-------------------------------|-------------------------------|----------|-------------------------------|
| M8X0,75 *  | 200 | <a href="#">51092.080.075</a> | M14X1,50   | 50       | <a href="#">51092.140.150</a> | M24X2,00                      | 10       | <a href="#">51092.240.200</a> |
| M8X1,00    | 100 | <a href="#">51092.080.100</a> |            | M16X1,50 | 50                            | <a href="#">51092.160.150</a> | M27X1,50 | 3                             |
| M10X1,00   | 100 | <a href="#">51092.100.100</a> | M18X1,50   | 25       | <a href="#">51092.180.150</a> | M30X1,50                      | 3        | <a href="#">51092.300.150</a> |
| M10X1,25   | 100 | <a href="#">51092.100.125</a> | M20X1,50   | 25       | <a href="#">51092.200.150</a> | M30X2,00                      | 3        | <a href="#">51092.300.200</a> |
|            |     |                               | M22X1,50   | 10       | <a href="#">51092.220.150</a> |                               |          |                               |
| M12X1,00 * | 100 | <a href="#">51092.120.100</a> | M22X2,00 * | 25       | <a href="#">51092.220.200</a> | M33X2,00 *                    | 10       | <a href="#">51092.330.200</a> |
| M12X1,25   | 100 | <a href="#">51092.120.125</a> |            |          |                               |                               |          |                               |
| M12X1,50   | 100 | <a href="#">51092.120.150</a> | M24X1,50   | 10       | <a href="#">51092.240.150</a> |                               |          |                               |

**51092 Hexagon thin nut MF** ←

| d x P | ✉ | Art.number | d x P | ✉ | Art.number | d x P | ✉ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

- Sizes with a diameter > M24 are minimal property class 50.

**51166 Hexagon thin nut left hand thread** R09A

|                  |                    |   |
|------------------|--------------------|---|
| <b>Thread</b>    | Metric fine thread |  |
| <b>Material</b>  | Stainless steel A2 |   |
| <b>Class</b>     | 70                 |   |
| <b>Packaging</b> | Standard           |   |

| d x P | ✉ | Art.number | d x P | ✉ | Art.number | d x P | ✉ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

|          |    |                               |          |   |                               |  |  |  |
|----------|----|-------------------------------|----------|---|-------------------------------|--|--|--|
| M16X1,50 | 50 | <a href="#">51166.160.150</a> | M27X2,00 | 3 | <a href="#">51166.270.200</a> |  |  |  |
| M20X1,50 | 25 | <a href="#">51166.200.150</a> | M30X2,00 | 3 | <a href="#">51166.300.200</a> |  |  |  |

- Sizes with a diameter > M24 are minimal property class 50.

**55092 Hexagon thin nut MF** R49A

|                  |                    |   |
|------------------|--------------------|---|
| <b>Thread</b>    | Metric fine thread |  |
| <b>Material</b>  | Stainless steel A4 |   |
| <b>Class</b>     | 70                 |   |
| <b>Packaging</b> | Standard           |   |

| d x P | ✉ | Art.number | d x P | ✉ | Art.number | d x P | ✉ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

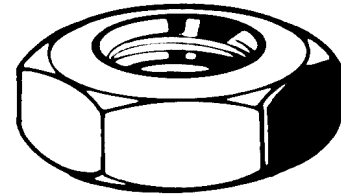
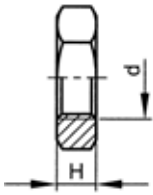
|            |     |                               |            |    |                               |            |    |                               |
|------------|-----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| M8X1,00    | 100 | <a href="#">55092.080.100</a> | M16X1,50   | 50 | <a href="#">55092.160.150</a> | M27X1,50 * | 25 | <a href="#">55092.270.150</a> |
| M10X1,00   | 100 | <a href="#">55092.100.100</a> | M18X1,50   | 25 | <a href="#">55092.180.150</a> | M27X2,00 * | 25 | <a href="#">55092.270.200</a> |
| M10X1,25   | 100 | <a href="#">55092.100.125</a> | M20X1,50   | 25 | <a href="#">55092.200.150</a> |            |    |                               |
|            |     |                               | M22X1,50   | 10 | <a href="#">55092.220.150</a> | M30X1,50 * | 10 | <a href="#">55092.300.150</a> |
| M12X1,00 * | 100 | <a href="#">55092.120.100</a> | M22X2,00 * | 25 | <a href="#">55092.220.200</a> | M30X2,00 * | 10 | <a href="#">55092.300.200</a> |
| M12X1,25   | 100 | <a href="#">55092.120.125</a> |            |    |                               |            |    |                               |
| M12X1,50   | 100 | <a href="#">55092.120.150</a> | M24X1,50   | 10 | <a href="#">55092.240.150</a> | M33X2,00 * | 10 | <a href="#">55092.330.200</a> |
|            |     |                               | M24X2,00   | 10 | <a href="#">55092.240.200</a> |            |    |                               |
| M14X1,50   | 50  | <a href="#">55092.140.150</a> |            |    |                               |            |    |                               |

- Sizes with a diameter > M24 are minimal property class 50.

**3**

## Jamnut turned UNC

ANSI-B18.2.2



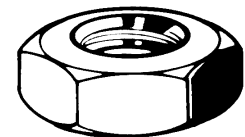
### Technical data

| d     | Threads per inch | H    | F       |
|-------|------------------|------|---------|
| 1/4   | 20               | 4    | 7/16    |
| 5/16  | 18               | 4,8  | 1/2     |
| 3/8   | 16               | 5,6  | 9/16    |
| 7/16  | 14               | 6,4  | 11/16   |
| 1/2   | 13               | 7,9  | 3/4     |
| 5/8   | 11               | 9,5  | 15/16   |
| 3/4   | 10               | 10,7 | 1.1/8   |
| 7/8   | 9                | 12,3 | 1.5/16  |
| 1.IN. | 8                | 13,9 | 1.1/2   |
| 1.1/8 | 7                | 18,3 | 1.11/16 |
| 1.1/4 | 7                | 18,3 | 1.7/8   |
| 1.1/2 | 6                | 21,4 | 2.1/4   |

### 11840 Jamnut turned UNC

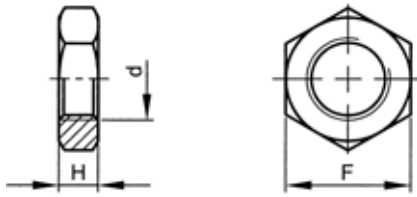
X09A

|                          |                         |
|--------------------------|-------------------------|
| <b>Thread</b>            | Unified National Coarse |
| <b>Material</b>          | Free-cutting steel      |
| <b>Class</b>             | 04                      |
| <b>Surface treatment</b> | Zinc plated             |
| <b>Packaging</b>         | Standard                |

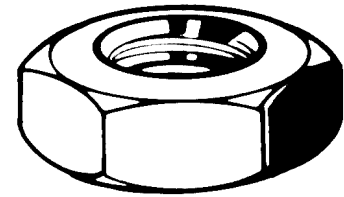


| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 250 | <a href="#">11840.063.001</a> | 1/2 | 100 | <a href="#">11840.127.001</a> | 1.IN. | 25 | <a href="#">11840.254.001</a> |
| 5/16 | 250 | <a href="#">11840.079.001</a> | 5/8 | 100 | <a href="#">11840.158.001</a> | 1.1/8 | 10 | <a href="#">11840.285.001</a> |
| 3/8  | 250 | <a href="#">11840.096.001</a> | 3/4 | 50  | <a href="#">11840.191.001</a> | 1.1/4 | 10 | <a href="#">11840.317.001</a> |
| 7/16 | 100 | <a href="#">11840.111.001</a> | 7/8 | 25  | <a href="#">11840.222.001</a> | 1.1/2 | 5  | <a href="#">11840.381.001</a> |

## Jamnut turned UNF



ANSI ≈B18.2.2



### Technical data

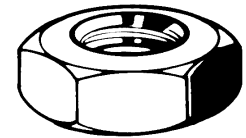
| d     | Threads per inch | H    | F       |
|-------|------------------|------|---------|
| 1/4   | 28               | 4    | 7/16    |
| 5/16  | 24               | 4,8  | 1/2     |
| 3/8   | 24               | 5,6  | 9/16    |
| 7/16  | 20               | 6,4  | 11/16   |
| 1/2   | 20               | 7,9  | 3/4     |
| 9/16  | 18               | 7,9  | 7/8     |
| 5/8   | 18               | 9,5  | 15/16   |
| 3/4   | 16               | 10,7 | 1.1/8   |
| 7/8   | 14               | 12,3 | 1.5/16  |
| 1.IN. | 14               | 13,9 | 1.1/2   |
| 1.1/8 | 12               | 15,5 | 1.11/16 |
| 1.1/4 | 12               | 18,3 | 1.7/8   |
| 1.3/8 | 12               | 19,8 | 2.1/16  |
| 1.1/2 | 12               | 21,4 | 2.1/4   |

- 1 inch UNF is supplied with 14 threads per inch (UNS).

#### 11860 Jamnut turned UNF

X09A

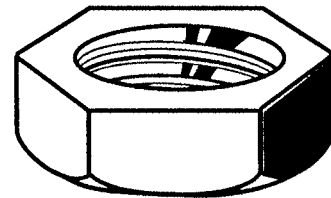
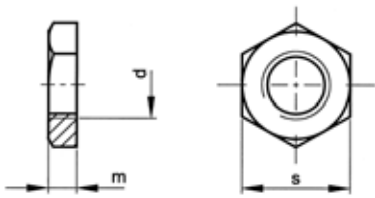
|                          |                       |
|--------------------------|-----------------------|
| <b>Thread</b>            | Unified National Fine |
| <b>Material</b>          | Free-cutting steel    |
| <b>Class</b>             | 04                    |
| <b>Surface treatment</b> | Zinc plated           |
| <b>Packaging</b>         | Standard              |



| d    | ☒   | Art.number                    | d     | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|-----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 250 | <a href="#">11860.063.001</a> | 9/16  | 100 | <a href="#">11860.142.001</a> | 1.1/8 | 10 | <a href="#">11860.285.001</a> |
| 5/16 | 250 | <a href="#">11860.079.001</a> | 5/8   | 100 | <a href="#">11860.158.001</a> | 1.1/4 | 10 | <a href="#">11860.317.001</a> |
| 3/8  | 250 | <a href="#">11860.096.001</a> | 3/4   | 50  | <a href="#">11860.191.001</a> | 1.3/8 | 5  | <a href="#">11860.349.001</a> |
| 7/16 | 100 | <a href="#">11860.111.001</a> | 7/8   | 25  | <a href="#">11860.222.001</a> | 1.1/2 | 5  | <a href="#">11860.381.001</a> |
| 1/2  | 100 | <a href="#">11860.127.001</a> | 1-14G | 25  | <a href="#">11860.256.001</a> |       |    |                               |

**Pipe nut parallel thread**

DIN ≈431 A



**Technical data**

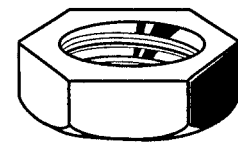
| d       | Threads per inch | m (max.) | s  |
|---------|------------------|----------|----|
| G 1/8   | 28               | 6,48     | 18 |
| G 1/4   | 19               | 6,48     | 21 |
| G 3/8   | 19               | 7,58     | 27 |
| G 1/2   | 14               | 8,58     | 34 |
| G 5/8   | 14               | 8,58     | 34 |
| G 3/4   | 14               | 9,58     | 36 |
| G 7/8   | 14               | 9,58     | 41 |
| G 1.IN. | 11               | 10,58    | 46 |
| G 1.1/4 | 11               | 11,7     | 55 |
| G 1.1/2 | 11               | 12,7     | 60 |
| G 2.IN. | 11               | 13,7     | 75 |

3

**55200 Pipe nut parallel thread**

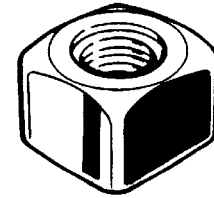
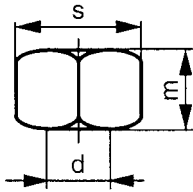
R49A

**Thread** Cylindrical pipe thread  
**Material** Stainless steel A4  
**Class** 50  
**Packaging** Standard



| d    | ☒  | Art.number                    | d      | ☒  | Art.number                    | d      | ☒ | Art.number                    |
|------|----|-------------------------------|--------|----|-------------------------------|--------|---|-------------------------------|
| G1/8 | 50 | <a href="#">55200.031.001</a> | G5/8   | 25 | <a href="#">55200.158.001</a> | G1.1/2 | 1 | <a href="#">55200.381.001</a> |
| G1/4 | 50 | <a href="#">55200.063.001</a> | G3/4   | 10 | <a href="#">55200.191.001</a> | G2.IN. | 1 | <a href="#">55200.508.001</a> |
| G3/8 | 50 | <a href="#">55200.096.001</a> | G1.IN. | 4  | <a href="#">55200.254.001</a> |        |   |                               |
| G1/2 | 25 | <a href="#">55200.127.001</a> | G1.1/4 | 1  | <a href="#">55200.317.001</a> |        |   |                               |

## Trackshoe nut



### Technical data

| d x m          | Threads per inch | s    |
|----------------|------------------|------|
| 7/16x16        | 20               | 16   |
| 1/2x18         | 20               | 19   |
| 9/16x19        | 18               | 22   |
| 5/8x18         | 18               | 24   |
| 5/8x19         | 18               | 25   |
| 3/4x19         | 16               | 28   |
| 3/4x21         | 16               | 28   |
| 7/8x23         | 14               | 33,3 |
| 1.IN.-14Gx25,2 | 14               | 38,1 |
| 1.IN.-14Gx33   | 14               | 38,1 |

- The 1 inch trackshoe nuts are class 6.

### Article groups

| Thread | Driving features | Material           | Class | Packaging | Code  | Page |
|--------|------------------|--------------------|-------|-----------|-------|------|
| UNF    | hexagon          | Free-cutting steel | high  | Standard  | 06060 | 3-40 |
| UNF    | hexagon          | St                 | 12    | thin      | 06070 | 3-40 |
| UNF    | square head      | St                 | 12    | square    | 06080 | 3-40 |

| 06060 Hexagon trackshoe nut high type |                       | Y90A  |
|---------------------------------------|-----------------------|---|
| <b>Thread</b>                         | Unified National Fine |  |
| <b>Material</b>                       | Free-cutting steel    |   |
| <b>Packaging</b>                      | Standard              |   |

| d            | ⊗  | Art.number                    | d | ⊗ | Art.number | d | ⊗ | Art.number |
|--------------|----|-------------------------------|---|---|------------|---|---|------------|
| 1.IN.-14Gx33 | 25 | <a href="#">06060.256.001</a> |   |   |            |   |   |            |

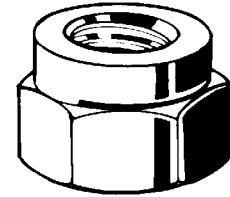
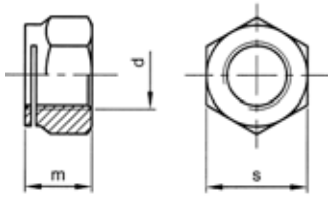
| 06070 Hexagon trackshoe nut thin |                       | Y90A  |
|----------------------------------|-----------------------|---|
| <b>Thread</b>                    | Unified National Fine |  |
| <b>Material</b>                  | Steel                 |   |
| <b>Class</b>                     | 12                    |   |
| <b>Packaging</b>                 | Standard              |   |

| d      | ⊗  | Art.number                    | d              | ⊗  | Art.number                    | d | ⊗ | Art.number |
|--------|----|-------------------------------|----------------|----|-------------------------------|---|---|------------|
| 5/8x18 | 50 | <a href="#">06070.158.001</a> | 7/8x23         | 25 | <a href="#">06070.222.001</a> |   |   |            |
| 3/4x21 | 50 | <a href="#">06070.191.001</a> | 1.IN.-14Gx25,2 | 25 | <a href="#">06070.256.001</a> |   |   |            |

| 06080 Square trackshoe nut |                       | Y90A  |
|----------------------------|-----------------------|---|
| <b>Thread</b>              | Unified National Fine |  |
| <b>Material</b>            | Steel                 |   |
| <b>Class</b>               | 12                    |   |
| <b>Packaging</b>           | Standard              |   |

| d       | ⊗   | Art.number                    | d      | ⊗  | Art.number                    | d              | ⊗  | Art.number                    |
|---------|-----|-------------------------------|--------|----|-------------------------------|----------------|----|-------------------------------|
| 7/16x16 | 100 | <a href="#">06080.111.001</a> | 5/8x19 | 50 | <a href="#">06080.158.001</a> | 1.IN.-14Gx25,2 | 25 | <a href="#">06080.256.001</a> |
| 1/2x18  | 100 | <a href="#">06080.127.001</a> | 3/4x19 | 50 | <a href="#">06080.191.001</a> |                |    |                               |
| 9/16x19 | 50  | <a href="#">06080.142.001</a> | 7/8    | 25 | <a href="#">06080.222.001</a> |                |    |                               |

## Exhaust nut



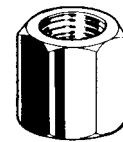
### Article groups

| Thread | Driving features | Material | Surface treatment |                        | Packaging | Code  | Page |
|--------|------------------|----------|-------------------|------------------------|-----------|-------|------|
| UNF    | hexagon          | Br       |                   |                        | Standard  | 72123 | 3-41 |
| M      | hexagon          | St       | Copper plated     | prevailing torque type | Standard  | 72130 | 3-41 |
| MF     | hexagon          | St       | Copper plated     | prevailing torque type | Standard  | 72131 | 3-41 |

**3**

#### 72123 Exhaust nut Y92F

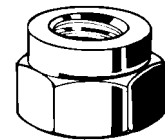
|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Unified National Fine |
| <b>Material</b>  | Brass                 |
| <b>Packaging</b> | Standard              |



| d    | ⊗  | Art.number                    | d   | ⊗  | Art.number                    | d   | ⊗  | Art.number                    |
|------|----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| 5/16 | 50 | <a href="#">72123.079.001</a> | 3/8 | 25 | <a href="#">72123.096.001</a> | 1/2 | 10 | <a href="#">72123.127.001</a> |

#### 72130 THERMAG Exhaust nut Y92F

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Copper plated |
| <b>Packaging</b>         | Standard      |

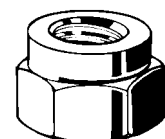


| d       | ⊗   | Art.number                    | d        | ⊗   | Art.number                    | d        | ⊗  | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M8 s=12 | 100 | <a href="#">72130.080.120</a> | M10 s=14 | 100 | <a href="#">72130.100.140</a> | M12 s=17 | 50 | <a href="#">72130.120.170</a> |
| M8 s=13 | 100 | <a href="#">72130.080.130</a> | M10 s=17 | 100 | <a href="#">72130.100.170</a> |          |    |                               |

- Temperature resistance from -70°C till +400°C

#### 72131 THERMAG Exhaust nut Y92F

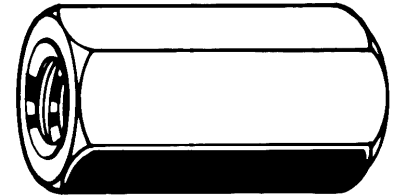
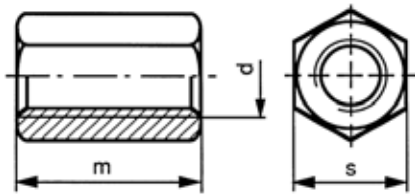
|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric fine thread |
| <b>Material</b>          | Steel              |
| <b>Surface treatment</b> | Copper plated      |
| <b>Packaging</b>         | Standard           |



| d x P        | ⊗   | Art.number                    | d x P | ⊗ | Art.number | d x P | ⊗ | Art.number |
|--------------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| 10X1,25 s=14 | 100 | <a href="#">72131.100.125</a> |       |   |            |       |   |            |

- Temperature resistance from -70°C till +400°C

## Hexagon connection nut height 3 x d



### Technical data

| d   | P    | m  | s  |
|-----|------|----|----|
| M5  | 0,8  | 15 | 8  |
| M6  | 1    | 18 | 10 |
| M8  | 1,25 | 24 | 13 |
| M10 | 1,5  | 30 | 17 |
| M12 | 1,75 | 36 | 19 |
| M14 | 2    | 42 | 22 |

| d   | P   | m  | s  |
|-----|-----|----|----|
| M16 | 2   | 48 | 24 |
| M18 | 2,5 | 54 | 27 |
| M20 | 2,5 | 60 | 30 |
| M22 | 2,5 | 66 | 32 |
| M24 | 3   | 72 | 36 |
| M27 | 3   | 81 | 41 |

| d   | P   | m   | s  |
|-----|-----|-----|----|
| M30 | 3,5 | 90  | 46 |
| M36 | 4   | 108 | 55 |
| M42 | 4,5 | 126 | 65 |
| M48 | 5   | 144 | 75 |

- These connection nuts are used among others for connection of threaded rods.

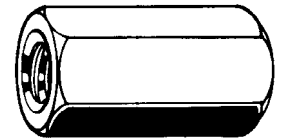
### Article groups

| Thread | Driving features | Material           | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|--------------------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St                 | [10]  | Zipl              | Standard  | 11418 | 3-42 |
| M      | hexagon          | Free-cutting steel |       | Zipl              | Standard  | 11400 | 3-42 |
| M      | hexagon          | St.St. A1          |       |                   | Standard  | 51106 | 3-42 |
| M      | hexagon          | St.St. A4          |       |                   | Standard  | 55106 | 3-43 |
| M      | hexagon          | Br                 |       |                   | Standard  | 47195 | 3-43 |

#### 11418 Hexagon connection nut height 3 x d

**F01C**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | [10]          |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

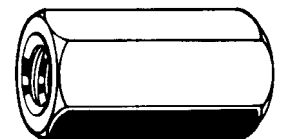


| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 50 | <a href="#">11418.060.001</a> | M16 | 25 | <a href="#">11418.160.001</a> | M30 | 5 | <a href="#">11418.300.001</a> |
| M8  | 50 | <a href="#">11418.080.001</a> | M18 | 10 | <a href="#">11418.180.001</a> | M36 | 3 | <a href="#">11418.360.001</a> |
| M10 | 50 | <a href="#">11418.100.001</a> | M20 | 10 | <a href="#">11418.200.001</a> | M42 | 3 | <a href="#">11418.420.001</a> |
| M12 | 25 | <a href="#">11418.120.001</a> | M22 | 10 | <a href="#">11418.220.001</a> | M48 | 3 | <a href="#">11418.480.001</a> |
| M14 | 25 | <a href="#">11418.140.001</a> | M24 | 5  | <a href="#">11418.240.001</a> |     |   |                               |

#### 11400 Hexagon connection nut height 3 x d

**F01C**

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |

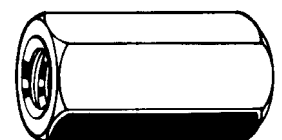


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M5  | 100 | <a href="#">11400.050.001</a> | M12 | 50 | <a href="#">11400.120.001</a> | M24 | 10 | <a href="#">11400.240.001</a> |
| M6  | 100 | <a href="#">11400.060.001</a> | M14 | 25 | <a href="#">11400.140.001</a> | M27 | 10 | <a href="#">11400.270.001</a> |
| M8  | 100 | <a href="#">11400.080.001</a> | M16 | 25 | <a href="#">11400.160.001</a> |     |    |                               |
| M10 | 50  | <a href="#">11400.100.001</a> | M20 | 25 | <a href="#">11400.200.001</a> |     |    |                               |

#### 51106 Hexagon connection nut height 3 x d

**R09A**

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A1 |
| <b>Packaging</b> | Standard           |



| d  | ☒  | Art.number                    | d     | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|----|-------------------------------|-------|----|-------------------------------|-----|----|-------------------------------|
| M5 | 50 | <a href="#">51106.050.001</a> | M10   | 25 | <a href="#">51106.100.001</a> | M16 | 10 | <a href="#">51106.160.001</a> |
| M6 | 50 | <a href="#">51106.060.001</a> | M12   | 25 | <a href="#">51106.120.001</a> | M20 | 10 | <a href="#">51106.200.001</a> |
| M8 | 50 | <a href="#">51106.080.001</a> | M14 * | 50 | <a href="#">51106.140.001</a> | M24 | 5  | <a href="#">51106.240.001</a> |



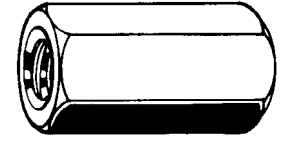
**51106 Hexagon connection nut height 3 x d** ←

| d     | ☒  | Art.number                    | d | ☒ | Art.number | d | ☒ | Art.number |
|-------|----|-------------------------------|---|---|------------|---|---|------------|
| M30 * | 10 | <a href="#">51106.300.001</a> |   |   |            |   |   |            |

• Depending on availability A1 can be supplied as well as A2.

**55106 Hexagon connection nut height 3 x d** R49A

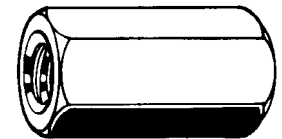
**Thread** Metric thread  
**Material** Stainless steel A4  
**Packaging** Standard



| d   | ☒  | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|-----|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M5  | 50 | <a href="#">55106.050.001</a> | M12   | 25 | <a href="#">55106.120.001</a> | M24   | 5  | <a href="#">55106.240.001</a> |
| M6  | 50 | <a href="#">55106.060.001</a> | M14 * | 50 | <a href="#">55106.140.001</a> | M30 * | 10 | <a href="#">55106.300.001</a> |
| M8  | 50 | <a href="#">55106.080.001</a> | M16   | 10 | <a href="#">55106.160.001</a> |       |    |                               |
| M10 | 25 | <a href="#">55106.100.001</a> | M20   | 10 | <a href="#">55106.200.001</a> |       |    |                               |

**47195 Hexagon connection nut height 3 x d** M11C

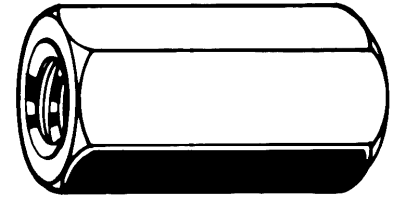
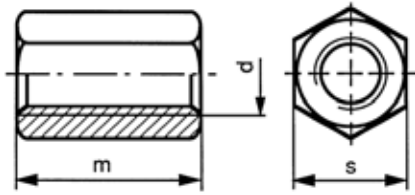
**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M5 | 100 | <a href="#">47195.050.001</a> | M10 | 50 | <a href="#">47195.100.001</a> | M20 | 25 | <a href="#">47195.200.001</a> |
| M6 | 100 | <a href="#">47195.060.001</a> | M12 | 50 | <a href="#">47195.120.001</a> | M24 | 10 | <a href="#">47195.240.001</a> |
| M8 | 100 | <a href="#">47195.080.001</a> | M16 | 25 | <a href="#">47195.160.001</a> |     |    |                               |

3

### Hexagon connection nut extra high



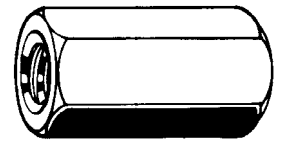
#### Technical data

| d   | P    | m  | s  |
|-----|------|----|----|
| M6  | 1    | 30 | 10 |
| M8  | 1,25 | 30 | 13 |
| M10 | 1,5  | 40 | 17 |
| M12 | 1,75 | 40 | 19 |

#### 11408 Hexagon connection nut extra high

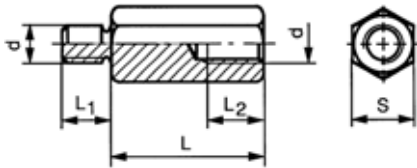
F01C

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L | ☒ | Art.number |
|-------|-----|-------------------------------|--------|-----|-------------------------------|-------|---|------------|
| M6X30 | 100 | <a href="#">11408.060.030</a> | M10X40 | 100 | <a href="#">11408.100.040</a> |       |   |            |
| M8X30 | 100 | <a href="#">11408.080.030</a> | M12X40 | 50  | <a href="#">11408.120.040</a> |       |   |            |

## Spacer with internal thread and external threaded stud type H1202



### Technical data

| d    | P    | L <sub>1</sub> | S   |
|------|------|----------------|-----|
| M2,5 | 0,45 | 5,6            | 4   |
| M3   | 0,5  | 6              | 5,5 |
| M4   | 0,7  | 8              | 7   |
| M5   | 0,8  | 10             | 8   |

3

### 11398 Spacer with internal thread and external threaded stud type H1202

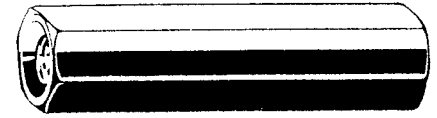
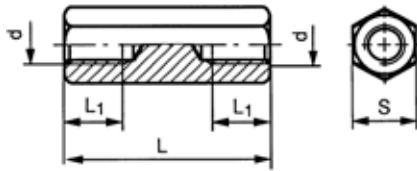
F01C

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Class</b>             | 6                  |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



| d x L x L2 | ✉   | Art.number                    | d x L x L2 | ✉   | Art.number                    | d x L x L2 | ✉   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| M2,5X10X3  | 100 | <a href="#">11398.025.010</a> | M3X25X7    | 100 | <a href="#">11398.030.025</a> | M4X35X9    | 100 | <a href="#">11398.040.035</a> |
| M2,5X15X7  | 100 | <a href="#">11398.025.015</a> | M3X30X7    | 100 | <a href="#">11398.030.030</a> | M4X40X9    | 100 | <a href="#">11398.040.040</a> |
| M2,5X20X7  | 100 | <a href="#">11398.025.020</a> | M3X35X7    | 100 | <a href="#">11398.030.035</a> | M4X50X9    | 100 | <a href="#">11398.040.050</a> |
| M2,5X25X7  | 100 | <a href="#">11398.025.025</a> | M3X40X7    | 100 | <a href="#">11398.030.040</a> |            |     |                               |
|            |     |                               | M3X45X7    | 100 | <a href="#">11398.030.045</a> | M5X10X6    | 100 | <a href="#">11398.050.010</a> |
| M3X5X3     | 100 | <a href="#">11398.030.005</a> | M3X50X7    | 100 | <a href="#">11398.030.050</a> | M5X15X11   | 100 | <a href="#">11398.050.015</a> |
| M3X8X5     | 100 | <a href="#">11398.030.008</a> |            |     |                               | M5X20X11   | 100 | <a href="#">11398.050.020</a> |
| M3X10X7    | 100 | <a href="#">11398.030.010</a> | M4X5X3     | 100 | <a href="#">11398.040.005</a> | M5X25X11   | 100 | <a href="#">11398.050.025</a> |
| M3X12X7    | 100 | <a href="#">11398.030.012</a> | M4X10X6    | 100 | <a href="#">11398.040.010</a> | M5X30X11   | 100 | <a href="#">11398.050.030</a> |
| M3X13,5X7  | 100 | <a href="#">11398.030.013</a> | M4X15X9    | 100 | <a href="#">11398.040.015</a> | M5X35X11   | 100 | <a href="#">11398.050.035</a> |
| M3X15X7    | 100 | <a href="#">11398.030.015</a> | M4X20X9    | 100 | <a href="#">11398.040.020</a> | M5X40X11   | 100 | <a href="#">11398.050.040</a> |
| M3X18X7    | 100 | <a href="#">11398.030.018</a> | M4X25X9    | 100 | <a href="#">11398.040.025</a> | M5X50X11   | 100 | <a href="#">11398.050.050</a> |
| M3X20X7    | 100 | <a href="#">11398.030.020</a> | M4X30X9    | 100 | <a href="#">11398.040.030</a> |            |     |                               |

## Spacer with 2x internal thread H1200



### Technical data

| d    | P    | s   |
|------|------|-----|
| M2,5 | 0,45 | 4   |
| M3   | 0,5  | 5,5 |
| M4   | 0,7  | 7   |
| M5   | 0,8  | 8   |

### 11396 Spacer with 2x internal thread H1200

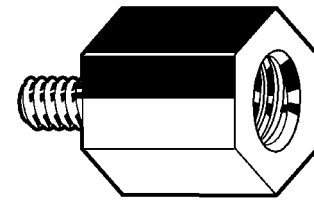
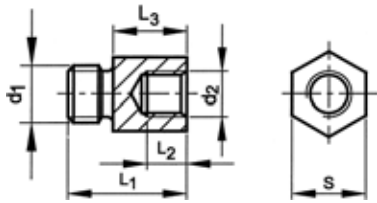
**F01C**

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Class</b>             | [6]                |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



| d x L x L1 | ☒   | Art.number                    | d x L x L1 | ☒   | Art.number                    | d x L x L1 | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| M2,5X15X7  | 100 | <a href="#">11396.025.015</a> | M3X35X7    | 100 | <a href="#">11396.030.035</a> | M4X50X9    | 100 | <a href="#">11396.040.050</a> |
| M2,5X20X7  | 100 | <a href="#">11396.025.020</a> | M3X40X7    | 100 | <a href="#">11396.030.040</a> | M5X15X15   | 100 | <a href="#">11396.050.015</a> |
| M2,5X25X7  | 100 | <a href="#">11396.025.025</a> | M3X45X7    | 100 | <a href="#">11396.030.045</a> | M5X20X9    | 100 | <a href="#">11396.050.020</a> |
| M3X5X5     | 100 | <a href="#">11396.030.005</a> | M3X50X7    | 100 | <a href="#">11396.030.050</a> | M5X25X9    | 100 | <a href="#">11396.050.025</a> |
| M3X8,5X8,5 | 100 | <a href="#">11396.030.008</a> | M4X10X10   | 100 | <a href="#">11396.040.010</a> | M5X30X9    | 100 | <a href="#">11396.050.030</a> |
| M3X10X10   | 100 | <a href="#">11396.030.010</a> | M4X15X15   | 100 | <a href="#">11396.040.015</a> | M5X35X9    | 100 | <a href="#">11396.050.035</a> |
| M3X12X12   | 100 | <a href="#">11396.030.012</a> | M4X20X9    | 100 | <a href="#">11396.040.020</a> | M5X40X9    | 100 | <a href="#">11396.050.040</a> |
| M3X15X7    | 100 | <a href="#">11396.030.015</a> | M4X25X9    | 100 | <a href="#">11396.040.025</a> | M5X45X9    | 100 | <a href="#">11396.050.045</a> |
| M3X20X7    | 100 | <a href="#">11396.030.020</a> | M4X30X9    | 100 | <a href="#">11396.040.030</a> | M5X50X9    | 100 | <a href="#">11396.050.050</a> |
| M3X25X7    | 100 | <a href="#">11396.030.025</a> | M4X35X9    | 100 | <a href="#">11396.040.035</a> |            |     |                               |
| M3X30X7    | 100 | <a href="#">11396.030.030</a> | M4X40X9    | 100 | <a href="#">11396.040.040</a> |            |     |                               |

## Reducer



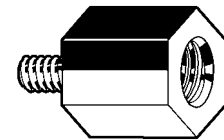
### Technical data

| d2 / d1 | P/P       | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | s  |
|---------|-----------|----------------|----------------|----------------|----|
| M6/M8   | 1/1,25    | 20             | 7              | 12             | 13 |
| M6/M10  | 1/1,25    | 21             | 7              | 13             | 13 |
| M8/M6   | 1,25/1    | 19             | 7              | 12             | 13 |
| M8/M10  | 1,25/1,5  | 21             | 7              | 13             | 13 |
| M8/M12  | 1,25/1,75 | 23             | 7              | 13             | 13 |
| M10/M6  | 1,5/1     | 22             | 9              | 15             | 13 |
| M10/M8  | 1,5/1,25  | 23             | 9              | 15             | 13 |
| M10/M12 | 1,5/1,75  | 23             | 8              | 13             | 13 |
| M10/M16 | 1,5/2     | 32             | 9              | 18             | 19 |
| M12/M8  | 1,75/1,25 | 23             | 8              | 15             | 17 |
| M12/M10 | 1,75/1,5  | 25             | 8              | 15             | 17 |
| M16/M10 | 2/1,5     | 32             | 13             | 22             | 24 |
| M16/M12 | 2/1,75    | 32             | 13             | 22             | 24 |

### 11393 Reducer

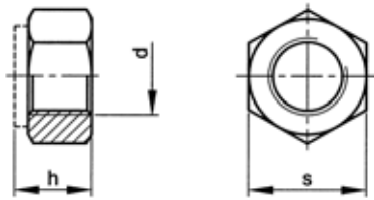
**F01C**

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |

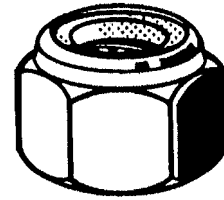


| d2/d1 x s   | ☒  | Art.number                    | d2/d1 x s    | ☒  | Art.number                    | d2/d1 x s    | ☒  | Art.number                    |
|-------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M6XM8/s=13  | 25 | <a href="#">11393.060.080</a> | M10XM6/s=13  | 25 | <a href="#">11393.100.060</a> | M12XM10/s=17 | 10 | <a href="#">11393.120.100</a> |
| M6XM10/s=13 | 25 | <a href="#">11393.060.100</a> | M10XM8/s=13  | 25 | <a href="#">11393.100.080</a> | M16XM10/s=24 | 5  | <a href="#">11393.160.100</a> |
| M8XM6/s=13  | 25 | <a href="#">11393.080.060</a> | M10XM12/s=13 | 25 | <a href="#">11393.100.120</a> | M16XM12/s=24 | 5  | <a href="#">11393.160.120</a> |
| M8XM10/s=13 | 25 | <a href="#">11393.080.100</a> | M10XM16/s=17 | 10 | <a href="#">11393.100.160</a> |              |    |                               |
| M8XM12/s=13 | 25 | <a href="#">11393.080.120</a> | M12XM8/s=17  | 10 | <a href="#">11393.120.080</a> |              |    |                               |

## Prevailing torque type hexagon nut with non-metallic insert



ISO 7040  
**DIN 985 (1987)**  
 NF E25-412



### Technical data

| d    | P    | h   | s   | d   | P   | h    | s  | d         | P   | h  | s  |
|------|------|-----|-----|-----|-----|------|----|-----------|-----|----|----|
| M2,5 | 0,45 | 3,5 | 5   | M16 | 2   | 16   | 24 | M42       | 4,5 | 42 | 65 |
| M3   | 0,5  | 4   | 5,5 | M18 | 2,5 | 18,5 | 27 | M45       | 4,5 | 45 | 70 |
| M4   | 0,7  | 5   | 7   | M20 | 2,5 | 20   | 30 | M48       | 5   | 48 | 75 |
| M5   | 0,8  | 5   | 8   | M22 | 2,5 | 22   | 32 | M52 (DIN) | 5   | 52 | 80 |
| M6   | 1    | 6   | 10  | M24 | 3   | 24   | 36 | M56 (DIN) | 5,5 | 56 | 85 |
| M7   | 1    | 7,5 | 11  | M27 | 3   | 27   | 41 | M60 (DIN) | 5,5 | 60 | 90 |
| M8   | 1,25 | 8   | 13  | M30 | 3,5 | 30   | 46 | M64 (DIN) | 6   | 64 | 95 |
| M10  | 1,5  | 10  | 17  | M33 | 3,5 | 33   | 50 |           |     |    |    |
| M12  | 1,75 | 12  | 19  | M36 | 4   | 36   | 55 |           |     |    |    |
| M14  | 2    | 14  | 22  | M39 | 4   | 39   | 60 |           |     |    |    |

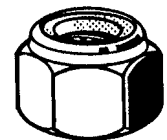
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging          | Code  | Page |
|--------|------------------|-----------|-------|-------------------|--------------------|-------|------|
| M      | hexagon          | St        | ≥ 5   | Zipl              | Standard           | 12300 | 3-48 |
| M      | hexagon          | St        | ≥ 5   | Zipl              | Large              | 12310 | 3-48 |
| M      | hexagon          | St        | ≥ 5   | Zipl yell.p.      | Standard           | 12302 | 3-49 |
| M      | hexagon          | St        | 6     | FLZNNC-NC6        | Standard           | 12307 | 3-49 |
| M      | hexagon          | St        | 8     | Zipl              | Standard           | 12348 | 3-49 |
| M      | hexagon          | St        | 8     | Zipl yell.p.      | Standard           | 12350 | 3-49 |
| M      | hexagon          | St        | 10    | Zipl              | Standard           | 12410 | 3-49 |
| M      | hexagon          | St        | 10    | Zipl yell.p.      | Standard           | 12450 | 3-50 |
| M      | hexagon          | St.St. A2 |       |                   | METALFORM Standard | 51729 | 3-50 |
| M      | hexagon          | St.St. A2 |       |                   | METALFORM Large    | 51728 | 3-50 |
| M      | hexagon          | St.St. A2 |       |                   | Standard           | 51730 | 3-50 |
| M      | hexagon          | St.St. A4 |       |                   | Standard           | 55730 | 3-51 |
| M      | hexagon          | Al Dural  |       |                   | Standard           | 45110 | 3-51 |

#### 12300 Prevailing torque type hexagon nut with non-metallic insert

F06A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥|5|  
**Surface treatment** Zinc plated  
**Packaging** Standard

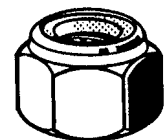


| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒ | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-----|---|-------------------------------|
| M2,5 | 250 | <a href="#">12300.025.001</a> | M14 | 100 | <a href="#">12300.140.001</a> | M36 | 5 | <a href="#">12300.360.001</a> |
| M3   | 250 | <a href="#">12300.030.001</a> | M16 | 50  | <a href="#">12300.160.001</a> | M39 | 5 | <a href="#">12300.390.001</a> |
| M4   | 250 | <a href="#">12300.040.001</a> | M18 | 50  | <a href="#">12300.180.001</a> | M42 | 5 | <a href="#">12300.420.001</a> |
| M5   | 250 | <a href="#">12300.050.001</a> | M20 | 25  | <a href="#">12300.200.001</a> | M45 | 4 | <a href="#">12300.450.001</a> |
| M6   | 250 | <a href="#">12300.060.001</a> | M22 | 25  | <a href="#">12300.220.001</a> | M48 | 4 | <a href="#">12300.480.001</a> |
| M7   | 250 | <a href="#">12300.070.001</a> | M24 | 25  | <a href="#">12300.240.001</a> | M52 | 1 | <a href="#">12300.520.001</a> |
| M8   | 250 | <a href="#">12300.080.001</a> | M27 | 10  | <a href="#">12300.270.001</a> | M56 | 1 | <a href="#">12300.560.001</a> |
| M10  | 200 | <a href="#">12300.100.001</a> | M30 | 10  | <a href="#">12300.300.001</a> | M60 | 1 | <a href="#">12300.600.001</a> |
| M12  | 100 | <a href="#">12300.120.001</a> | M33 | 5   | <a href="#">12300.330.001</a> | M64 | 1 | <a href="#">12300.640.001</a> |

#### 12310 Prevailing torque type hexagon nut with non-metallic insert

F06A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥|5|  
**Surface treatment** Zinc plated  
**Packaging** Large



| d  | ☒    | Art.number                    | d   | ☒    | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|-----|------|-------------------------------|-----|-----|-------------------------------|
| M3 | 2500 | <a href="#">12310.030.001</a> | M6  | 2500 | <a href="#">12310.060.001</a> | M12 | 500 | <a href="#">12310.120.001</a> |
| M4 | 2500 | <a href="#">12310.040.001</a> | M8  | 2000 | <a href="#">12310.080.001</a> | M16 | 250 | <a href="#">12310.160.001</a> |
| M5 | 2500 | <a href="#">12310.050.001</a> | M10 | 750  | <a href="#">12310.100.001</a> |     |     |                               |

|                          |  |  |  |   |
|--------------------------|--|--|--|---|
| <b>12302</b>             | <b>Prevailing torque type hexagon nut with non-metallic insert</b> |  |  | <b>F05A</b>   |
| <b>Thread</b>            | Metric thread  |  |  |  |
| <b>Material</b>          | Steel  |  |  |   |
| <b>Class</b>             | ≥ 5  |  |  |   |
| <b>Surface treatment</b> | Zinc plated yellow passivated                                      |  |  |   |
| <b>Packaging</b>         | Standard   |  |  |   |


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 250 | <a href="#">12302.030.001</a> | M8  | 250 | <a href="#">12302.080.001</a> | M18 | 50 | <a href="#">12302.180.001</a> |
| M4 | 250 | <a href="#">12302.040.001</a> | M10 | 100 | <a href="#">12302.100.001</a> | M20 | 25 | <a href="#">12302.200.001</a> |
| M5 | 250 | <a href="#">12302.050.001</a> | M12 | 100 | <a href="#">12302.120.001</a> | M22 | 25 | <a href="#">12302.220.001</a> |
| M6 | 250 | <a href="#">12302.060.001</a> | M14 | 100 | <a href="#">12302.140.001</a> | M24 | 25 | <a href="#">12302.240.001</a> |
| M7 | 200 | <a href="#">12302.070.001</a> | M16 | 50  | <a href="#">12302.160.001</a> |     |    |                               |

|                          |  |  |  |   |
|--------------------------|--|--|--|---|
| <b>12307</b>             | <b>Prevailing torque type hexagon nut with non-metallic insert</b> |  |  | <b>A96A</b>   |
| <b>Thread</b>            | Metric thread  |  |  |  |
| <b>Material</b>          | Steel  |  |  |   |
| <b>Class</b>             | 6  |  |  |   |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc                            |  |  |   |
| <b>Packaging</b>         | Standard   |  |  |   |


| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">12307.060.001</a> | M14 | 100 | <a href="#">12307.140.001</a> | M22 | 25 | <a href="#">12307.220.001</a> |
| M8  | 250 | <a href="#">12307.080.001</a> | M16 | 50  | <a href="#">12307.160.001</a> | M24 | 25 | <a href="#">12307.240.001</a> |
| M10 | 200 | <a href="#">12307.100.001</a> | M18 | 50  | <a href="#">12307.180.001</a> | M27 | 10 | <a href="#">12307.270.001</a> |
| M12 | 100 | <a href="#">12307.120.001</a> | M20 | 25  | <a href="#">12307.200.001</a> | M30 | 10 | <a href="#">12307.300.001</a> |

|                          |  |  |  |   |
|--------------------------|--|--|--|---|
| <b>12348</b>             | <b>Prevailing torque type hexagon nut with non-metallic insert</b> |  |  | <b>F05A</b>   |
| <b>Thread</b>            | Metric thread  |  |  |  |
| <b>Material</b>          | Steel  |  |  |   |
| <b>Class</b>             | 8  |  |  |   |
| <b>Surface treatment</b> | Zinc plated  |  |  |   |
| <b>Packaging</b>         | Standard   |  |  |   |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4  | 250 | <a href="#">12348.040.001</a> | M14 | 100 | <a href="#">12348.140.001</a> | M27 | 10 | <a href="#">12348.270.001</a> |
| M5  | 250 | <a href="#">12348.050.001</a> | M16 | 50  | <a href="#">12348.160.001</a> | M30 | 10 | <a href="#">12348.300.001</a> |
| M6  | 250 | <a href="#">12348.060.001</a> | M18 | 50  | <a href="#">12348.180.001</a> | M33 | 5  | <a href="#">12348.330.001</a> |
| M8  | 250 | <a href="#">12348.080.001</a> | M20 | 25  | <a href="#">12348.200.001</a> | M36 | 5  | <a href="#">12348.360.001</a> |
| M10 | 200 | <a href="#">12348.100.001</a> | M22 | 25  | <a href="#">12348.220.001</a> |     |    |                               |
| M12 | 100 | <a href="#">12348.120.001</a> | M24 | 25  | <a href="#">12348.240.001</a> |     |    |                               |

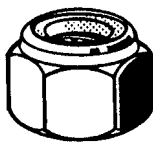
|                          |  |  |  |   |
|--------------------------|--|--|--|---|
| <b>12350</b>             | <b>Prevailing torque type hexagon nut with non-metallic insert</b> |  |  | <b>F05A</b>   |
| <b>Thread</b>            | Metric thread  |  |  |  |
| <b>Material</b>          | Steel  |  |  |   |
| <b>Class</b>             | 8  |  |  |   |
| <b>Surface treatment</b> | Zinc plated yellow passivated                                      |  |  |   |
| <b>Packaging</b>         | Standard   |  |  |   |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">12350.060.001</a> | M14 | 100 | <a href="#">12350.140.001</a> | M27 | 10 | <a href="#">12350.270.001</a> |
| M8  | 250 | <a href="#">12350.080.001</a> | M16 | 50  | <a href="#">12350.160.001</a> | M30 | 10 | <a href="#">12350.300.001</a> |
| M10 | 200 | <a href="#">12350.100.001</a> | M20 | 25  | <a href="#">12350.200.001</a> |     |    |                               |
| M12 | 100 | <a href="#">12350.120.001</a> | M24 | 25  | <a href="#">12350.240.001</a> |     |    |                               |

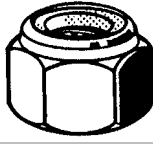
|                          |  |  |  |   |
|--------------------------|--|--|--|---|
| <b>12410</b>             | <b>Prevailing torque type hexagon nut with non-metallic insert</b> |  |  | <b>F05A</b>   |
| <b>Thread</b>            | Metric thread  |  |  |  |
| <b>Material</b>          | Steel  |  |  |   |
| <b>Class</b>             | 10   |  |  |   |
| <b>Surface treatment</b> | Zinc plated  |  |  |   |
| <b>Packaging</b>         | Standard   |  |  |   |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5  | 250 | <a href="#">12410.050.001</a> | M12 | 100 | <a href="#">12410.120.001</a> | M20 | 25 | <a href="#">12410.200.001</a> |
| M6  | 250 | <a href="#">12410.060.001</a> | M14 | 100 | <a href="#">12410.140.001</a> | M22 | 25 | <a href="#">12410.220.001</a> |
| M8  | 250 | <a href="#">12410.080.001</a> | M16 | 50  | <a href="#">12410.160.001</a> | M24 | 25 | <a href="#">12410.240.001</a> |
| M10 | 200 | <a href="#">12410.100.001</a> | M18 | 50  | <a href="#">12410.180.001</a> | M27 | 10 | <a href="#">12410.270.001</a> |

3

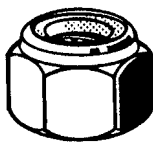
| 12450 Prevailing torque type hexagon nut with non-metallic insert |                               | F05A  |
|---|-------------------------------|---|
| <b>Thread</b>   | Metric thread                 |  |
| <b>Material</b>   | Steel                         |   |
| <b>Class</b>  | [10]                          |   |
| <b>Surface treatment</b>  | Zinc plated yellow passivated |   |
| <b>Packaging</b>  | Standard                      |   |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">12450.060.001</a> | M14 | 100 | <a href="#">12450.140.001</a> | M27 | 10 | <a href="#">12450.270.001</a> |
| M8  | 250 | <a href="#">12450.080.001</a> | M16 | 50  | <a href="#">12450.160.001</a> | M30 | 10 | <a href="#">12450.300.001</a> |
| M10 | 200 | <a href="#">12450.100.001</a> | M20 | 25  | <a href="#">12450.200.001</a> |     |    |                               |
| M12 | 100 | <a href="#">12450.120.001</a> | M24 | 25  | <a href="#">12450.240.001</a> |     |    |                               |

| 51729 Prevailing torque type hexagon nut with non-metallic insert, Metalform |                              | R09A  |
|--|------------------------------|---|
| <b>Thread</b>  | Metric thread                |  |
| <b>Material</b>  | Stainless steel A2           |   |
| <b>Packaging</b>   | Standard                     |   |
|  | ISO 10511                    |   |
|  | DIN 985 (1987)<br>NF E25-412 |   |

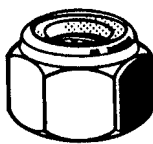
| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M4 | 100 | <a href="#">51729.040.001</a> | M8  | 50 | <a href="#">51729.080.001</a> | M16 | 10 | <a href="#">51729.160.001</a> |
| M5 | 100 | <a href="#">51729.050.001</a> | M10 | 50 | <a href="#">51729.100.001</a> | M20 | 10 | <a href="#">51729.200.001</a> |
| M6 | 100 | <a href="#">51729.060.001</a> | M12 | 25 | <a href="#">51729.120.001</a> |     |    |                               |

- Special features of METALFORM:
- Is a dry partly visible lubricant which eliminates the possibility of seizure of threaded stainless steel fasteners.
- In addition the friction coefficient is reduced to a more constant value.
- In a bolt/nut combination its sufficient that only the nut is lubricated to prevent seizure with METALFORM.
- Can be removed very easily with a solvent after application, so theres no objection of using this application in the food industry

| 51728 Prevailing torque type hexagon nut with non-metallic insert, Metalform |                              | R09A  |
|--|------------------------------|---|
| <b>Thread</b>  | Metric thread                |  |
| <b>Material</b>  | Stainless steel A2           |   |
| <b>Packaging</b>   | Large                        |   |
|  | ISO 10511                    |   |
|  | DIN 985 (1987)<br>NF E25-412 |   |

| d  | ☒    | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M6 | 1000 | <a href="#">51728.060.001</a> | M8 | 500 | <a href="#">51728.080.001</a> | M10 | 500 | <a href="#">51728.100.001</a> |

- Special features of METALFORM:
- Is a dry partly visible lubricant which eliminates the possibility of seizure of threaded stainless steel fasteners.
- In addition the friction coefficient is reduced to a more constant value.
- In a bolt/nut combination its sufficient that only the nut is lubricated to prevent seizure with METALFORM.
- Can be removed very easily with a solvent after application, so theres no objection of using this application in the food industry

| 51730 Prevailing torque type hexagon nut with non-metallic insert |                    | R09A  |
|---|--------------------|---|
| <b>Thread</b>   | Metric thread      |  |
| <b>Material</b>   | Stainless steel A2 |   |
| <b>Packaging</b>  | Standard           |   |
|   |                    |   |
|   |                    |   |

| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M2,5 | 200 | <a href="#">51730.025.001</a> | M8  | 100 | <a href="#">51730.080.001</a> | M20 | 20 | <a href="#">51730.200.001</a> |
| M3   | 200 | <a href="#">51730.030.001</a> | M10 | 100 | <a href="#">51730.100.001</a> | M24 | 10 | <a href="#">51730.240.001</a> |
| M4   | 200 | <a href="#">51730.040.001</a> | M12 | 50  | <a href="#">51730.120.001</a> | M27 | 5  | <a href="#">51730.270.001</a> |
| M5   | 200 | <a href="#">51730.050.001</a> | M14 | 50  | <a href="#">51730.140.001</a> | M30 | 5  | <a href="#">51730.300.001</a> |
| M6   | 200 | <a href="#">51730.060.001</a> | M16 | 20  | <a href="#">51730.160.001</a> |     |    |                               |

- Stainless steel prevailing torque type hexagon nuts with plastic insert can cause seizing of the bolt thread resulting in fracture.
- It is recommended to use METALFORM stainless steel prevailing torque type hexagon nuts with plastic insert (51729 and 51728) or Molykote P-37 (90710.000.500) or Loctite 8009 (90008.009.454) anti-seize and lubricating compound.



| 55730 Prevailing torque type hexagon nut with non-metallic insert |                    | R49A |
|---|--------------------|------|
| <b>Thread</b>   | Metric thread      |      |
| <b>Material</b>   | Stainless steel A4 |      |
| <b>Packaging</b>  | Standard           |      |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 200 | <a href="#">55730.030.001</a> | M10 | 100 | <a href="#">55730.100.001</a> | M24 | 10 | <a href="#">55730.240.001</a> |
| M4 | 200 | <a href="#">55730.040.001</a> | M12 | 50  | <a href="#">55730.120.001</a> | M27 | 5  | <a href="#">55730.270.001</a> |
| M5 | 200 | <a href="#">55730.050.001</a> | M14 | 50  | <a href="#">55730.140.001</a> | M30 | 5  | <a href="#">55730.300.001</a> |
| M6 | 200 | <a href="#">55730.060.001</a> | M16 | 20  | <a href="#">55730.160.001</a> |     |    |                               |
| M8 | 100 | <a href="#">55730.080.001</a> | M20 | 20  | <a href="#">55730.200.001</a> |     |    |                               |

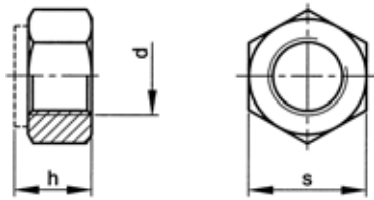
- Stainless steel prevailing torque type hexagon nuts with plastic insert can cause seizing of the bolt thread resulting in fracture.
- It is recommended to use METALFORM stainless steel prevailing torque type hexagon nuts with plastic insert (51729 and 51728) or Molykote P-37 (90710.000.500) or Loctite 8009 (90008.009.454) anti-seize and lubricating compound.

3

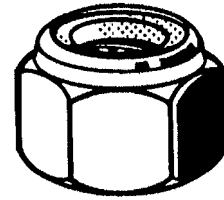
| 45110 Prevailing torque type hexagon nut with non-metallic insert |   | W010 |
|---|---|------|
| <b>Thread</b>   | Metric thread                               |      |
| <b>Material</b>   | Aluminium Dural                             |      |
| <b>Packaging</b>  | Standard                                    |      |
|   | ISO ≈7040<br>DIN ≈985 (1987)<br>NF ≈E25-412 |      |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 200 | <a href="#">45110.030.001</a> | M6  | 200 | <a href="#">45110.060.001</a> | M12 | 50 | <a href="#">45110.120.001</a> |
| M4 | 200 | <a href="#">45110.040.001</a> | M8  | 100 | <a href="#">45110.080.001</a> | M16 | 20 | <a href="#">45110.160.001</a> |
| M5 | 200 | <a href="#">45110.050.001</a> | M10 | 100 | <a href="#">45110.100.001</a> |     |    |                               |

## Prevailing torque type hexagon nut with non-metallic insert MF



ISO 10512  
 DIN 985 (1987)  
 NF E25-412



### Technical data

| d   | h    | s  | d   | h  | s  | d   | h  | s  |
|-----|------|----|-----|----|----|-----|----|----|
| M8  | 8    | 13 | M20 | 20 | 30 | M36 | 36 | 55 |
| M10 | 10   | 17 | M22 | 22 | 32 | M39 | 39 | 60 |
| M12 | 12   | 19 | M24 | 24 | 36 | M42 | 42 | 65 |
| M14 | 14   | 22 | M27 | 27 | 41 | M45 | 45 | 70 |
| M16 | 16   | 24 | M30 | 30 | 46 | M48 | 48 | 75 |
| M18 | 18,5 | 27 | M33 | 33 | 50 |     |    |    |

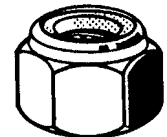
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| MF     | hexagon          | St       | ≥ 5   | Zipl              | Standard  | 12320 | 3-52 |
| MF     | hexagon          | St       | 8     | Zipl yell.p.      | Standard  | 12352 | 3-52 |
| MF     | hexagon          | St       | 10    | Zipl yell.p.      | Standard  | 12422 | 3-53 |

#### 12320 Prevailing torque type hexagon nut with non-metallic insert MF

F05A

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric fine thread |
| <b>Material</b>          | Steel              |
| <b>Class</b>             | ≥ 5                |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |

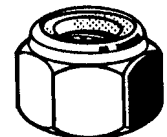


| d x P           | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒ | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|---|-------------------------------|
| M8X1,00         | 250 | <a href="#">12320.080.100</a> | M22X1,50        | 25 | <a href="#">12320.220.150</a> | M36X3,00        | 5 | <a href="#">12320.360.300</a> |
| M10X1,00        | 200 | <a href="#">12320.100.100</a> | M24X1,50 (≠DIN) | 25 | <a href="#">12320.240.150</a> | M39X3,00        | 5 | <a href="#">12320.390.300</a> |
| M10X1,25        | 200 | <a href="#">12320.100.125</a> | M24X2,00        | 25 | <a href="#">12320.240.200</a> | M42X1,50 (≠DIN) | 5 | <a href="#">12320.420.150</a> |
| M12X1,00 (≠DIN) | 100 | <a href="#">12320.120.100</a> | M27X1,50 (≠DIN) | 10 | <a href="#">12320.270.150</a> | M42X3,00        | 5 | <a href="#">12320.420.300</a> |
| M12X1,25        | 100 | <a href="#">12320.120.125</a> | M27X2,00        | 10 | <a href="#">12320.270.200</a> | M45X3,00        | 4 | <a href="#">12320.450.300</a> |
| M12X1,50        | 100 | <a href="#">12320.120.150</a> | M30X1,50 (≠DIN) | 10 | <a href="#">12320.300.150</a> | M48X1,50 (≠DIN) | 4 | <a href="#">12320.480.150</a> |
| M14X1,50        | 100 | <a href="#">12320.140.150</a> | M30X2,00        | 10 | <a href="#">12320.300.200</a> | M48X3,00        | 4 | <a href="#">12320.480.300</a> |
| M16X1,50        | 50  | <a href="#">12320.160.150</a> | M33X1,50 (≠DIN) | 5  | <a href="#">12320.330.150</a> |                 |   |                               |
| M18X1,50        | 50  | <a href="#">12320.180.150</a> | M33X2,00        | 5  | <a href="#">12320.330.200</a> |                 |   |                               |
| M20X1,50        | 25  | <a href="#">12320.200.150</a> | M36X1,50 (≠DIN) | 5  | <a href="#">12320.360.150</a> |                 |   |                               |
| M20X2,00        | 25  | <a href="#">12320.200.200</a> |                 |    |                               |                 |   |                               |

#### 12352 Prevailing torque type hexagon nut with non-metallic insert MF

F05A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric fine thread            |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 8                             |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |

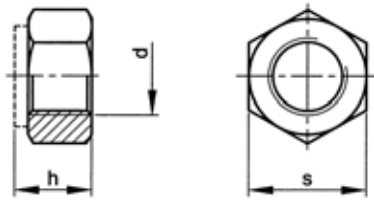


| d x P    | ☒   | Art.number                    | d x P    | ☒   | Art.number                    | d x P    | ☒  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M10X1,00 | 200 | <a href="#">12352.100.100</a> | M12X1,50 | 100 | <a href="#">12352.120.150</a> | M20X1,50 | 25 | <a href="#">12352.200.150</a> |
| M10X1,25 | 200 | <a href="#">12352.100.125</a> | M14X1,50 | 100 | <a href="#">12352.140.150</a> | M24X2,00 | 25 | <a href="#">12352.240.200</a> |
| M12X1,25 | 100 | <a href="#">12352.120.125</a> | M16X1,50 | 50  | <a href="#">12352.160.150</a> |          |    |                               |

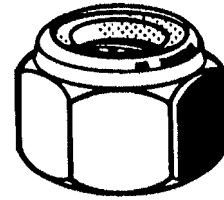
|                          |   |   |
|--------------------------|---|---|
| <b>12422</b>             | <b>Prevailing torque type hexagon nut with non-metallic insert MF</b> | <b>F05A</b>   |
| <b>Thread</b>            | Metric fine thread  |  |
| <b>Material</b>          | Steel   |   |
| <b>Class</b>             | 10  |   |
| <b>Surface treatment</b> | Zinc plated yellow passivated   |   |
| <b>Packaging</b>         | Standard  |   |

| <b>d x P</b> | ✉   | <b>Art.number</b>             | <b>d x P</b> | ✉   | <b>Art.number</b>             | <b>d x P</b> | ✉  | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|----|-------------------------------|
| M8X1,00      | 250 | <a href="#">12422.080.100</a> | M14X1,50     | 100 | <a href="#">12422.140.150</a> | M20X1,50     | 25 | <a href="#">12422.200.150</a> |
| M10X1,00     | 200 | <a href="#">12422.100.100</a> | M16X1,50     | 50  | <a href="#">12422.160.150</a> | M24X1,50     | 25 | <a href="#">12422.240.150</a> |
| M12X1,50     | 100 | <a href="#">12422.120.150</a> | M18X1,50     | 50  | <a href="#">12422.180.150</a> |              |    |                               |

## Prevailing torque type hexagon nut with non-metallic insert high type



ISO 7040  
 DIN 982  
 NF E25-409



### Technical data

| d   | P    | h    | s  | d   | P    | h  | s  | d   | P   | h  | s  |
|-----|------|------|----|-----|------|----|----|-----|-----|----|----|
| M5  | 0,8  | 6,3  | 8  | M12 | 1,75 | 14 | 19 | M20 | 2,5 | 22 | 30 |
| M6  | 1    | 8    | 10 | M14 | 2    | 16 | 22 | M22 | 2,5 | 25 | 32 |
| M8  | 1,25 | 9,5  | 13 | M16 | 2    | 18 | 24 | M24 | 3   | 28 | 36 |
| M10 | 1,5  | 11,5 | 17 | M18 | 2,5  | 20 | 27 |     |     |    |    |

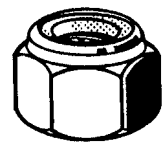
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St        | 8     | Zipl              | Standard  | 12600 | 3-54 |
| M      | hexagon          | St        | 10    | Zipl yell.p.      | Standard  | 12662 | 3-54 |
| M      | hexagon          | St.St. A4 |       |                   | Standard  | 55718 | 3-54 |

#### 12600 Prevailing torque type hexagon nut with non-metallic insert high type

F05A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 8             |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

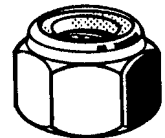


| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5  | 250 | <a href="#">12600.050.001</a> | M12 | 100 | <a href="#">12600.120.001</a> | M20 | 25 | <a href="#">12600.200.001</a> |
| M6  | 250 | <a href="#">12600.060.001</a> | M14 | 100 | <a href="#">12600.140.001</a> | M22 | 25 | <a href="#">12600.220.001</a> |
| M8  | 250 | <a href="#">12600.080.001</a> | M16 | 50  | <a href="#">12600.160.001</a> | M24 | 25 | <a href="#">12600.240.001</a> |
| M10 | 200 | <a href="#">12600.100.001</a> | M18 | 50  | <a href="#">12600.180.001</a> |     |    |                               |

#### 12662 Prevailing torque type hexagon nut with non-metallic insert high type

F05A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 10                            |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |

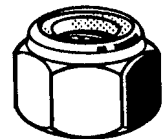


| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">12662.060.001</a> | M12 | 100 | <a href="#">12662.120.001</a> | M20 | 25 | <a href="#">12662.200.001</a> |
| M8  | 250 | <a href="#">12662.080.001</a> | M14 | 100 | <a href="#">12662.140.001</a> | M24 | 25 | <a href="#">12662.240.001</a> |
| M10 | 200 | <a href="#">12662.100.001</a> | M16 | 50  | <a href="#">12662.160.001</a> |     |    |                               |

#### 55718 Prevailing torque type hexagon nut with non-metallic insert high type

R49A

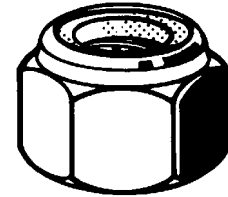
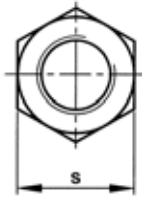
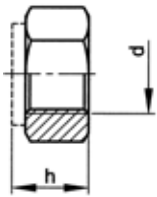
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |
|                  | ISO ≈7040          |
|                  | DIN ≈982           |
|                  | NF ≈E25-409        |



| d    | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M5 * | 200 | <a href="#">55718.050.001</a> | M10 | 50 | <a href="#">55718.100.001</a> | M16 | 10 | <a href="#">55718.160.001</a> |
| M6   | 100 | <a href="#">55718.060.001</a> | M12 | 25 | <a href="#">55718.120.001</a> | M20 | 10 | <a href="#">55718.200.001</a> |
| M8   | 50  | <a href="#">55718.080.001</a> | M14 | 25 | <a href="#">55718.140.001</a> | M24 | 5  | <a href="#">55718.240.001</a> |

- Stainless steel prevailing torque type hexagon nuts with plastic insert can cause seizing of the bolt thread resulting in fracture.
- It is recommended to use METALFORM stainless steel prevailing torque type hexagon nuts with plastic insert (51729 and 51728) or Molykote P-37 (90710.000.500) or Loctite 8009 (90008.009.454) anti-seize and lubricating compound.

## Prevailing torque type hexagon nut with non-metallic insert UNC



### Technical data

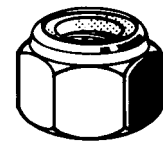
| d     | Threads per inch | h    | s      |
|-------|------------------|------|--------|
| No.8  | 32               | 5,6  | 11/32  |
| No.10 | 24               | 6    | 3/8    |
| 1/4   | 20               | 8,3  | 7/16   |
| 5/16  | 18               | 9,1  | 1/2    |
| 3/8   | 16               | 11,9 | 9/16   |
| 7/16  | 14               | 11,9 | 11/16  |
| 1/2   | 13               | 15,5 | 3/4    |
| 9/16  | 12               | 16,7 | 7/8    |
| 5/8   | 11               | 19,4 | 15/16  |
| 3/4   | 10               | 22,6 | 1.1/8  |
| 7/8   | 9                | 25,3 | 1.5/16 |
| 1.IN. | 8                | 27,6 | 1.1/2  |
| 1.1/4 | 7                | 34,2 | 1.7/8  |
| 1.1/2 | 6                | 40,7 | 2.1/4  |

- These prevailing torque type hexagon nuts are not standardised.
- Depending on availability the dimensions may deviate.

### 12380 Prevailing torque type hexagon nut with non-metallic insert UNC

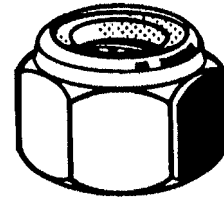
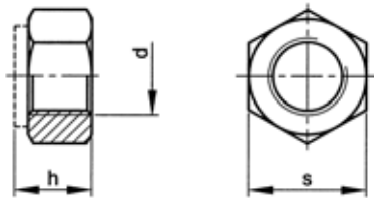
X09A

|                          |                         |
|--------------------------|-------------------------|
| <b>Thread</b>            | Unified National Coarse |
| <b>Material</b>          | Steel                   |
| <b>Class</b>             | ≥6                      |
| <b>Surface treatment</b> | Zinc plated             |
| <b>Packaging</b>         | Standard                |



| d     | ☒   | Art.number                    | d    | ☒   | Art.number                    | d     | ☒  | Art.number                    |
|-------|-----|-------------------------------|------|-----|-------------------------------|-------|----|-------------------------------|
| No.8  | 100 | <a href="#">12380.041.001</a> | 7/16 | 100 | <a href="#">12380.111.001</a> | 7/8   | 25 | <a href="#">12380.222.001</a> |
| No.10 | 100 | <a href="#">12380.048.001</a> | 1/2  | 100 | <a href="#">12380.127.001</a> | 1.IN. | 10 | <a href="#">12380.254.001</a> |
| 1/4   | 100 | <a href="#">12380.063.001</a> | 9/16 | 50  | <a href="#">12380.142.001</a> | 1.1/4 | 5  | <a href="#">12380.317.001</a> |
| 5/16  | 100 | <a href="#">12380.079.001</a> | 5/8  | 50  | <a href="#">12380.158.001</a> | 1.1/2 | 5  | <a href="#">12380.381.001</a> |
| 3/8   | 100 | <a href="#">12380.096.001</a> | 3/4  | 50  | <a href="#">12380.191.001</a> |       |    |                               |

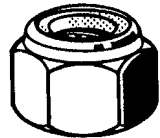
## Prevailing torque type hexagon nut with non-metallic insert UNF



### Technical data

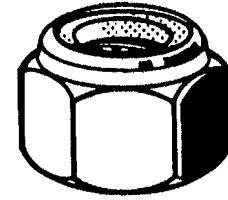
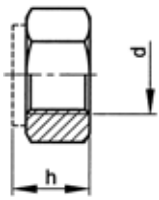
| d         | Threads per inch | h    | s      |
|-----------|------------------|------|--------|
| 1/4       | 28               | 8,3  | 7/16   |
| 5/16      | 24               | 9,1  | 1/2    |
| 3/8       | 24               | 11,9 | 9/16   |
| 7/16      | 20               | 11,9 | 11/16  |
| 1/2       | 20               | 15,5 | 3/4    |
| 9/16      | 18               | 16,7 | 7/8    |
| 5/8       | 18               | 19,4 | 15/16  |
| 3/4       | 16               | 22,6 | 1.1/8  |
| 7/8       | 14               | 25,3 | 1.5/16 |
| 1.IN.-12G | 12               | 27,6 | 1.1/2  |
| 1.IN.-14G | 14               | 27,6 | 1.1/2  |
| 1.1/4     | 12               | 34,2 | 1.7/8  |
| 1.1/2     | 12               | 40,7 | 2.1/4  |

- These prevailing torque type hexagon nuts are not standardised. Depending on availability the dimensions may deviate.
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

| 12370 Prevailing torque type hexagon nut with non-metallic insert UNF |                       | X09A  |
|---|-----------------------|---|
| <b>Thread</b>   | Unified National Fine |  |
| <b>Material</b>   | Steel                 |   |
| <b>Class</b>  | ≥6                    |   |
| <b>Surface treatment</b>  | Zinc plated           |   |
| <b>Packaging</b>  | Standard              |   |

| d    | ☒   | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 100 | <a href="#">12370.063.001</a> | 9/16  | 50 | <a href="#">12370.142.001</a> | 1-14G | 10 | <a href="#">12370.256.001</a> |
| 5/16 | 100 | <a href="#">12370.079.001</a> | 5/8   | 50 | <a href="#">12370.158.001</a> | 1.1/4 | 5  | <a href="#">12370.317.001</a> |
| 3/8  | 100 | <a href="#">12370.096.001</a> | 3/4   | 50 | <a href="#">12370.191.001</a> | 1.1/2 | 5  | <a href="#">12370.381.001</a> |
| 7/16 | 100 | <a href="#">12370.111.001</a> | 7/8   | 25 | <a href="#">12370.222.001</a> |       |    |                               |
| 1/2  | 100 | <a href="#">12370.127.001</a> | 1-12G | 10 | <a href="#">12370.255.001</a> |       |    |                               |

## Prevailing torque type hexagon nut with non-metallic insert BSF



### Technical data

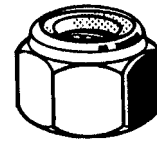
| d    | Threads per inch | h    | s     |
|------|------------------|------|-------|
| 1/4  | 26               | 8,3  | 7/16  |
| 5/16 | 22               | 9,1  | 1/2   |
| 3/8  | 20               | 11,9 | 9/16  |
| 7/16 | 18               | 11,9 | 11/16 |
| 1/2  | 16               | 15,5 | 3/4   |
| 9/16 | 16               | 16,7 | 7/8   |
| 5/8  | 14               | 19,4 | 15/16 |
| 3/4  | 12               | 22,6 | 1.1/8 |

- These prevailing torque type hexagon nuts are not standardised. Depending on availability the dimensions may deviate.
- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).

### 12400 Prevailing torque type hexagon nut with non-metallic insert BSF

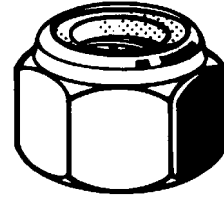
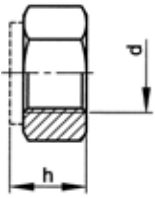
X90A

|                          |                       |
|--------------------------|-----------------------|
| <b>Thread</b>            | British Standard Fine |
| <b>Material</b>          | Steel                 |
| <b>Class</b>             | 6                     |
| <b>Surface treatment</b> | Zinc plated           |
| <b>Packaging</b>         | Standard              |



| d    | ☒   | Art.number                    | d    | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-----|----|-------------------------------|
| 1/4  | 100 | <a href="#">12400.063.001</a> | 7/16 | 100 | <a href="#">12400.111.001</a> | 5/8 | 25 | <a href="#">12400.158.001</a> |
| 5/16 | 100 | <a href="#">12400.079.001</a> | 1/2  | 50  | <a href="#">12400.127.001</a> | 3/4 | 25 | <a href="#">12400.191.001</a> |
| 3/8  | 100 | <a href="#">12400.096.001</a> | 9/16 | 50  | <a href="#">12400.142.001</a> |     |    |                               |

## Prevailing torque type hexagon nut with non-metallic insert BSW



### Technical data

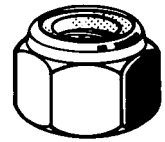
| d     | Threads per inch | h    | s       |
|-------|------------------|------|---------|
| 1/4   | 20               | 8,3  | 7/16    |
| 5/16  | 18               | 9,1  | 1/2     |
| 3/8   | 16               | 11,9 | 9/16    |
| 1/2   | 12               | 15,5 | 3/4     |
| 5/8   | 11               | 19,4 | 15/16   |
| 3/4   | 10               | 22,6 | 1.1/8   |
| 7/8   | 9                | 25,3 | 1.5/16  |
| 1.IN. | 8                | 27,6 | 1.1/2   |
| 1.1/4 | 7                | 36,1 | 1.13/16 |

- These prevailing torque type hexagon nuts are not standardised. Depending on availability the dimensions may deviate.
- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).

### 12340 Prevailing torque type hexagon nut with non-metallic insert BSW

X08A

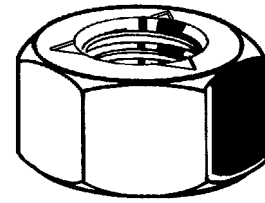
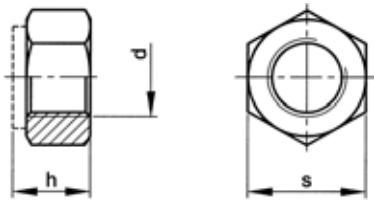
|                          |                            |
|--------------------------|----------------------------|
| <b>Thread</b>            | British Standard Whitworth |
| <b>Material</b>          | Steel                      |
| <b>Class</b>             | 6                          |
| <b>Surface treatment</b> | Zinc plated                |
| <b>Packaging</b>         | Standard                   |



| d    | ☒   | Art.number                    | d   | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 100 | <a href="#">12340.063.001</a> | 1/2 | 50 | <a href="#">12340.127.001</a> | 7/8   | 10 | <a href="#">12340.222.001</a> |
| 5/16 | 100 | <a href="#">12340.079.001</a> | 5/8 | 25 | <a href="#">12340.158.001</a> | 1.IN. | 10 | <a href="#">12340.254.001</a> |
| 3/8  | 100 | <a href="#">12340.096.001</a> | 3/4 | 25 | <a href="#">12340.191.001</a> |       |    |                               |



**Prevailing torque type hexagon nut all stainless steel**



**Technical data**

| d  | P   | h   | s   |
|----|-----|-----|-----|
| M3 | 0,5 | 2,4 | 5,5 |
| M4 | 0,7 | 3,2 | 7   |
| M5 | 0,8 | 4   | 8   |
| M6 | 1   | 5   | 10  |

| d   | P    | h   | s  |
|-----|------|-----|----|
| M8  | 1,25 | 6,5 | 13 |
| M10 | 1,5  | 8   | 17 |
| M12 | 1,75 | 10  | 19 |
| M14 | 2    | 11  | 22 |

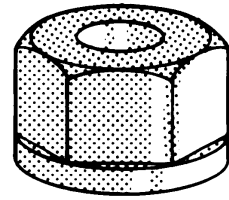
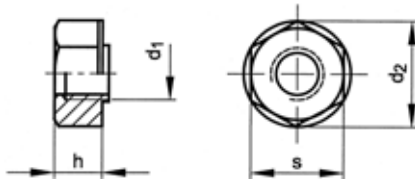
| d   | P   | h  | s  |
|-----|-----|----|----|
| M16 | 2   | 13 | 24 |
| M20 | 2,5 | 16 | 30 |
| M24 | 3   | 19 | 36 |

- This prevailing torque type hexagon nut is a one piece all metal stainless steel A2 nut.
- The locking is achieved by local radial deformation of the screwthread.

| 51720 Prevailing torque type hexagon nut all stainless steel |                    | R09A |
|--|--------------------|------|
| Thread   | Metric thread      |      |
| Material   | Stainless steel A2 |      |
| Class  | 70                 |      |
| Packaging  | Standard           |      |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">51720.030.001</a> | M8  | 50 | <a href="#">51720.080.001</a> | M16 | 10 | <a href="#">51720.160.001</a> |
| M4 | 100 | <a href="#">51720.040.001</a> | M10 | 50 | <a href="#">51720.100.001</a> | M20 | 10 | <a href="#">51720.200.001</a> |
| M5 | 100 | <a href="#">51720.050.001</a> | M12 | 25 | <a href="#">51720.120.001</a> | M24 | 5  | <a href="#">51720.240.001</a> |
| M6 | 100 | <a href="#">51720.060.001</a> | M14 | 25 | <a href="#">51720.140.001</a> |     |    |                               |

**Prevailing torque type hexagon nut plastic**



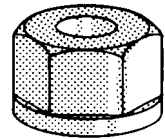
**Technical data**

| d1 | P    | s  | h    | d2   |
|----|------|----|------|------|
| M3 | 0,5  | 6  | 5,5  | 6,7  |
| M4 | 0,7  | 7  | 6,4  | 9,3  |
| M5 | 0,8  | 9  | 7,3  | 10,5 |
| M6 | 1    | 10 | 8    | 11,4 |
| M8 | 1,25 | 14 | 10,3 | 16,2 |

**56220 Prevailing torque type hexagon nut plastic**

W02A

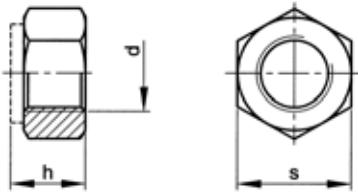
|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |



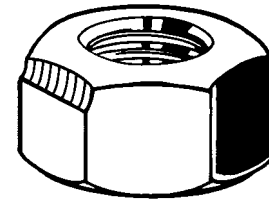
| d1 | ☒   | Art.number                    | d1 | ☒   | Art.number                    | d1 | ☒ | Art.number |
|----|-----|-------------------------------|----|-----|-------------------------------|----|---|------------|
| M4 | 100 | <a href="#">56220.040.001</a> | M6 | 100 | <a href="#">56220.060.001</a> |    |   |            |
| M5 | 100 | <a href="#">56220.050.001</a> | M8 | 50  | <a href="#">56220.080.001</a> |    |   |            |

3

## Prevailing torque type hexagon nut all metal



ISO 7042  
**DIN 980V (1987)**  
 NEN 2452  
 NF E25-410  
 BS 4929-1



### Technical data

| d          | P    | h (max.) | s  |
|------------|------|----------|----|
| <b>M5</b>  | 0,8  | 5,1      | 8  |
| <b>M6</b>  | 1    | 6        | 10 |
| <b>M8</b>  | 1,25 | 8        | 13 |
| <b>M10</b> | 1,5  | 10       | 17 |

| d          | P    | h (max.) | s  |
|------------|------|----------|----|
| <b>M12</b> | 1,75 | 12       | 19 |
| <b>M14</b> | 2    | 14       | 22 |
| <b>M16</b> | 2    | 16       | 24 |
| <b>M20</b> | 2,5  | 20       | 30 |

| d          | P   | h (max.) | s  |
|------------|-----|----------|----|
| <b>M24</b> | 3   | 24       | 36 |
| <b>M30</b> | 3,5 | 30       | 46 |

3

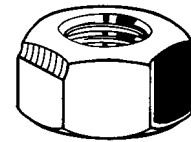
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 8     | Zipl              | Standard  | 12858 | 3-61 |
| M      | hexagon          | St       | 8     | Zipl yell.p.      | Standard  | 12880 | 3-61 |
| M      | hexagon          | St       | 10    | Zipl              | Standard  | 12910 | 3-62 |

#### 12858 STOVER Prevailing torque type hexagon nut all metal

F01J

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 8             |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



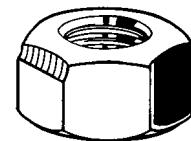
| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5  | 250 | <a href="#">12858.050.001</a> | M12 | 100 | <a href="#">12858.120.001</a> | M24 | 25 | <a href="#">12858.240.001</a> |
| M6  | 250 | <a href="#">12858.060.001</a> | M14 | 100 | <a href="#">12858.140.001</a> | M30 | 25 | <a href="#">12858.300.001</a> |
| M8  | 250 | <a href="#">12858.080.001</a> | M16 | 50  | <a href="#">12858.160.001</a> |     |    |                               |
| M10 | 200 | <a href="#">12858.100.001</a> | M20 | 25  | <a href="#">12858.200.001</a> |     |    |                               |

- Special features of type STOVER prevailing torque type hexagon nuts:
- Is a one piece all metal class 8 nut, acc. to DIN 980 V.
- The locking is achieved by local radial deformation of a part of the nut. First the nut runs freely on the thread until the locking part is reached, after which the clamping force increases gradually to a maximum. This progressive locking action with distributed pressure over a large surface prevents damage of the thread.
- Resistant to shocks, vibrations and dynamic loads.
- Re-usable.

#### 12880 STOVER Prevailing torque type hexagon nut all metal

F01J

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 8                             |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d  | ☒    | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M6 | 4000 | <a href="#">12880.060.001</a> | M10 | 750 | <a href="#">12880.100.001</a> | M14 | 250 | <a href="#">12880.140.001</a> |
| M8 | 2000 | <a href="#">12880.080.001</a> | M12 | 500 | <a href="#">12880.120.001</a> | M16 | 100 | <a href="#">12880.160.001</a> |

- Special features of type STOVER prevailing torque type hexagon nuts:
- Is a one piece all metal class 8 nut, acc. to DIN 980 V.
- The locking is achieved by local radial deformation of a part of the nut. First the nut runs freely on the thread until the locking part is reached, after which the clamping force increases gradually to a maximum. This progressive locking action with distributed pressure over a large surface prevents damage of the thread.
- Resistant to shocks, vibrations and dynamic loads.
- Re-usable.

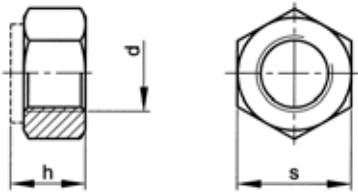
| 12910 Prevailing torque type hexagon nut all metal |               | F01J  |
|--|---------------|---|
| <b>Thread</b>                                      | Metric thread |  |
| <b>Material</b>                                    | Steel         |   |
| <b>Class</b>                                       | 10            |   |
| <b>Surface treatment</b>                           | Zinc plated   |   |
| <b>Packaging</b>                                   | Standard      |   |

| d   | ✉   | Art.number                    | d   | ✉   | Art.number                    | d   | ✉  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">12910.060.001</a> | M12 | 100 | <a href="#">12910.120.001</a> | M20 | 50 | <a href="#">12910.200.001</a> |
| M8  | 250 | <a href="#">12910.080.001</a> | M14 | 100 | <a href="#">12910.140.001</a> | M24 | 50 | <a href="#">12910.240.001</a> |
| M10 | 200 | <a href="#">12910.100.001</a> | M16 | 50  | <a href="#">12910.160.001</a> | M30 | 25 | <a href="#">12910.300.001</a> |

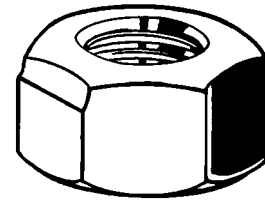
3

- Special features of prevailing torque type hexagon nuts:
- Is a one piece all metal class 10 nut, acc. to DIN 980 V.
- The locking is achieved by local radial deformation of a part of the nut. First the nut runs freely on the thread until the locking part is reached, after which the clamping force increases gradually to a maximum. This progressive locking action with distributed pressure over a large surface prevents damage of the thread.
- Resistant to shocks, vibrations and dynamic loads.
- Re-usable.

## Prevailing torque type hexagon nut all metal MF



ISO 10513  
**DIN 980V (1987)**  
 NEN 2452  
 NF E25-410



### Technical data

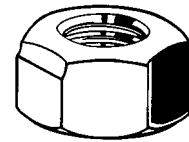
| d   | h (max.) | s  |
|-----|----------|----|
| M8  | 8        | 13 |
| M10 | 10       | 17 |
| M12 | 12       | 19 |
| M14 | 14       | 22 |
| M16 | 16       | 24 |
| M18 | 18       | 27 |
| M20 | 20       | 30 |
| M24 | 24       | 36 |

3

### 12912 Prevailing torque type hexagon nut all metal MF

F01J

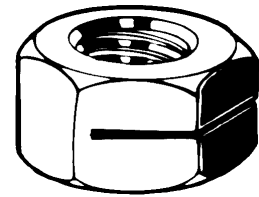
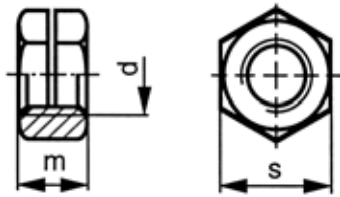
**Thread** Metric fine thread  
**Material** Steel  
**Class** |8|  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x P    | ✉   | Art.number                    | d x P    | ✉   | Art.number                    | d x P    | ✉  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M8X1,00  | 250 | <a href="#">12912.080.100</a> | M12X1,50 | 200 | <a href="#">12912.120.150</a> | M20X1,50 | 50 | <a href="#">12912.200.150</a> |
| M10X1,00 | 250 | <a href="#">12912.100.100</a> | M14X1,50 | 200 | <a href="#">12912.140.150</a> | M24X1,50 | 50 | <a href="#">12912.240.150</a> |
| M10X1,25 | 250 | <a href="#">12912.100.125</a> | M16X1,50 | 100 | <a href="#">12912.160.150</a> | M24X2,00 | 50 | <a href="#">12912.240.200</a> |
| M12X1,25 | 200 | <a href="#">12912.120.125</a> | M18X1,50 | 100 | <a href="#">12912.180.150</a> |          |    |                               |

- Special features of prevailing torque type hexagon nuts:
- Is a one piece all metal class 8 nut, acc. to DIN 980 V.
- The locking is achieved by local radial deformation of a part of the nut. First the nut runs freely on the thread until the locking part is reached, after which the clamping force increases gradually to a maximum. This progressive locking action with distributed pressure over a large surface prevents damage of the thread.
- Resistant to shocks, vibrations and dynamic loads.
- Re-usable.

## Prevailing torque type hexagon nut type H100-ESN



### Technical data

| d  | P    | m | s  | d   | P    | m  | s  | d   | P   | m  | s  |
|----|------|---|----|-----|------|----|----|-----|-----|----|----|
| M4 | 0,7  | 4 | 7  | M10 | 1,5  | 10 | 16 | M20 | 2,5 | 20 | 30 |
| M5 | 0,8  | 5 | 8  | M12 | 1,75 | 12 | 18 | M22 | 2,5 | 22 | 34 |
| M6 | 1    | 6 | 10 | M14 | 2    | 14 | 21 | M24 | 3   | 24 | 36 |
| M7 | 1    | 7 | 11 | M16 | 2    | 16 | 24 | M27 | 3   | 27 | 41 |
| M8 | 1,25 | 8 | 13 | M18 | 2,5  | 18 | 27 |     |     |    |    |

- These SNEP prevailing torque type hexagon nuts should be used in combination with bolts of property class  $\leq 6.8$ .

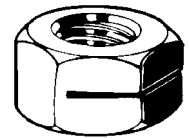
### Article groups

| Thread | Driving features | Material      | Surface treatment | Packaging | Code  | Page |
|--------|------------------|---------------|-------------------|-----------|-------|------|
| M      | hexagon          | St            | Zipl              | Standard  | 13100 | 3-64 |
| M      | hexagon          | Al Sopral P60 | Anod.             | Standard  | 45300 | 3-64 |
| M      | hexagon          | St.St. A1/A2  |                   | Standard  | 51710 | 3-65 |

#### 13100 SNEP Prevailing torque type hexagon nut all metal type H100-ESN

F01E

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



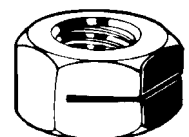
| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">13100.040.001</a> | M10 | 200 | <a href="#">13100.100.001</a> | M20 | 25 | <a href="#">13100.200.001</a> |
| M5 | 250 | <a href="#">13100.050.001</a> | M12 | 100 | <a href="#">13100.120.001</a> | M22 | 25 | <a href="#">13100.220.001</a> |
| M6 | 250 | <a href="#">13100.060.001</a> | M14 | 100 | <a href="#">13100.140.001</a> | M24 | 25 | <a href="#">13100.240.001</a> |
| M7 | 250 | <a href="#">13100.070.001</a> | M16 | 50  | <a href="#">13100.160.001</a> | M27 | 10 | <a href="#">13100.270.001</a> |
| M8 | 250 | <a href="#">13100.080.001</a> | M18 | 50  | <a href="#">13100.180.001</a> |     |    |                               |

- Special features of SNEP prevailing torque type hexagon nuts:
- Is a one piece all metal nut.
- The locking is realised by elastic, axial displacement of the partly separated and compressed parts of the nut in relation to each other. First the nut runs freely on the bolt until the groove is reached, the clamping on the thread is achieved by the elastic reaction of the material independent of the torque.
- Zinc plated with a layer thickness of approx. 7  $\mu\text{m}$ .
- Resistant to shocks, vibrations and dynamic loads.
- Re-useable.
- Temperature resistant from  $-100^{\circ}\text{C}$  up to  $+260^{\circ}\text{C}$ .

#### 45300 SNEP Prevailing torque type hexagon nut all aluminium


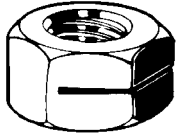
W01A

|                          |                      |
|--------------------------|----------------------|
| <b>Thread</b>            | Metric thread        |
| <b>Material</b>          | Aluminium Sopral P60 |
| <b>Surface treatment</b> | Anodized             |
| <b>Packaging</b>         | Standard             |



| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d | ☒ | Art.number |
|-----|-----|-------------------------------|-----|-----|-------------------------------|---|---|------------|
| M8  | 200 | <a href="#">45300.080.001</a> | M12 | 100 | <a href="#">45300.120.001</a> |   |   |            |
| M10 | 100 | <a href="#">45300.100.001</a> | M16 | 50  | <a href="#">45300.160.001</a> |   |   |            |

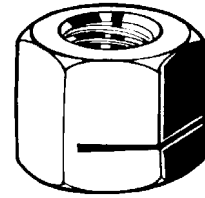
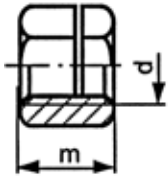
- Colourless anodized.

|   |                       |  |
|---|-----------------------|--|
| <b>51710 SNEP Prevailing torque type hexagon nut all stainless steel A1 type H100-ESN</b> |                       | <b>R09A</b>  |
| <b>Thread</b>   | Metric thread         |   |
| <b>Material</b>   | Stainless steel A1/A2 |  |
| <b>Packaging</b>  | Standard              |  |

| d  | ✉   | Art.number                    | d   | ✉  | Art.number                    | d   | ✉  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M4 | 100 | <a href="#">51710.040.001</a> | M8  | 50 | <a href="#">51710.080.001</a> | M16 | 10 | <a href="#">51710.160.001</a> |
| M5 | 100 | <a href="#">51710.050.001</a> | M10 | 50 | <a href="#">51710.100.001</a> |     |    |                               |
| M6 | 100 | <a href="#">51710.060.001</a> | M12 | 25 | <a href="#">51710.120.001</a> |     |    |                               |

- Special features of SNEP prevailing torque type hexagon nuts:
- Is a one piece all stainless steel nut
- The locking is realised by elastic, axial displacement of the partly separated and compressed parts of the nut in relation to each other. First the nut runs freely on the bolt until the groove is reached, the clamping on the thread is achieved by the elastic reaction of the material independant of the torque
- Resistant to shocks, vibrations and dynamic loads
- Re-useable
- Temperature resistant from -100°C up to + 260°C
- Stainless steel SNEP prevailing torque type hexagon nuts are provided with a special lubricant to prevent seizing.
- Depending on availability A1 can be supplied as well as A2.

## Prevailing torque type hexagon all metal type H130-ESN



### Technical data

| d  | P   | m   | s  |
|----|-----|-----|----|
| M4 | 0,7 | 5,2 | 7  |
| M5 | 0,8 | 6,5 | 8  |
| M6 | 1   | 7,8 | 10 |
| M7 | 1   | 9,1 | 11 |

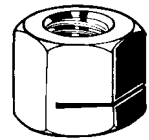
| d   | P    | m    | s  |
|-----|------|------|----|
| M8  | 1,25 | 10,4 | 13 |
| M10 | 1,5  | 13   | 16 |
| M12 | 1,75 | 15,6 | 18 |
| M14 | 2    | 18,2 | 21 |

| d   | P   | m    | s  |
|-----|-----|------|----|
| M16 | 2   | 20,8 | 24 |
| M18 | 2,5 | 23,4 | 27 |
| M20 | 2,5 | 26   | 30 |
| M24 | 3   | 31,2 | 36 |

### 13200 SNEP Prevailing torque type hexagonal all metal type H130-ESN

F01E

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |

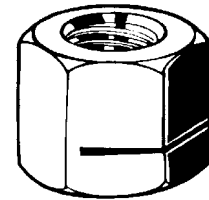
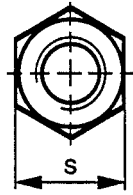
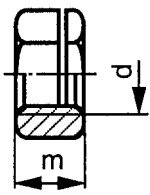


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">13200.040.001</a> | M8  | 250 | <a href="#">13200.080.001</a> | M16 | 50 | <a href="#">13200.160.001</a> |
| M5 | 250 | <a href="#">13200.050.001</a> | M10 | 200 | <a href="#">13200.100.001</a> | M18 | 50 | <a href="#">13200.180.001</a> |
| M6 | 250 | <a href="#">13200.060.001</a> | M12 | 100 | <a href="#">13200.120.001</a> | M20 | 25 | <a href="#">13200.200.001</a> |
| M7 | 250 | <a href="#">13200.070.001</a> | M14 | 100 | <a href="#">13200.140.001</a> | M24 | 25 | <a href="#">13200.240.001</a> |

- These SNEP prevailing torque type hexagonal nuts should be used in combination with bolts of property class  $\leq 8.8$ .



**Prevailing torque type hexagon nut all metal type USN**



**Technical data**

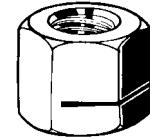
| d   | P   | m  | s  |
|-----|-----|----|----|
| M30 | 3,5 | 30 | 46 |
| M33 | 3,5 | 33 | 50 |
| M36 | 4   | 36 | 55 |
| M39 | 4   | 39 | 60 |
| M42 | 4,5 | 42 | 65 |
| M45 | 4,5 | 45 | 70 |
| M48 | 5   | 48 | 75 |

3

**13190 SNEP Prevailing torque type hexagon nut all metal type USN**

**F01E**

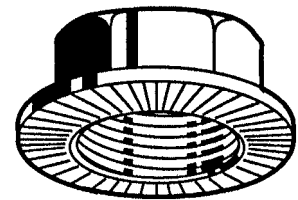
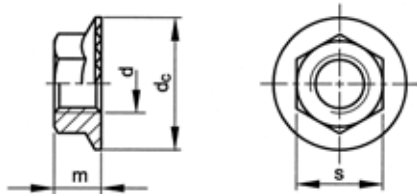
**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d   | ✉  | Art.number                    | d   | ✉ | Art.number                    | d   | ✉ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M30 | 10 | <a href="#">13190.300.001</a> | M36 | 5 | <a href="#">13190.360.001</a> | M42 | 5 | <a href="#">13190.420.001</a> |
| M33 | 10 | <a href="#">13190.330.001</a> | M39 | 5 | <a href="#">13190.390.001</a> | M45 | 4 | <a href="#">13190.450.001</a> |

- These SNEP prevailing torque type hexagon nuts should be used in combination with bolts of property class ≤ 6.8.
- SNEP prevailing torque type hexagon nuts type USN are available, on request, up to and including M80.

## Self-locking hexagon nut with flange



### Technical data

| d   | P    | m   | s  | d <sub>c</sub> |
|-----|------|-----|----|----------------|
| M5  | 0,8  | 4,3 | 8  | 11,2           |
| M6  | 1    | 5,5 | 10 | 14,2           |
| M8  | 1,25 | 7   | 13 | 18,2           |
| M10 | 1,5  | 8,5 | 15 | 21             |
| M12 | 1,75 | 10  | 17 | 24             |
| M16 | 2    | 14  | 22 | 31             |

- Technical brochure available on request.

Special features of RIPP self-locking hexagon nuts with flange:

- the serrated flange limits surface damage assembly, prevents self-loosening and reduces relaxation
- the flange enables built-up forces under the nut head to be spread over a larger area, consequently resulting in lower surface pressure
- large holes (oversized) and/or tooling holes can be covered by the flange
- a washer and/or a locking element is not necessary

ASSEMBLY PRE-LOAD  $F_M$  in Kn and TIGHTENING TORQUE  $M_A$  in Nm

| Class | Mating material                         | M5    |       | M6    |       | M8    |       | M10   |       | M12   |       | M16   |       |
|-------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       |   | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ |
| 10    | Steel ( $R_m < 800 \text{ N/mm}^2$ )    | 9     | 11    | 12,6  | 19    | 23,2  | 42    | 37    | 85    | 54    | 130   | 102   | 330   |
|       | Steel ( $R_m \geq 800 \text{ N/mm}^2$ ) | 9     | 10    | 12,6  | 18    | 23,2  | 37    | 37    | 80    | 54    | 120   | 102   | 310   |
|       | Malleable iron                          | 9     | 9     | 12,6  | 16    | 23,2  | 35    | 37    | 75    | 54    | 115   | 102   | 300   |

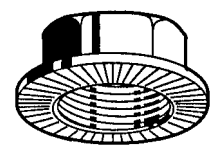
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 10    |                   | Standard  | 12470 | 3-68 |
| M      | hexagon          | St       | 10    | Zipl              | Standard  | 12471 | 3-68 |
| M      | hexagon          | St       | 10    | FLZNNC-NC6        | Standard  | 12474 | 3-69 |

#### 12470 RIPP Self-locking hexagon nut with flange

F92A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 10            |
| <b>Packaging</b> | Standard      |

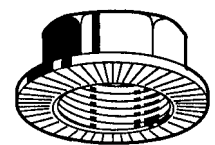


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 500 | <a href="#">12470.050.001</a> | M8  | 200 | <a href="#">12470.080.001</a> | M12 | 100 | <a href="#">12470.120.001</a> |
| M6 | 500 | <a href="#">12470.060.001</a> | M10 | 200 | <a href="#">12470.100.001</a> | M16 | 100 | <a href="#">12470.160.001</a> |

#### 12471 RIPP Self-locking hexagon nut with flange

F92A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 10            |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

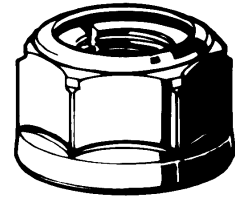
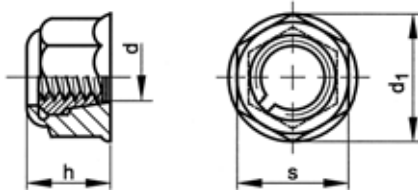


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 500 | <a href="#">12471.050.001</a> | M8  | 200 | <a href="#">12471.080.001</a> | M12 | 100 | <a href="#">12471.120.001</a> |
| M6 | 500 | <a href="#">12471.060.001</a> | M10 | 200 | <a href="#">12471.100.001</a> | M16 | 100 | <a href="#">12471.160.001</a> |

|                          |  |   |
|--------------------------|--|---|
| <b>12474</b>             | <b>RIPP Self-locking hexagon nut with flange</b> | <b>F92A</b>   |
| <b>Thread</b>            | Metric thread                                    |  |
| <b>Material</b>          | Steel  |   |
| <b>Class</b>             | 10   |   |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc          |   |
| <b>Packaging</b>         | Standard   |   |

| <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉   | <b>Art.number</b>             |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M5       | 250 | <a href="#">12474.050.001</a> | M8       | 200 | <a href="#">12474.080.001</a> | M12      | 100 | <a href="#">12474.120.001</a> |
| M6       | 250 | <a href="#">12474.060.001</a> | M10      | 200 | <a href="#">12474.100.001</a> | M16      | 100 | <a href="#">12474.160.001</a> |

## Prevailing torque type hexagon nut all metal

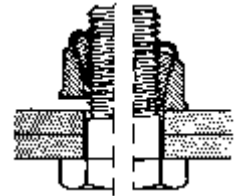


### Technical data

| d   | P    | d <sub>1</sub> | h    | s  |
|-----|------|----------------|------|----|
| M6  | 1    | 12             | 7,5  | 10 |
| M8  | 1,25 | 16,8           | 10   | 14 |
| M10 | 1,5  | 20,4           | 12,5 | 17 |
| M12 | 1,75 | 25             | 15   | 21 |
| M14 | 2    | 27,5           | 17   | 23 |
| M16 | 2    | 31             | 19   | 26 |
| M18 | 2,5  | 34,5           | 22   | 29 |
| M20 | 2,5  | 38,5           | 23   | 32 |
| M22 | 2,5  | 41,5           | 25   | 35 |
| M24 | 3    | 45             | 28,5 | 38 |

Special features of SECURIT prevailing torque type hexagon nuts:

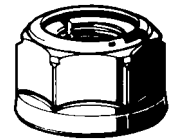
- is a two-piece all metal nut, consisting of an internal cone in which the thread is tapped and slotted over the full height, and an external cone (being hexagonal with a turner over flange on the top) attached to each other. During torquing the internal cone is clamped around the full circumference of the thread with a progressive force.
- re-usable
- temperature resistant up to +350°C.



### 13000 SECURIT Prevailing torque type hexagon nut all metal

F93A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 6                             |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M6 | 50 | <a href="#">13000.060.001</a> | M10 | 25 | <a href="#">13000.100.001</a> |   |   |            |
| M8 | 25 | <a href="#">13000.080.001</a> | M12 | 10 | <a href="#">13000.120.001</a> |   |   |            |

## Self-locking hexagon nut TENSILOCK



### Technical data

| d   | P    | m    | s  | d <sub>c</sub> |
|-----|------|------|----|----------------|
| M5  | 0,8  | 4,3  | 8  | 11,2           |
| M6  | 1    | 5,5  | 10 | 14,25          |
| M8  | 1,25 | 7    | 13 | 18,25          |
| M10 | 1,5  | 7,9  | 15 | 21             |
| M12 | 1,75 | 8,7  | 17 | 24             |
| M16 | 2    | 11,2 | 22 | 31             |

- Class 8 shall be used with property class 8.8 and 90 and class 10 with property class 10.9 and 100.
- Technical brochure available on request.

Special features of TENSILOCK self-locking hexagon nuts:

- the resilient serrated flange gives excellent self-locking properties
- inside of the resilient flange serration there is an optimal preloading of the construction with minimal settlement
- a washer and/or locking element is not necessary and is not even advisable

ASSEMBLY PRE-LOAD  $F_M$  in kN and TIGHTENING TORQUE  $M_A$  in Nm

| Class | Mating material | M5    |       | M6    |       | M8    |       | M10   |       | M12   |       | M16   |       |
|-------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       |                 | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ | $F_M$ | $M_A$ |
| 8     | Steel           | 6,35  | 9     | 9     | 16    | 16,5  | 34    | 26,2  | 58    | --    | --    | --    | --    |
|       | Malleable iron  | 6,35  | 7     | 9     | 13    | 16,5  | 28    | 26,2  | 49    | --    | --    | --    | --    |
| 10    | Steel           | --    | --    | --    | --    | --    | --    | --    | --    | 54    | 120   | 102   | 280   |
|       | Malleable iron  | --    | --    | --    | --    | --    | --    | --    | --    | 54    | 105   | 102   | 260   |

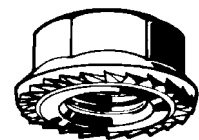
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 8/10  |                   | Standard  | 01150 | 3-71 |
| M      | hexagon          | St       | 8/10  | Zipl              | Standard  | 01149 | 3-71 |
| M      | hexagon          | St       | 8/10  | FLZNNC-NC6        | Standard  | 01155 | 3-72 |

#### 01150 TENSILOCK Self-locking hexagon nut

F92A

**Thread** Metric thread  
**Material** Steel  
**Class** 8/10  
**Packaging** Standard

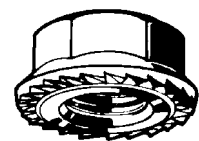


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 500 | <a href="#">01150.050.001</a> | M8  | 200 | <a href="#">01150.080.001</a> | M12 | 100 | <a href="#">01150.120.001</a> |
| M6 | 500 | <a href="#">01150.060.001</a> | M10 | 200 | <a href="#">01150.100.001</a> | M16 | 100 | <a href="#">01150.160.001</a> |

#### 01149 TENSILOCK Self-locking hexagon nut

F92A

**Thread** Metric thread  
**Material** Steel  
**Class** 8/10  
**Surface treatment** Zinc plated  
**Packaging** Standard



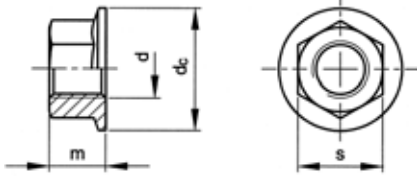
| d         | ☒   | Art.number                    | d          | ☒   | Art.number                    | d           | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| M5 - CL.8 | 500 | <a href="#">01149.050.001</a> | M8 - CL.8  | 200 | <a href="#">01149.080.001</a> | M12 - CL.10 | 100 | <a href="#">01149.120.001</a> |
| M6 - CL.8 | 500 | <a href="#">01149.060.001</a> | M10 - CL.8 | 200 | <a href="#">01149.100.001</a> | M16 - CL.10 | 100 | <a href="#">01149.160.001</a> |

|   |   |   |
|---|---|---|
| <b>01155 TENSILOCK Self-locking hexagon nut</b> |   | <b>F92A</b>   |
| <b>Thread</b>                                   | Metric thread                           |  |
| <b>Material</b>                                 | Steel                                   |   |
| <b>Class</b>                                    | 8/10                                    |   |
| <b>Surface treatment</b>                        | Zinc flake Cr6+ free - ISO 10683 flZnnc |   |
| <b>Packaging</b>                                | Standard                                |   |

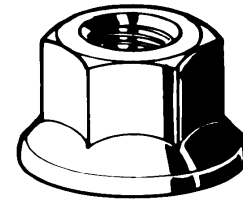
| <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉   | <b>Art.number</b>             |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M6       | 500 | <a href="#">01155.060.001</a> | M10      | 200 | <a href="#">01155.100.001</a> | M16      | 100 | <a href="#">01155.160.001</a> |
| M8       | 200 | <a href="#">01155.080.001</a> | M12      | 100 | <a href="#">01155.120.001</a> |          |     |                               |

3

## Hexagon nut with flange



ISO 4161  
 DIN 6923 (1983)  
 NF E25-406



### Technical data

| d          | P    | m (max.) | s  | d <sub>c</sub> (max.) |
|------------|------|----------|----|-----------------------|
| M4 (#DIN)  | 0,7  | 4,5      | 7  | 9,8                   |
| M5         | 0,8  | 5        | 8  | 11,8                  |
| M6         | 1    | 6        | 10 | 14,2                  |
| M8         | 1,25 | 8        | 13 | 17,9                  |
| M10        | 1,5  | 10       | 15 | 21,8                  |
| M12        | 1,75 | 12       | 18 | 26                    |
| M14        | 2    | 14       | 21 | 29,9                  |
| M16        | 2    | 16       | 24 | 34,5                  |
| M20        | 2,5  | 20       | 30 | 42,8                  |
| M24 (#DIN) | 3    | 24       | 36 | 51                    |

- Special features of hexagon nuts with flange:
  - The flange enables built up forces to be spread over a larger area, consequently resulting in lower surface pressure.
  - Large holes (oversized) and/or tooling holes can be covered by the flange.
  - A washer is not necessary.

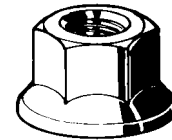
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St        | 8     | Zipl              | Standard  | 11590 | 3-73 |
| M      | hexagon          | St        | 8     | Zipl yell.p.      | Standard  | 11595 | 3-73 |
| M      | hexagon          | St        | 10    | Zipl              | Standard  | 11598 | 3-74 |
| M      | hexagon          | St.St. A2 | 70    |                   | Standard  | 51108 | 3-74 |

#### 11590 Hexagon nut with flange

F01X

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Surface treatment** Zinc plated  
**Packaging** Standard

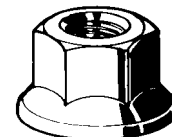


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">11590.040.001</a> | M10 | 100 | <a href="#">11590.100.001</a> | M20 | 50 | <a href="#">11590.200.001</a> |
| M5 | 250 | <a href="#">11590.050.001</a> | M12 | 100 | <a href="#">11590.120.001</a> | M24 | 25 | <a href="#">11590.240.001</a> |
| M6 | 250 | <a href="#">11590.060.001</a> | M14 | 50  | <a href="#">11590.140.001</a> |     |    |                               |
| M8 | 250 | <a href="#">11590.080.001</a> | M16 | 50  | <a href="#">11590.160.001</a> |     |    |                               |

#### 11595 Hexagon nut with flange

F01X

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5 | 250 | <a href="#">11595.050.001</a> | M10 | 100 | <a href="#">11595.100.001</a> | M16 | 50 | <a href="#">11595.160.001</a> |
| M6 | 250 | <a href="#">11595.060.001</a> | M12 | 100 | <a href="#">11595.120.001</a> |     |    |                               |
| M8 | 250 | <a href="#">11595.080.001</a> | M14 | 50  | <a href="#">11595.140.001</a> |     |    |                               |

| 11598 Hexagon nut with flange |               | F01X  |
|-------------------------------|---------------|---|
| <b>Thread</b>                 | Metric thread |  |
| <b>Material</b>               | Steel         |   |
| <b>Class</b>                  | 10            |   |
| <b>Surface treatment</b>      | Zinc plated   |   |
| <b>Packaging</b>              | Standard      |   |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M5 | 250 | <a href="#">11598.050.001</a> | M10 | 100 | <a href="#">11598.100.001</a> | M16 | 50 | <a href="#">11598.160.001</a> |
| M6 | 250 | <a href="#">11598.060.001</a> | M12 | 100 | <a href="#">11598.120.001</a> | M20 | 50 | <a href="#">11598.200.001</a> |
| M8 | 250 | <a href="#">11598.080.001</a> | M14 | 50  | <a href="#">11598.140.001</a> | M24 | 25 | <a href="#">11598.240.001</a> |

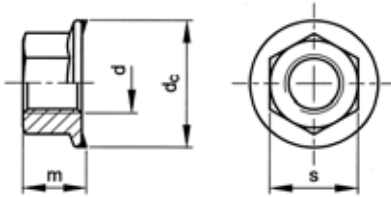
**3**

| 51108 Hexagon nut with flange |                    | R09A  |
|-------------------------------|--------------------|---|
| <b>Thread</b>                 | Metric thread      |  |
| <b>Material</b>               | Stainless steel A2 |   |
| <b>Class</b>                  | 70                 |   |
| <b>Packaging</b>              | Standard           |   |

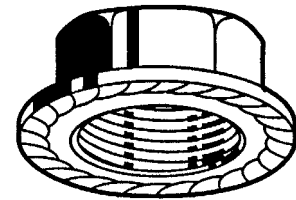
| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 250 | <a href="#">51108.050.001</a> | M8  | 250 | <a href="#">51108.080.001</a> | M12 | 100 | <a href="#">51108.120.001</a> |
| M6 | 250 | <a href="#">51108.060.001</a> | M10 | 100 | <a href="#">51108.100.001</a> |     |     |                               |



## Hexagon nut with toothed flange



ISO ≈4161  
 DIN ≈6923 (1983)  
 NF ≈E25-406



### Technical data

| d         | P    | m (max.) | s  | d <sub>c</sub> (max.) |
|-----------|------|----------|----|-----------------------|
| M4 (#DIN) | 0,7  | 4,5      | 7  | 9,6                   |
| M5        | 0,8  | 5        | 8  | 11,8                  |
| M6        | 1    | 6        | 10 | 14,2                  |
| M8        | 1,25 | 8        | 13 | 17,9                  |
| M10       | 1,5  | 10       | 15 | 21,8                  |
| M12       | 1,75 | 12       | 18 | 26                    |
| M14       | 2    | 14       | 21 | 29,9                  |
| M16       | 2    | 16       | 24 | 34,5                  |

- Special features of hexagon nuts with toothed flange:
- The flange enables built up forces to be spread over a larger area, consequently resulting in lower surface pressure.
- Large holes (oversized) and/or tooling holes can be covered by the flange.
- A washer is not necessary.
- Toothened flangebrim gives excellent self-locking properties.

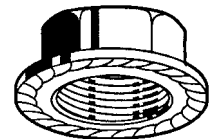
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St       | 8     |                   | Standard  | 11609 | 3-75 |
| M      | hexagon          | St       | 8     | Zipl              | Standard  | 11610 | 3-75 |
| M      | hexagon          | St       | 8     | Zipl yell.p.      | Standard  | 11611 | 3-75 |

#### 11609 Hexagon nut with toothed flange

F01X

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Packaging** Standard

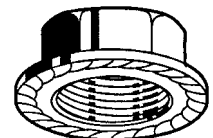


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 250 | <a href="#">11609.050.001</a> | M8  | 250 | <a href="#">11609.080.001</a> | M12 | 100 | <a href="#">11609.120.001</a> |
| M6 | 250 | <a href="#">11609.060.001</a> | M10 | 100 | <a href="#">11609.100.001</a> | M16 | 50  | <a href="#">11609.160.001</a> |

#### 11610 Hexagon nut with toothed flange

F01X

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Surface treatment** Zinc plated  
**Packaging** Standard

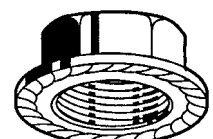


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">11610.040.001</a> | M8  | 250 | <a href="#">11610.080.001</a> | M14 | 50 | <a href="#">11610.140.001</a> |
| M5 | 250 | <a href="#">11610.050.001</a> | M10 | 100 | <a href="#">11610.100.001</a> | M16 | 50 | <a href="#">11610.160.001</a> |
| M6 | 250 | <a href="#">11610.060.001</a> | M12 | 100 | <a href="#">11610.120.001</a> |     |    |                               |

#### 11611 Hexagon nut with toothed flange

F01X

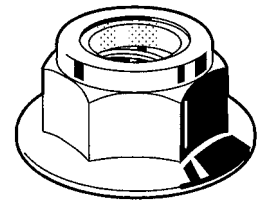
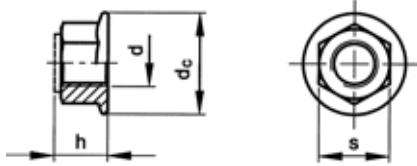
**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">11611.040.001</a> | M8  | 250 | <a href="#">11611.080.001</a> | M14 | 50 | <a href="#">11611.140.001</a> |
| M5 | 250 | <a href="#">11611.050.001</a> | M10 | 100 | <a href="#">11611.100.001</a> | M16 | 50 | <a href="#">11611.160.001</a> |
| M6 | 250 | <a href="#">11611.060.001</a> | M12 | 100 | <a href="#">11611.120.001</a> |     |    |                               |

## Prevailing torque type hexagon flange nut with non-metallic insert

ISO 7043  
 DIN 6926



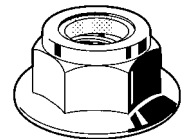
### Technical data

| d   | P    | h (max.) | s  | d <sub>c</sub> (max.) |
|-----|------|----------|----|-----------------------|
| M5  | 0,8  | 7,1      | 8  | 11,8                  |
| M6  | 1    | 9,1      | 10 | 14,2                  |
| M8  | 1,25 | 11,1     | 13 | 17,9                  |
| M10 | 1,5  | 13,5     | 15 | 21,8                  |
| M12 | 1,75 | 16,1     | 18 | 26                    |
| M16 | 2    | 20,3     | 24 | 34,5                  |

### 12460 Prevailing torque type hexagon flange nut with non-metallic insert

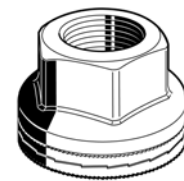
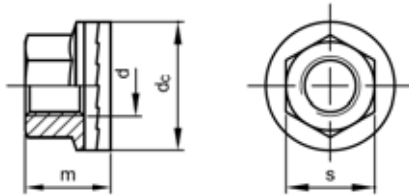
F01X

**Thread** Metric thread  
**Material** Steel  
**Class** 8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5 | 250 | <a href="#">12460.050.001</a> | M8  | 250 | <a href="#">12460.080.001</a> | M12 | 100 | <a href="#">12460.120.001</a> |
| M6 | 250 | <a href="#">12460.060.001</a> | M10 | 200 | <a href="#">12460.100.001</a> | M16 | 50  | <a href="#">12460.160.001</a> |

## Hexagon wheelnut



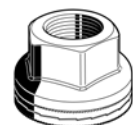
### Technical data

|                         |         |
|-------------------------|---------|
| d x P                   | M22x1,5 |
| s                       | 32      |
| d <sub>c</sub>          | 46      |
| m                       | 27      |
| Tightening torque in Nm | 600-650 |
| Assembly pre-load in kN | ≈ 200   |

### 12479 NORDLOCK Hexagon wheelnut

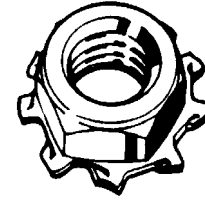
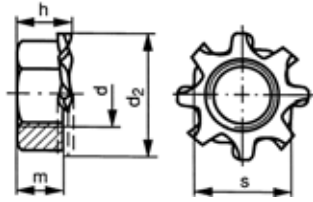
NL2A

**Thread** Metric extra fine thread  
**Material** Steel  
**Class** 10  
**Surface treatment** Deltaprotekt  
**Packaging** Standard



| d x P   | ☒  | Art.number                    | d x P | ☒ | Art.number | d x P | ☒ | Art.number |
|---------|----|-------------------------------|-------|---|------------|-------|---|------------|
| M22X1,5 | 20 | <a href="#">12479.220.150</a> |       |   |            |       |   |            |

**Prevailing torque type hexagon nut with captive toothed lock washer**



**Technical data**

| d   | P    | m   | s   | h   | d <sub>2</sub> |
|-----|------|-----|-----|-----|----------------|
| M3  | 0,5  | 2,4 | 5,5 | 3,1 | 6,6            |
| M4  | 0,7  | 3,2 | 7   | 4   | 8              |
| M5  | 0,8  | 4   | 8   | 5,1 | 9,2            |
| M6  | 1    | 5   | 10  | 6,1 | 11,4           |
| M8  | 1,25 | 6,5 | 13  | 7,9 | 14,9           |
| M10 | 1,5  | 8   | 17  | 9,6 | 19             |

3

**11490 COMBY Prevailing torque type hexagon nut with captive toothed lock washer**

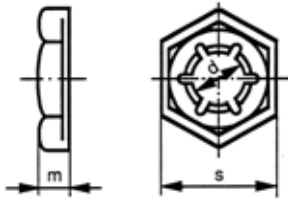
F01X

**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

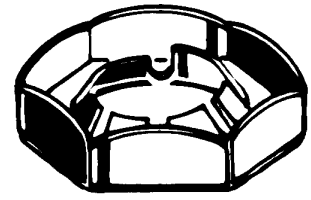


| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d  | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|-----|-------------------------------|
| M3 | 250 | <a href="#">11490.030.001</a> | M5 | 250 | <a href="#">11490.050.001</a> | M8 | 200 | <a href="#">11490.080.001</a> |
| M4 | 250 | <a href="#">11490.040.001</a> | M6 | 250 | <a href="#">11490.060.001</a> |    |     |                               |

## Self-locking counter nut



DIN 7967  
NF E27-460

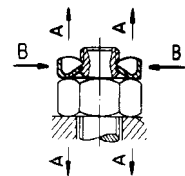


### Technical data

| d   | P    | m   | s  | d   | P   | m   | s  | d   | P   | m | s  |
|-----|------|-----|----|-----|-----|-----|----|-----|-----|---|----|
| M4  | 0,7  | 2,5 | 7  | M14 | 2   | 5   | 22 | M27 | 3   | 7 | 41 |
| M5  | 0,8  | 2,5 | 8  | M16 | 2   | 5   | 24 | M30 | 3,5 | 8 | 46 |
| M6  | 1    | 3   | 10 | M18 | 2,5 | 5,5 | 27 | M36 | 4   | 9 | 55 |
| M8  | 1,25 | 3,5 | 13 | M20 | 2,5 | 6   | 30 |     |     |   |    |
| M10 | 1,5  | 4   | 17 | M22 | 2,5 | 6   | 32 |     |     |   |    |
| M12 | 1,75 | 4,5 | 19 | M24 | 3   | 7   | 36 |     |     |   |    |

Special features of PAL self-locking counter nuts:

- have to be spun down the thread until finger-tight, then locked by a quarter to half turn with a spanner. Besides the clamping force A, a simultaneous radial force B will be developed causing a locking action
- are often used as locknut above a hexagon nut
- disassembly by tighten the hexagon nut firmly



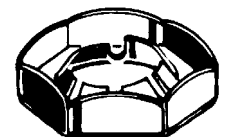
### Article groups

| Thread | Driving features | Material              | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------------------|-------------------|-----------|-------|------|
| M      | hexagon          | Spring steel DIN17222 | Zipl              | Standard  | 12530 | 3-78 |
| M      | hexagon          | St.St. A2             |                   | Standard  | 51735 | 3-78 |

#### 12530 PAL Self-locking counter nut

F01X

|                          |                       |
|--------------------------|-----------------------|
| <b>Thread</b>            | Metric thread         |
| <b>Material</b>          | Spring steel DIN17222 |
| <b>Surface treatment</b> | Zinc plated           |
| <b>Packaging</b>         | Standard              |



| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M5  | 200 | <a href="#">12530.050.001</a> | M14 | 100 | <a href="#">12530.140.001</a> | M24 | 100 | <a href="#">12530.240.001</a> |
| M6  | 200 | <a href="#">12530.060.001</a> | M16 | 100 | <a href="#">12530.160.001</a> | M27 | 100 | <a href="#">12530.270.001</a> |
| M8  | 100 | <a href="#">12530.080.001</a> | M18 | 100 | <a href="#">12530.180.001</a> | M30 | 100 | <a href="#">12530.300.001</a> |
| M10 | 100 | <a href="#">12530.100.001</a> | M20 | 100 | <a href="#">12530.200.001</a> | M36 | 100 | <a href="#">12530.360.001</a> |
| M12 | 100 | <a href="#">12530.120.001</a> | M22 | 100 | <a href="#">12530.220.001</a> |     |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 51735 PAL Self-locking counter nut

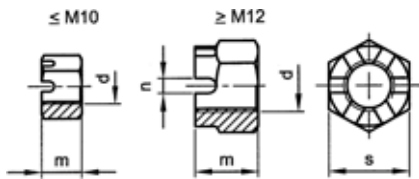
R09A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |
|                  | DIN ≈7967          |
|                  | NF ≈E27-460        |

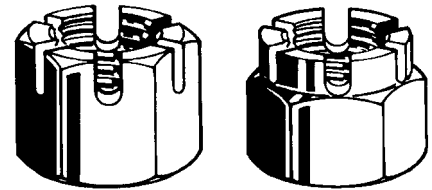


| d    | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 * | 500 | <a href="#">51735.040.001</a> | M8  | 100 | <a href="#">51735.080.001</a> | M16 | 50 | <a href="#">51735.160.001</a> |
| M5 * | 500 | <a href="#">51735.050.001</a> | M10 | 100 | <a href="#">51735.100.001</a> | M20 | 50 | <a href="#">51735.200.001</a> |
| M6   | 200 | <a href="#">51735.060.001</a> | M12 | 50  | <a href="#">51735.120.001</a> | M24 | 50 | <a href="#">51735.240.001</a> |

## Hexagon slotted and castle nut



DIN 935-1  
NEN 729



### Technical data

| d   | P    | m   | s       | n   | Number of slots | Split pin DIN94 |
|-----|------|-----|---------|-----|-----------------|-----------------|
| M5  | 0,8  | 6   | 8       | 1,4 | 6               | 1,2x12          |
| M6  | 1    | 7,5 | 10      | 2   | 6               | 1,6x14          |
| M7  | 1    | 8   | 11      | 2   | 6               | 1,6x14          |
| M8  | 1,25 | 9,5 | 13      | 2,5 | 6               | 2x16            |
| M10 | 1,5  | 12  | 17 (16) | 2,8 | 6               | 2,5x20          |
| M12 | 1,75 | 15  | 19 (18) | 3,5 | 6               | 3,2x22          |
| M14 | 2    | 16  | 22 (21) | 3,5 | 6               | 3,2x25          |
| M16 | 2    | 19  | 24      | 4,5 | 6               | 4x28            |
| M18 | 2,5  | 21  | 27      | 4,5 | 6               | 4x32            |
| M20 | 2,5  | 22  | 30      | 4,5 | 6               | 4x36            |
| M22 | 2,5  | 26  | 32 (34) | 5,5 | 6               | 5x36            |
| M24 | 3    | 27  | 36      | 5,5 | 6               | 5x40            |
| M27 | 3    | 30  | 41      | 5,5 | 6               | 5x45            |
| M30 | 3,5  | 33  | 46      | 7   | 6               | 6,3x50          |
| M33 | 3,5  | 35  | 50      | 7   | 6               | 6,3x56          |
| M36 | 4    | 38  | 55      | 7   | 6               | 6,3x63          |
| M39 | 4    | 40  | 60      | 7   | 6               | 6,3x71          |
| M42 | 4,5  | 46  | 65      | 9   | 8               | 8x71            |
| M45 | 4,5  | 48  | 70      | 9   | 8               | 8x80            |
| M48 | 5    | 50  | 75      | 9   | 8               | 8x80            |
| M52 | 5    | 54  | 80      | 9   | 8               | 8x90            |
| M56 | 5,5  | 57  | 85      | 9   | 8               | 8x100           |
| M60 | 5,5  | 63  | 90      | 11  | 8               | 10x100          |
| M64 | 6    | 66  | 95      | 11  | 8               | 10x100          |

- Guide values for advised split pins (cotter pins) acc. to DIN 94 (ISO 1234).
- Depending on availability the dimensions may deviate.

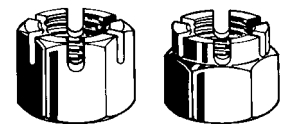
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St        | 4     |                   | Standard  | 12000 | 3-79 |
| M      | hexagon          | St        | 4     | Zipl              | Standard  | 12010 | 3-80 |
| M      | hexagon          | St.St. A2 |       |                   | Standard  | 51220 | 3-80 |
| M      | hexagon          | St.St. A4 |       |                   | Standard  | 55220 | 3-80 |

### 12000 Hexagon slotted and castle nut

F01D

Thread Metric thread  
Material Steel  
Class 4  
Packaging Standard



| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M5  | 100 | <a href="#">12000.050.001</a> | M20 | 25 | <a href="#">12000.200.001</a> | M42 | 4 | <a href="#">12000.420.001</a> |
| M6  | 100 | <a href="#">12000.060.001</a> | M22 | 25 | <a href="#">12000.220.001</a> | M45 | 3 | <a href="#">12000.450.001</a> |
| M8  | 100 | <a href="#">12000.080.001</a> | M24 | 25 | <a href="#">12000.240.001</a> | M48 | 3 | <a href="#">12000.480.001</a> |
| M10 | 100 | <a href="#">12000.100.001</a> | M27 | 10 | <a href="#">12000.270.001</a> | M52 | 1 | <a href="#">12000.520.001</a> |
| M12 | 100 | <a href="#">12000.120.001</a> | M30 | 10 | <a href="#">12000.300.001</a> | M56 | 1 | <a href="#">12000.560.001</a> |
| M14 | 50  | <a href="#">12000.140.001</a> | M33 | 10 | <a href="#">12000.330.001</a> | M60 | 1 | <a href="#">12000.600.001</a> |
| M16 | 50  | <a href="#">12000.160.001</a> | M36 | 5  | <a href="#">12000.360.001</a> | M64 | 1 | <a href="#">12000.640.001</a> |
| M18 | 50  | <a href="#">12000.180.001</a> | M39 | 4  | <a href="#">12000.390.001</a> |     |   |                               |

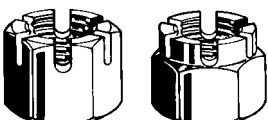
- Up to and including M12 slotted and castle nuts are class 5, above size M12 class 4.
- Up to and including M39 slotted and castle nuts are provided with 6 slots, above M39 with 8 slots.

| 12010 Hexagon slotted and castle nut |               | F01D  |
|--------------------------------------|---------------|---|
| <b>Thread</b>                        | Metric thread |  |
| <b>Material</b>                      | Steel         |   |
| <b>Class</b>                         | 4             |   |
| <b>Surface treatment</b>             | Zinc plated   |   |
| <b>Packaging</b>                     | Standard      |   |

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6  | 100 | <a href="#">12010.060.001</a> | M16 | 50 | <a href="#">12010.160.001</a> | M30 | 10 | <a href="#">12010.300.001</a> |
| M8  | 100 | <a href="#">12010.080.001</a> | M20 | 25 | <a href="#">12010.200.001</a> | M33 | 10 | <a href="#">12010.330.001</a> |
| M10 | 100 | <a href="#">12010.100.001</a> | M22 | 25 | <a href="#">12010.220.001</a> | M36 | 5  | <a href="#">12010.360.001</a> |
| M12 | 100 | <a href="#">12010.120.001</a> | M24 | 25 | <a href="#">12010.240.001</a> |     |    |                               |
| M14 | 50  | <a href="#">12010.140.001</a> | M27 | 10 | <a href="#">12010.270.001</a> |     |    |                               |

3

- Up to and including M12 slotted and castle nuts are class 5, above size M12 class 4.
- Up to and including M39 slotted and castle nuts are provided with 6 slots, above M39 with 8 slots.

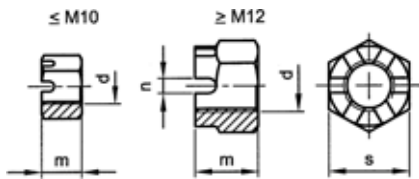
| 51220 Hexagon slotted and castle nut |                    | R09A  |
|--------------------------------------|--------------------|---|
| <b>Thread</b>                        | Metric thread      |  |
| <b>Material</b>                      | Stainless steel A2 |   |
| <b>Packaging</b>                     | Standard           |   |
|                                      |                    |   |

| d   | ☒  | Art.number                    | d     | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-------|----|-------------------------------|-----|---|-------------------------------|
| M5  | 50 | <a href="#">51220.050.001</a> | M14   | 25 | <a href="#">51220.140.001</a> | M24 | 5 | <a href="#">51220.240.001</a> |
| M6  | 50 | <a href="#">51220.060.001</a> | M16   | 10 | <a href="#">51220.160.001</a> | M27 | 3 | <a href="#">51220.270.001</a> |
| M8  | 50 | <a href="#">51220.080.001</a> | M18   | 10 | <a href="#">51220.180.001</a> | M30 | 1 | <a href="#">51220.300.001</a> |
| M10 | 50 | <a href="#">51220.100.001</a> | M20   | 5  | <a href="#">51220.200.001</a> |     |   |                               |
| M12 | 25 | <a href="#">51220.120.001</a> | M22 * | 25 | <a href="#">51220.220.001</a> |     |   |                               |

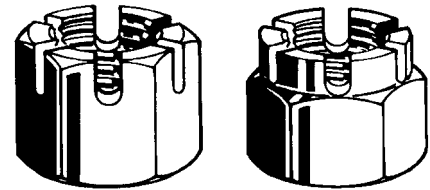
| 55220 Hexagon slotted and castle nut |                    | R49A  |
|--------------------------------------|--------------------|---|
| <b>Thread</b>                        | Metric thread      |  |
| <b>Material</b>                      | Stainless steel A4 |   |
| <b>Packaging</b>                     | Standard           |   |
|                                      |                    |   |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M5  | 50 | <a href="#">55220.050.001</a> | M12 | 25 | <a href="#">55220.120.001</a> | M20 | 5 | <a href="#">55220.200.001</a> |
| M6  | 50 | <a href="#">55220.060.001</a> | M14 | 25 | <a href="#">55220.140.001</a> | M24 | 5 | <a href="#">55220.240.001</a> |
| M8  | 50 | <a href="#">55220.080.001</a> | M16 | 10 | <a href="#">55220.160.001</a> | M27 | 3 | <a href="#">55220.270.001</a> |
| M10 | 50 | <a href="#">55220.100.001</a> | M18 | 10 | <a href="#">55220.180.001</a> | M30 | 1 | <a href="#">55220.300.001</a> |

## Hexagon slotted and castle nut MF



DIN 935  
NEN 729



### Technical data

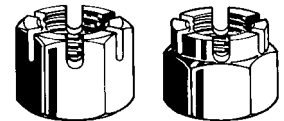
| d   | m   | s       | n   | Number of slots | Split pin DIN94 |
|-----|-----|---------|-----|-----------------|-----------------|
| M8  | 9,5 | 13      | 2,5 | 6               | 2x16            |
| M10 | 12  | 17 (16) | 2,8 | 6               | 2,5x20          |
| M12 | 15  | 19 (18) | 3,5 | 6               | 3,2x22          |
| M14 | 16  | 22 (21) | 3,5 | 6               | 3,2x25          |
| M16 | 19  | 24      | 4,5 | 6               | 4x28            |
| M18 | 21  | 27      | 4,5 | 6               | 4x32            |
| M20 | 22  | 30      | 4,5 | 6               | 4x36            |
| M22 | 26  | 32 (34) | 5,5 | 6               | 5x36            |
| M24 | 27  | 36      | 5,5 | 6               | 5x40            |
| M27 | 30  | 41      | 5,5 | 6               | 5x45            |
| M30 | 33  | 46      | 7   | 6               | 6,3x50          |
| M36 | 38  | 55      | 7   | 6               | 6,3x63          |
| M42 | 46  | 65      | 9   | 8               | 8x71            |
| M56 | 57  | 85      | 9   | 8               | 8x100           |

- Guide values for advised split pins (cotter pins) acc. to DIN 94 (ISO 1234).
- Depending on availability the dimensions may deviate.

### 12020 Hexagon slotted and castle nut MF

F01D

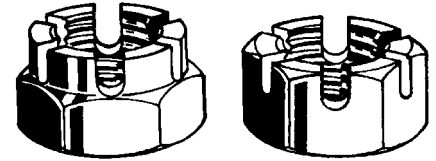
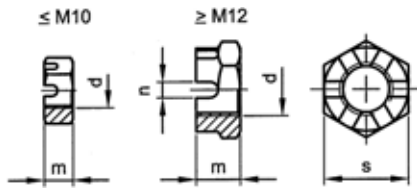
**Thread** Metric fine thread  
**Material** Steel  
**Class** 4  
**Packaging** Standard



| d x P    | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    |
|----------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| M8X1,00  | 100 | <a href="#">12020.080.100</a> | M18X1,50        | 50 | <a href="#">12020.180.150</a> | M30X1,50 (#DIN) | 10 | <a href="#">12020.300.150</a> |
| M10X1,00 | 100 | <a href="#">12020.100.100</a> | M20X1,50        | 25 | <a href="#">12020.200.150</a> | M30X2,00        | 10 | <a href="#">12020.300.200</a> |
| M12X1,50 | 100 | <a href="#">12020.120.150</a> | M22X1,50        | 25 | <a href="#">12020.220.150</a> |                 |    |                               |
| M14X1,50 | 50  | <a href="#">12020.140.150</a> | M24X1,50 (#DIN) | 25 | <a href="#">12020.240.150</a> | M36X1,50 (#DIN) | 5  | <a href="#">12020.360.150</a> |
| M16X1,50 | 50  | <a href="#">12020.160.150</a> | M27X1,50 (#DIN) | 10 | <a href="#">12020.270.150</a> | M42X1,50 (#DIN) | 5  | <a href="#">12020.420.150</a> |

## Hexagon thin slotted and castle nut

DIN 979



### Technical data

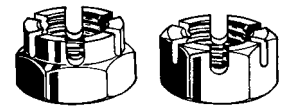
| d   | P    | m   | s       | n   | Split pin DIN94 |
|-----|------|-----|---------|-----|-----------------|
| M6  | 1    | 5   | 10      | 2   | 1,6x14          |
| M8  | 1,25 | 6,5 | 13      | 2,5 | 2x16            |
| M10 | 1,5  | 8   | 17 (16) | 2,8 | 2,5x20          |
| M12 | 1,75 | 10  | 19 (18) | 3,5 | 3,2x22          |
| M14 | 2    | 11  | 22 (21) | 3,5 | 3,2x25          |
| M16 | 2    | 13  | 24      | 4,5 | 4x28            |
| M18 | 2,5  | 15  | 27      | 4,5 | 4x32            |
| M20 | 2,5  | 16  | 30      | 4,5 | 4x36            |
| M22 | 2,5  | 18  | 32 (34) | 5,5 | 5x36            |
| M24 | 3    | 19  | 36      | 5,5 | 5x40            |
| M27 | 3    | 22  | 41      | 5,5 | 5x45            |
| M30 | 3,5  | 24  | 46      | 7   | 6,3x50          |

- Guide values for advised split pins (cotter pins) acc. to DIN 94 (ISO 1234).
- Depending on availability the dimensions may deviate.

### 12060 Hexagon thin slotted and castle nut

F01D

**Thread** Metric thread  
**Material** Steel  
**Class** 04  
**Packaging** Standard  
DIN 979

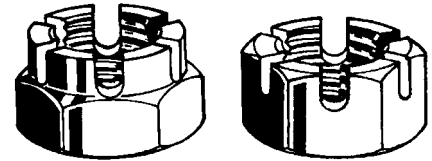
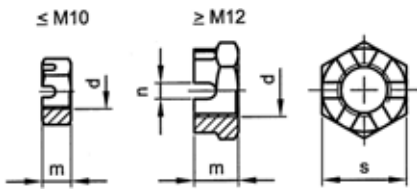


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M8  | 100 | <a href="#">12060.080.001</a> | M16 | 50 | <a href="#">12060.160.001</a> | M24 | 25 | <a href="#">12060.240.001</a> |
| M10 | 100 | <a href="#">12060.100.001</a> | M18 | 50 | <a href="#">12060.180.001</a> | M27 | 10 | <a href="#">12060.270.001</a> |
| M12 | 100 | <a href="#">12060.120.001</a> | M20 | 25 | <a href="#">12060.200.001</a> | M30 | 10 | <a href="#">12060.300.001</a> |
| M14 | 50  | <a href="#">12060.140.001</a> | M22 | 25 | <a href="#">12060.220.001</a> |     |    |                               |



## Hexagon thin slotted and castle nut MF

DIN 979



### Technical data

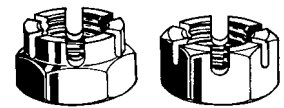
| d   | m   | s       | n   | Split pin DIN94 |
|-----|-----|---------|-----|-----------------|
| M8  | 6,5 | 13      | 2,5 | 2X16            |
| M10 | 8   | 17 (16) | 2,8 | 2,5X20          |
| M12 | 10  | 19 (18) | 3,5 | 3,2X22          |
| M14 | 11  | 22 (21) | 3,5 | 3,2X25          |
| M16 | 13  | 24      | 4,5 | 4X28            |
| M18 | 15  | 27      | 4,5 | 4X32            |
| M20 | 16  | 30      | 4,5 | 4X36            |
| M22 | 18  | 32 (34) | 5,5 | 5x36            |
| M24 | 19  | 36      | 5,5 | 5x40            |
| M27 | 22  | 41      | 5,6 | 5x45            |
| M30 | 24  | 46      | 7   | 6,3x50          |
| M39 | 31  | 60      | 7   | 6,3x71          |

- Guide values for advised split pins (cotter pins) acc. to DIN 94 (ISO 1234).
- Depending on availability the dimensions may deviate.

### 12080 Hexagon thin slotted and castle nut MF

F01D

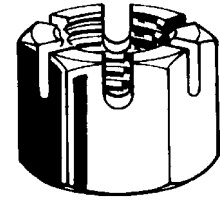
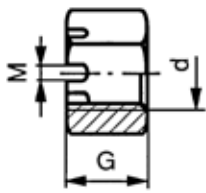
**Thread** Metric fine thread  
**Material** Steel  
**Class** ≥04  
**Packaging** Standard



| d x P    | ☒   | Art.number                    | d x P           | ☒  | Art.number                    | d x P           | ☒  | Art.number                    |
|----------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| M8X1,00  | 100 | <a href="#">12080.080.100</a> | M18X1,50        | 50 | <a href="#">12080.180.150</a> | M30X1,50 (≠DIN) | 10 | <a href="#">12080.300.150</a> |
| M10X1,00 | 100 | <a href="#">12080.100.100</a> | M20X1,50        | 25 | <a href="#">12080.200.150</a> | M30X2,00        | 10 | <a href="#">12080.300.200</a> |
| M12X1,50 | 100 | <a href="#">12080.120.150</a> | M22X1,50        | 25 | <a href="#">12080.220.150</a> |                 |    |                               |
| M14X1,50 | 50  | <a href="#">12080.140.150</a> | M24X1,50 (≠DIN) | 25 | <a href="#">12080.240.150</a> | M39X1,50 (≠DIN) | 5  | <a href="#">12080.390.150</a> |
| M16X1,50 | 50  | <a href="#">12080.160.150</a> | M27X1,50 (≠DIN) | 10 | <a href="#">12080.270.150</a> |                 |    |                               |

## Hexagon slotted and castle nut UNF

BS ≈1768



### Technical data

| d         | Threads per inch | G    | A      | M   |
|-----------|------------------|------|--------|-----|
| 1/4       | 28               | 5,7  | 7/16   | 2   |
| 3/8       | 24               | 8,   | 9/16   | 3,2 |
| 7/16      | 20               | 9,7  | 11/16  | 3,2 |
| 1/2       | 20               | 11,2 | 3/4    | 4   |
| 5/8       | 18               | 14   | 15/16  | 4,8 |
| 3/4       | 16               | 16,5 | 1.1/8  | 4,8 |
| 7/8       | 14               | 19,3 | 1.5/16 | 4,8 |
| 1.IN.-12G | 12               | 22,2 | 1.1/2  | 6,4 |
| 1.IN.-14G | 14               | 22,2 | 1.1/2  | 6,4 |
| 1.1/4     | 12               | 27,6 | 1.7/8  | 8   |
| 1.1/2     | 12               | 33,3 | 2.1/4  | 9,5 |

- Depending on availability the dimensions may deviate.
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch.

| 12161 Hexagon slotted and castle nut UNF |                       | X09A |
|--|-----------------------|------|
| <b>Thread</b>                            | Unified National Fine |      |
| <b>Material</b>                          | Steel                 |      |
| <b>Class</b>                             | 6                     |      |
| <b>Packaging</b>                         | Standard              |      |

| d    | ☒   | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| 1/4  | 100 | <a href="#">12161.063.001</a> | 5/8   | 25 | <a href="#">12161.158.001</a> | 1-14G | 10 | <a href="#">12161.256.001</a> |
| 3/8  | 100 | <a href="#">12161.096.001</a> | 3/4   | 25 | <a href="#">12161.191.001</a> | 1.1/4 | 10 | <a href="#">12161.317.001</a> |
| 7/16 | 50  | <a href="#">12161.111.001</a> | 7/8   | 25 | <a href="#">12161.222.001</a> | 1.1/2 | 5  | <a href="#">12161.381.001</a> |
| 1/2  | 50  | <a href="#">12161.127.001</a> | 1-12G | 10 | <a href="#">12161.255.001</a> |       |    |                               |

## KALEI Press nuts



### General

With KALEI press nuts thin sheet material from 1 mm thick can be provided with full loadable thread. This is an ideal solution for the metal- and/or the plastic sheet processing industry.

### Principle

The special formed collar seizes firmly into the material so that the KALEI press nut is secured from pulling loose axially and also from twisting round clockwise viewed from the assembly side.

### Assembly

Centering the KALEI press nut above the drilled or punched hole, (tolerance hole  $d_2 = H11$ ). Mechanical insertion or by hammer through which the serrated collar is seated in the wall of hole (use of an inserting tool simplifies assembly). Screws are turned into the KALEI press nut from the collar side. During tightening the collar will be even further anchored in the material.

### Type

Steel zinc plated and stainless steel with collar heights (kh) from 0,9 mm up to and including 3,9 mm.

Special KALEI press nuts with higher collar heights for application in light-weight materials, plastics etc., and also non-metric KALEI press nuts are available on request.

### Properties

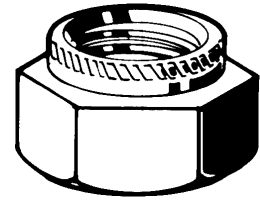
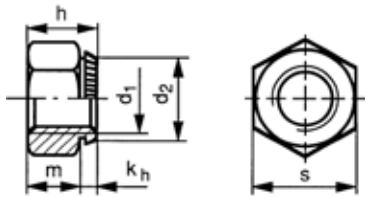
- ideal method to provide thin sheet material with loadable thread
- simple and quick assembly without welding or riveting
- safe seating in sheet material by a specially inclined serrated and case hardened collar
- applicable in steel, aluminium and plastic
- available for several material thicknesses

3

## Assembly sequence



## Press nut



### Technical data

| d1         | P    | kh  | d2   | h   | m    | s   | Hole ø (H11) | Material thickness (min.) |
|------------|------|-----|------|-----|------|-----|--------------|---------------------------|
| M2         | 0,4  | 0,9 | 4,5  | 3   | 2,1  | 5,5 | 4,5          | 1                         |
| M2,3       | 0,4  | 0,9 | 4,5  | 3   | 2,1  | 5,5 | 4,5          | 1                         |
| M2,5       | 0,45 | 0,9 | 4,5  | 3   | 2,1  | 5,5 | 4,5          | 1                         |
| M2,6       | 0,45 | 0,9 | 4,5  | 3   | 2,1  | 5,5 | 4,5          | 1                         |
| M3         | 0,5  | 0,9 | 4,5  | 3   | 2,1  | 5,5 | 4,5          | 1                         |
| M3 (Kh1,4) | 0,5  | 1,4 | 4,5  | 3   | 1,6  | 5,5 | 4,5          | 1,5                       |
| M3 (Kh1,8) | 0,5  | 1,8 | 4,5  | 3   | 1,2  | 5,5 | 4,5          | 2                         |
| M4         | 0,7  | 0,9 | 5,5  | 3,2 | 2,3  | 7   | 5,5          | 1                         |
| M4 (Kh1,4) | 0,7  | 1,4 | 5,5  | 3,2 | 1,8  | 7   | 5,5          | 1,5                       |
| M4 (Kh1,8) | 0,7  | 1,8 | 5,5  | 4,5 | 2,7  | 7   | 5,5          | 2                         |
| M5         | 0,8  | 0,9 | 6,5  | 4   | 3,1  | 8   | 6,5          | 1                         |
| M5 (Kh1,4) | 0,8  | 1,4 | 6,5  | 4   | 2,6  | 8   | 6,5          | 1,5                       |
| M5 (Kh1,8) | 0,8  | 1,8 | 6,5  | 5   | 3,2  | 8   | 6,5          | 2                         |
| M6         | 1    | 0,9 | 8    | 5   | 4,1  | 10  | 8            | 1                         |
| M6 (Kh1,4) | 1    | 1,4 | 8    | 5   | 3,6  | 10  | 8            | 1,5                       |
| M6 (Kh1,8) | 1    | 1,8 | 8    | 5   | 3,2  | 10  | 8            | 2                         |
| M8         | 1,25 | 1,8 | 10   | 6,5 | 4,7  | 13  | 10           | 2                         |
| M10        | 1,5  | 1,8 | 12,5 | 8   | 6,2  | 15  | 12,5         | 2                         |
| M12        | 1,75 | 2,8 | 14,5 | 10  | 7,2  | 17  | 14,5         | 3                         |
| M16        | 2    | 2,4 | 18,5 | 13  | 10,6 | 22  | 18,5         | 3                         |
| M20        | 2,5  | 3,9 | 23   | 16  | 12,1 | 27  | 23           | 4                         |

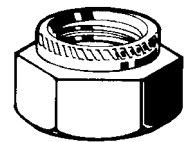
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St        | 6     | Zipl              | Standard  | 15000 | 3-86 |
| M      | hexagon          | St.St. A1 |       |                   | Standard  | 15060 | 3-86 |
| M      | hexagon          | St        | 6     | Zipl              | Kh=1,4    | 15010 | 3-87 |
| M      | hexagon          | St.St. A1 |       |                   | Kh=1,4    | 15070 | 3-87 |
| M      | hexagon          | St        | 6     | Zipl              | Kh=1,8    | 15020 | 3-87 |
| M      | hexagon          | St.St. A1 |       |                   | Kh=1,8    | 15080 | 3-87 |

#### 15000 KALEI Press nut

F01E

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Class             | 6             |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |

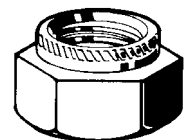


| d1 | ☒   | Art.number                    | d1  | ☒   | Art.number                    | d1  | ☒   | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M3 | 250 | <a href="#">15000.030.001</a> | M6  | 250 | <a href="#">15000.060.001</a> | M12 | 100 | <a href="#">15000.120.001</a> |
| M4 | 250 | <a href="#">15000.040.001</a> | M8  | 250 | <a href="#">15000.080.001</a> | M16 | 50  | <a href="#">15000.160.001</a> |
| M5 | 250 | <a href="#">15000.050.001</a> | M10 | 100 | <a href="#">15000.100.001</a> | M20 | 25  | <a href="#">15000.200.001</a> |

#### 15060 KALEI Press nut

F01E

|           |                    |
|-----------|--------------------|
| Thread    | Metric thread      |
| Material  | Stainless steel A1 |
| Packaging | Standard           |



| d1 | ☒   | Art.number                    | d1  | ☒   | Art.number                    | d1  | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">15060.030.001</a> | M6  | 100 | <a href="#">15060.060.001</a> | M12 | 50 | <a href="#">15060.120.001</a> |
| M4 | 100 | <a href="#">15060.040.001</a> | M8  | 50  | <a href="#">15060.080.001</a> | M16 | 25 | <a href="#">15060.160.001</a> |
| M5 | 100 | <a href="#">15060.050.001</a> | M10 | 50  | <a href="#">15060.100.001</a> |     |    |                               |

**15010 KALEI Press nut  $K_h = 1,4$**  F01E

|                          |               |  |   |
|--------------------------|---------------|--|---|
| <b>Thread</b>            | Metric thread |  |  |
| <b>Material</b>          | Steel         |  |   |
| <b>Class</b>             | 6             |  |   |
| <b>Surface treatment</b> | Zinc plated   |  |   |
| <b>Packaging</b>         | Standard      |  |   |

| d1 | ✉ | Art.number                        | d1 | ✉ | Art.number                        | d1 | ✉ | Art.number |
|----|---|-----------------------------------|----|---|-----------------------------------|----|---|------------|
| M3 |   | 250 <a href="#">15010.030.001</a> | M5 |   | 250 <a href="#">15010.050.001</a> |    |   |            |
| M4 |   | 250 <a href="#">15010.040.001</a> | M6 |   | 250 <a href="#">15010.060.001</a> |    |   |            |

**15070 KALEI Press nut  $K_h = 1,4$**  F01E

|                  |                    |  |   |
|------------------|--------------------|--|---|
| <b>Thread</b>    | Metric thread      |  |  |
| <b>Material</b>  | Stainless steel A1 |  |   |
| <b>Class</b>     | 6                  |  |   |
| <b>Packaging</b> | Standard           |  |   |

| d1 | ✉ | Art.number                        | d1 | ✉ | Art.number                        | d1 | ✉ | Art.number |
|----|---|-----------------------------------|----|---|-----------------------------------|----|---|------------|
| M3 |   | 100 <a href="#">15070.030.001</a> | M5 |   | 100 <a href="#">15070.050.001</a> |    |   |            |
| M4 |   | 100 <a href="#">15070.040.001</a> | M6 |   | 100 <a href="#">15070.060.001</a> |    |   |            |

**15020 KALEI Press nut  $K_h = 1,8$**  F01E

|                          |               |   |  |
|--------------------------|---------------|---|--|
| <b>Thread</b>            | Metric thread |  |  |
| <b>Material</b>          | Steel         |   |  |
| <b>Class</b>             | 6             |   |  |
| <b>Surface treatment</b> | Zinc plated   |   |  |
| <b>Packaging</b>         | Standard      |   |  |

| d1 | ✉ | Art.number                        | d1 | ✉ | Art.number                        | d1 | ✉ | Art.number |
|----|---|-----------------------------------|----|---|-----------------------------------|----|---|------------|
| M3 |   | 250 <a href="#">15020.030.001</a> | M5 |   | 250 <a href="#">15020.050.001</a> |    |   |            |
| M4 |   | 250 <a href="#">15020.040.001</a> | M6 |   | 250 <a href="#">15020.060.001</a> |    |   |            |

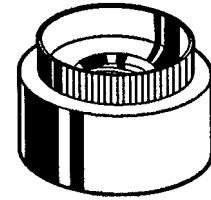
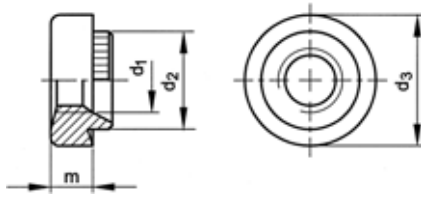
**15080 KALEI Press nut  $K_h = 1,8$**  F01E

|                  |                    |  |   |
|------------------|--------------------|--|---|
| <b>Thread</b>    | Metric thread      |  |  |
| <b>Material</b>  | Stainless steel A1 |  |   |
| <b>Packaging</b> | Standard           |  |   |

| d1 | ✉ | Art.number                        | d1 | ✉ | Art.number                        | d1 | ✉ | Art.number |
|----|---|-----------------------------------|----|---|-----------------------------------|----|---|------------|
| M3 |   | 100 <a href="#">15080.030.001</a> | M5 |   | 100 <a href="#">15080.050.001</a> |    |   |            |
| M4 |   | 100 <a href="#">15080.040.001</a> | M6 |   | 100 <a href="#">15080.060.001</a> |    |   |            |

3

## Round rivet bush



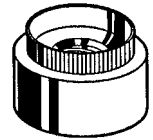
### Technical data

| d1  | P    | d2   | d3   | m   | Hole ø |
|-----|------|------|------|-----|--------|
| M3  | 0,5  | 5,8  | 7,9  | 3,2 | 5,9    |
| M4  | 0,7  | 6,9  | 9,5  | 3,8 | 6,95   |
| M5  | 0,8  | 8,3  | 11,1 | 4,4 | 8,35   |
| M6  | 1    | 9,6  | 12,7 | 5,7 | 9,65   |
| M8  | 1,25 | 13   | 15,9 | 6,4 | 13,1   |
| M10 | 1,5  | 15,4 | 19,1 | 7,6 | 15,5   |

### 12480 Round rivet bush

**F01X**

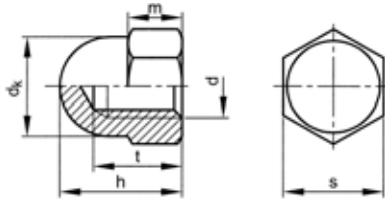
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



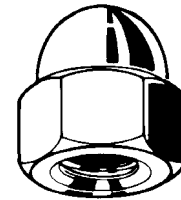
| d1 - p   | ☒   | Art.number                    | d1 - p   | ☒   | Art.number                    | d1 - p    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| M3-1,0MM | 250 | <a href="#">12480.030.010</a> | M5-1,0MM | 250 | <a href="#">12480.050.010</a> | M8-1,5MM  | 250 | <a href="#">12480.080.015</a> |
| M3-1,5MM | 250 | <a href="#">12480.030.015</a> | M5-1,5MM | 250 | <a href="#">12480.050.015</a> | M8-2,0MM  | 250 | <a href="#">12480.080.020</a> |
| M3-1,8MM | 250 | <a href="#">12480.030.018</a> | M5-2,0MM | 250 | <a href="#">12480.050.020</a> | M8-2,5MM  | 250 | <a href="#">12480.080.025</a> |
| M3-2,5MM | 250 | <a href="#">12480.030.025</a> | M5-2,5MM | 250 | <a href="#">12480.050.025</a> | M8-3,0MM  | 250 | <a href="#">12480.080.030</a> |
|          |     |                               | M5-3,0MM | 250 | <a href="#">12480.050.030</a> |           |     |                               |
| M4-1,0MM | 250 | <a href="#">12480.040.010</a> | M6-1,5MM | 250 | <a href="#">12480.060.015</a> | M10-3,0MM | 100 | <a href="#">12480.100.030</a> |
| M4-1,5MM | 250 | <a href="#">12480.040.015</a> | M6-2,0MM | 250 | <a href="#">12480.060.020</a> |           |     |                               |
| M4-2,0MM | 250 | <a href="#">12480.040.020</a> | M6-2,5MM | 250 | <a href="#">12480.060.025</a> |           |     |                               |
| M4-2,5MM | 250 | <a href="#">12480.040.025</a> | M6-3,0MM | 250 | <a href="#">12480.060.030</a> |           |     |                               |
| M4-3,0MM | 250 | <a href="#">12480.040.030</a> | M6-4,0MM | 250 | <a href="#">12480.060.040</a> |           |     |                               |

- p = material thickness = grip range.

## Hexagon domed cap nut, high type



DIN 1587 (1987)  
 NEN 1618



### Technical data

| d          | P    | m (max.) | s   | h   | d <sub>k</sub> (max.) | t   |
|------------|------|----------|-----|-----|-----------------------|-----|
| M3 (#DIN)  | 0,5  | 2,5      | 5,5 | 6,5 | 5                     | 4,5 |
| M4         | 0,7  | 3,2      | 7   | 8   | 6,5                   | 5,5 |
| M5         | 0,8  | 4        | 8   | 10  | 7,5                   | 7,5 |
| M6         | 1    | 5        | 10  | 12  | 9,5                   | 8   |
| M7 (#DIN)  | 1    | 5        | 10  | 12  | 9,5                   | 8   |
| M8         | 1,25 | 6,5      | 13  | 15  | 12,5                  | 11  |
| M10        | 1,5  | 8        | 17  | 18  | 16                    | 13  |
| M12        | 1,75 | 10       | 19  | 22  | 18                    | 16  |
| M14        | 2    | 11       | 22  | 25  | 21                    | 18  |
| M16        | 2    | 13       | 24  | 28  | 23                    | 21  |
| M18        | 2,5  | 15       | 27  | 32  | 26                    | 25  |
| M20        | 2,5  | 16       | 30  | 34  | 28                    | 26  |
| M22        | 2,5  | 18       | 32  | 39  | 31                    | 29  |
| M24        | 3    | 19       | 36  | 42  | 34                    | 31  |
| M27 (#DIN) | 3    | 20       | 41  | 47  | 40                    | 35  |
| M30 (#DIN) | 3,5  | 24       | 46  | 52  | 42                    | 38  |
| M36 (#DIN) | -    | -        | -   | -   | -                     | -   |

3

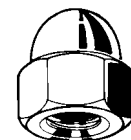
### Article groups

| Thread | Driving features | Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|--------|------------------|------------|--------|-------------------|--------|-----------|-------|------|
| M      | hexagon          | St         | 6      |                   |        | Standard  | 16500 | 3-89 |
| M      | hexagon          | St         | 6      | Zipl              |        | Standard  | 16510 | 3-89 |
| M      | hexagon          | St         | 6      | Zipl blk p.       |        | Standard  | 16516 | 3-90 |
| M      | hexagon          | St.St. A1  | 50     |                   |        | Standard  | 51400 | 3-90 |
| M      | hexagon          | St.St. A4  | 50     |                   |        | Standard  | 55400 | 3-90 |
| M      | hexagon          | Br Cu3     |        |                   |        | Standard  | 47340 | 3-90 |
| M      | hexagon          | Br Cu3     |        | Ni.pl.            |        | Standard  | 47360 | 3-90 |
| M      | hexagon          | Plastic PA | PA 6.6 |                   | White  | Standard  | 56250 | 3-91 |

#### 16500 Hexagon domed cap nut, high type

F01H

Thread Metric thread  
 Material Steel  
 Class |6|  
 Packaging Standard

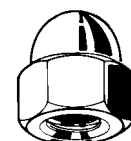


| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6  | 250 | <a href="#">16500.060.001</a> | M16 | 50 | <a href="#">16500.160.001</a> | M27 | 10 | <a href="#">16500.270.001</a> |
| M8  | 250 | <a href="#">16500.080.001</a> | M18 | 50 | <a href="#">16500.180.001</a> | M30 | 10 | <a href="#">16500.300.001</a> |
| M10 | 200 | <a href="#">16500.100.001</a> | M20 | 25 | <a href="#">16500.200.001</a> |     |    |                               |
| M12 | 100 | <a href="#">16500.120.001</a> | M24 | 10 | <a href="#">16500.240.001</a> |     |    |                               |

#### 16510 Hexagon domed cap nut, high type

F01H

Thread Metric thread  
 Material Steel  
 Class |6|  
 Surface treatment Zinc plated  
 Packaging Standard



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 250 | <a href="#">16510.030.001</a> | M10 | 200 | <a href="#">16510.100.001</a> | M20 | 25 | <a href="#">16510.200.001</a> |
| M4 | 250 | <a href="#">16510.040.001</a> | M12 | 100 | <a href="#">16510.120.001</a> | M22 | 10 | <a href="#">16510.220.001</a> |
| M5 | 250 | <a href="#">16510.050.001</a> | M14 | 50  | <a href="#">16510.140.001</a> | M24 | 10 | <a href="#">16510.240.001</a> |
| M6 | 250 | <a href="#">16510.060.001</a> | M16 | 50  | <a href="#">16510.160.001</a> |     |    |                               |
| M8 | 250 | <a href="#">16510.080.001</a> | M18 | 25  | <a href="#">16510.180.001</a> |     |    |                               |

3

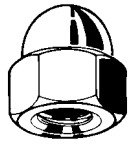
|   |                              |   |
|---|------------------------------|---|
| <b>16516 Hexagon domed cap nut, high type</b> |                              | <b>F01H</b>   |
| <b>Thread</b>                                 | Metric thread                |  |
| <b>Material</b>                               | Steel                        |   |
| <b>Class</b>                                  | [6]                          |   |
| <b>Surface treatment</b>                      | Zinc plated black passivated |   |
| <b>Packaging</b>                              | Standard                     |   |

| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d  | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|-----|-------------------------------|
| M5 | 250 | <a href="#">16516.050.001</a> | M6 | 250 | <a href="#">16516.060.001</a> | M8 | 250 | <a href="#">16516.080.001</a> |

|   |                    |   |
|---|--------------------|---|
| <b>51400 Hexagon domed cap nut, high type</b> |                    | <b>R09A</b>   |
| <b>Thread</b>                                 | Metric thread      |  |
| <b>Material</b>                               | Stainless steel A1 |   |
| <b>Class</b>                                  | 50                 |   |
| <b>Packaging</b>                              | Standard           |   |
|   |                    |   |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M3 | 100 | <a href="#">51400.030.001</a> | M10 | 50 | <a href="#">51400.100.001</a> | M20 | 5 | <a href="#">51400.200.001</a> |
| M4 | 100 | <a href="#">51400.040.001</a> | M12 | 25 | <a href="#">51400.120.001</a> | M22 | 5 | <a href="#">51400.220.001</a> |
| M5 | 100 | <a href="#">51400.050.001</a> | M14 | 10 | <a href="#">51400.140.001</a> | M24 | 5 | <a href="#">51400.240.001</a> |
| M6 | 100 | <a href="#">51400.060.001</a> | M16 | 10 | <a href="#">51400.160.001</a> | M27 | 3 | <a href="#">51400.270.001</a> |
| M8 | 50  | <a href="#">51400.080.001</a> | M18 | 10 | <a href="#">51400.180.001</a> | M30 | 1 | <a href="#">51400.300.001</a> |

- Depending on availability A1 can be supplied as well as A2.

|   |                    |   |
|---|--------------------|---|
| <b>55400 Hexagon domed cap nut, high type</b> |                    | <b>R49A</b>   |
| <b>Thread</b>                                 | Metric thread      |  |
| <b>Material</b>                               | Stainless steel A4 |   |
| <b>Class</b>                                  | 50                 |   |
| <b>Packaging</b>                              | Standard           |   |
|   |                    |   |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M3 | 100 | <a href="#">55400.030.001</a> | M10 | 50 | <a href="#">55400.100.001</a> | M20 | 5 | <a href="#">55400.200.001</a> |
| M4 | 100 | <a href="#">55400.040.001</a> | M12 | 25 | <a href="#">55400.120.001</a> | M22 | 5 | <a href="#">55400.220.001</a> |
| M5 | 100 | <a href="#">55400.050.001</a> | M14 | 10 | <a href="#">55400.140.001</a> | M24 | 5 | <a href="#">55400.240.001</a> |
| M6 | 100 | <a href="#">55400.060.001</a> | M16 | 10 | <a href="#">55400.160.001</a> | M27 | 3 | <a href="#">55400.270.001</a> |
| M8 | 50  | <a href="#">55400.080.001</a> | M18 | 10 | <a href="#">55400.180.001</a> | M30 | 1 | <a href="#">55400.300.001</a> |

|   |               |   |
|---|---------------|---|
| <b>47340 Hexagon domed cap nut, high type</b> |               | <b>M11C</b>   |
| <b>Thread</b>                                 | Metric thread |  |
| <b>Material</b>                               | Brass Cu3     |   |
| <b>Packaging</b>                              | Standard      |   |
|   |               |   |
|   |               |   |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 500 | <a href="#">47340.030.001</a> | M8  | 100 | <a href="#">47340.080.001</a> | M16 | 10 | <a href="#">47340.160.001</a> |
| M4 | 200 | <a href="#">47340.040.001</a> | M10 | 50  | <a href="#">47340.100.001</a> | M20 | 10 | <a href="#">47340.200.001</a> |
| M5 | 200 | <a href="#">47340.050.001</a> | M12 | 25  | <a href="#">47340.120.001</a> | M24 | 5  | <a href="#">47340.240.001</a> |
| M6 | 200 | <a href="#">47340.060.001</a> | M14 | 25  | <a href="#">47340.140.001</a> |     |    |                               |

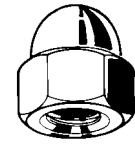
|   |               |   |
|---|---------------|---|
| <b>47360 Hexagon domed cap nut, high type</b> |               | <b>M11C</b>   |
| <b>Thread</b>                                 | Metric thread |  |
| <b>Material</b>                               | Brass Cu3     |   |
| <b>Surface treatment</b>                      | Nickel plated |   |
| <b>Packaging</b>                              | Standard      |   |
|   |               |   |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 500 | <a href="#">47360.030.001</a> | M6  | 200 | <a href="#">47360.060.001</a> | M12 | 25 | <a href="#">47360.120.001</a> |
| M4 | 200 | <a href="#">47360.040.001</a> | M8  | 100 | <a href="#">47360.080.001</a> | M16 | 10 | <a href="#">47360.160.001</a> |
| M5 | 200 | <a href="#">47360.050.001</a> | M10 | 50  | <a href="#">47360.100.001</a> | M20 | 10 | <a href="#">47360.200.001</a> |



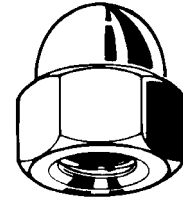
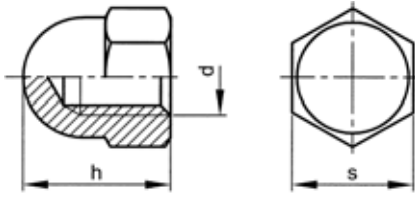
**56250 Hexagon domed cap nut, high type plastic W02A**

**Thread** Metric thread  
**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** White  
**Packaging** Standard  
**DIN** ≈1587 (1987)  
**NEN** ≈1618  
**NF** ≈E27-453



| d  | ✉   | Art.number                    | d  | ✉   | Art.number                    | d   | ✉  | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">56250.030.001</a> | M5 | 100 | <a href="#">56250.050.001</a> | M8  | 50 | <a href="#">56250.080.001</a> |
| M4 | 100 | <a href="#">56250.040.001</a> | M6 | 100 | <a href="#">56250.060.001</a> | M10 | 50 | <a href="#">56250.100.001</a> |

## Hexagon domed cap nut BSW



### Technical data

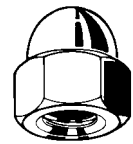
| d     | Threads per inch | s  | h  |
|-------|------------------|----|----|
| 5/32  | 32               | 7  | 8  |
| 3/16  | 24               | 8  | 10 |
| 1/4   | 20               | 11 | 12 |
| 5/16  | 18               | 13 | 15 |
| 1/2   | 12               | 22 | 25 |
| 5/8   | 11               | 27 | 32 |
| 3/4   | 10               | 32 | 39 |
| 7/8   | 9                | 36 | 42 |
| 1.IN. | 8                | 41 | 48 |

- Whitworth thread (BSW/BSF) is not internationally recommended.
- It is advised to use metric (M/MF) or unified threads (UNC/UNF).

### 16540 Hexagon domed cap nut BSW

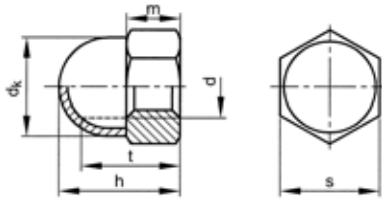
X08A

|                  |                            |
|------------------|----------------------------|
| <b>Thread</b>    | British Standard Whitworth |
| <b>Material</b>  | Steel                      |
| <b>Class</b>     | 6                          |
| <b>Packaging</b> | Standard                   |

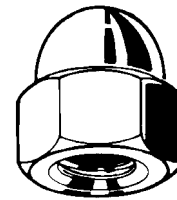


| d    | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|------|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| 1/4  | 200 | <a href="#">16540.063.001</a> | 1/2 | 25 | <a href="#">16540.127.001</a> | 3/4 | 10 | <a href="#">16540.191.001</a> |
| 5/16 | 100 | <a href="#">16540.079.001</a> | 5/8 | 10 | <a href="#">16540.158.001</a> | 7/8 | 10 | <a href="#">16540.222.001</a> |

## Hexagon domed cap nut, high type with welded cap



DIN ≈1587 (1987)  
 NEN ≈1618



### Technical data

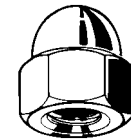
| d         | P    | m (max.) | s   | h   | dk (max.) | t ≈ |
|-----------|------|----------|-----|-----|-----------|-----|
| M3 (#DIN) | 0,5  | 2,5      | 5,5 | 6,5 | 5         | 3   |
| M4        | 0,7  | 3,2      | 7   | 6,5 | 6,5       | 4   |
| M5        | 0,8  | 4        | 8   | 10  | 7,5       | 8   |
| M6        | 1    | 5        | 10  | 12  | 9,5       | 10  |
| M8        | 1,25 | 6,5      | 13  | 15  | 12,5      | 13  |
| M10       | 1,5  | 8        | 16  | 18  | 16        | 15  |
| M12       | 1,75 | 10       | 18  | 22  | 18        | 19  |
| M16       | 2    | 13       | 24  | 28  | 23        | 26  |
| M20       | 2,5  | 16       | 30  | 34  | 28        | 31  |

3

### 16300 Hexagon domed cap nut, high type with welded cap

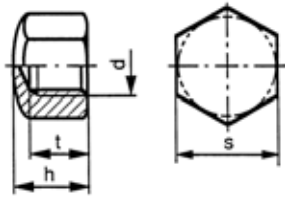
F01H

Thread Metric thread  
 Material Steel  
 Class |6|  
 Surface treatment Chrome plated  
 Packaging Standard

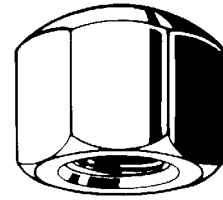


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 250 | <a href="#">16300.030.001</a> | M6  | 200 | <a href="#">16300.060.001</a> | M12 | 50 | <a href="#">16300.120.001</a> |
| M4 | 200 | <a href="#">16300.040.001</a> | M8  | 200 | <a href="#">16300.080.001</a> | M16 | 25 | <a href="#">16300.160.001</a> |
| M5 | 200 | <a href="#">16300.050.001</a> | M10 | 100 | <a href="#">16300.100.001</a> | M20 | 10 | <a href="#">16300.200.001</a> |

## Hexagon cap nut low type



ISO 1617  
DIN 917



### Technical data

| d         | P    | h   | s   | t (min.) |
|-----------|------|-----|-----|----------|
| M3 (#DIN) | 0,5  | 4,5 | 5,5 | 3,5      |
| M4        | 0,7  | 5,5 | 7   | 4,16     |
| M5        | 0,8  | 7   | 8   | 4,96     |
| M6        | 1    | 9   | 10  | 6,71     |
| M8        | 1,25 | 12  | 13  | 9,21     |
| M10       | 1,5  | 14  | 16  | 10,65    |
| M12       | 1,75 | 16  | 18  | 13,15    |
| M14       | 2    | 18  | 21  | 14,65    |
| M16       | 2    | 20  | 24  | 16,65    |
| M18       | 2,5  | 22  | 27  | 18,58    |
| M20       | 2,5  | 25  | 30  | 20,58    |
| M22       | 2,5  | 28  | 34  | 21,58    |
| M24       | 3    | 30  | 36  | 23,58    |
| M27       | 3    | 32  | 41  | 25,58    |
| M30       | 3,5  | 34  | 46  | 27,58    |

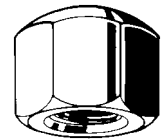
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St        | [6]   | Zipl              | Standard  | 16410 | 3-94 |
| M      | hexagon          | St.St. A1 | 50    |                   | Standard  | 51380 | 3-94 |
| M      | hexagon          | St.St. A4 | 50    |                   | Standard  | 55380 | 3-95 |
| M      | hexagon          | Br Cu3    |       |                   | Standard  | 47300 | 3-95 |

#### 16410 Hexagon cap nut low type

F01H

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | [6]           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

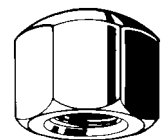


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">16410.040.001</a> | M8  | 250 | <a href="#">16410.080.001</a> | M16 | 50 | <a href="#">16410.160.001</a> |
| M5 | 250 | <a href="#">16410.050.001</a> | M10 | 200 | <a href="#">16410.100.001</a> | M20 | 25 | <a href="#">16410.200.001</a> |
| M6 | 250 | <a href="#">16410.060.001</a> | M12 | 100 | <a href="#">16410.120.001</a> | M24 | 10 | <a href="#">16410.240.001</a> |

#### 51380 Hexagon cap nut low type

R09A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A1 |
| <b>Class</b>     | 50                 |
| <b>Packaging</b> | Standard           |



| d    | ☒   | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M3 * | 200 | <a href="#">51380.030.001</a> | M10   | 50 | <a href="#">51380.100.001</a> | M20   | 5  | <a href="#">51380.200.001</a> |
| M4   | 100 | <a href="#">51380.040.001</a> | M12   | 25 | <a href="#">51380.120.001</a> | M22 * | 25 | <a href="#">51380.220.001</a> |
| M5   | 100 | <a href="#">51380.050.001</a> | M14 * | 50 | <a href="#">51380.140.001</a> | M27 * | 10 | <a href="#">51380.270.001</a> |
| M6   | 100 | <a href="#">51380.060.001</a> | M16   | 10 | <a href="#">51380.160.001</a> | M30 * | 10 | <a href="#">51380.300.001</a> |
| M8   | 50  | <a href="#">51380.080.001</a> | M18 * | 50 | <a href="#">51380.180.001</a> |       |    |                               |

- Depending on availability A1 can be supplied as well as A2.

|                                       |                    |   |
|---------------------------------------|--------------------|---|
| <b>55380 Hexagon cap nut low type</b> |                    | <b>R49A</b>   |
| <b>Thread</b>                         | Metric thread      |  |
| <b>Material</b>                       | Stainless steel A4 |   |
| <b>Class</b>                          | 50                 |   |
| <b>Packaging</b>                      | Standard           |   |

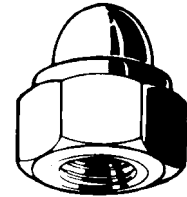
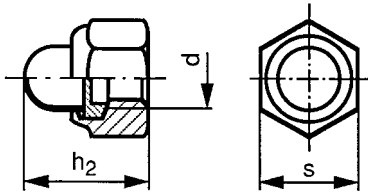
| d  | ☒   | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|----|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M4 | 100 | <a href="#">55380.040.001</a> | M10   | 50 | <a href="#">55380.100.001</a> | M20   | 5  | <a href="#">55380.200.001</a> |
| M5 | 100 | <a href="#">55380.050.001</a> | M12   | 25 | <a href="#">55380.120.001</a> | M24   | 5  | <a href="#">55380.240.001</a> |
| M6 | 100 | <a href="#">55380.060.001</a> | M14 * | 50 | <a href="#">55380.140.001</a> | M27   | 1  | <a href="#">55380.270.001</a> |
| M8 | 50  | <a href="#">55380.080.001</a> | M16   | 10 | <a href="#">55380.160.001</a> | M30 * | 10 | <a href="#">55380.300.001</a> |

|                                       |               |   |
|---------------------------------------|---------------|---|
| <b>47300 Hexagon cap nut low type</b> |               | <b>M11C</b>   |
| <b>Thread</b>                         | Metric thread |  |
| <b>Material</b>                       | Brass Cu3     |   |
| <b>Packaging</b>                      | Standard      |   |
|                                       |               |   |

| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 200 | <a href="#">47300.030.001</a> | M8  | 100 | <a href="#">47300.080.001</a> | M16 | 10 | <a href="#">47300.160.001</a> |
| M4 | 200 | <a href="#">47300.040.001</a> | M10 | 50  | <a href="#">47300.100.001</a> | M20 | 10 | <a href="#">47300.200.001</a> |
| M5 | 200 | <a href="#">47300.050.001</a> | M12 | 25  | <a href="#">47300.120.001</a> |     |    |                               |
| M6 | 200 | <a href="#">47300.060.001</a> | M14 | 25  | <a href="#">47300.140.001</a> |     |    |                               |

## Prevailing torque type hexagon domed cap nut with non-metallic insert

DIN ≈986



### Technical data

| d   | P    | h <sub>2</sub> | s  |
|-----|------|----------------|----|
| M4  | 0,7  | 9,6            | 7  |
| M5  | 0,8  | 10,5           | 8  |
| M6  | 1    | 12             | 10 |
| M8  | 1,25 | 14             | 13 |
| M10 | 1,5  | 18,1           | 16 |
| M12 | 1,75 | 22,5           | 18 |
| M16 | 2    | 27,5           | 24 |
| M20 | 2,5  | 35             | 30 |

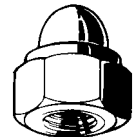
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexagon          | St        | ≥ 6   | Zipl              | Standard  | 16450 | 3-96 |
| M      | hexagon          | St.St. A2 |       |                   | Standard  | 51405 | 3-96 |

#### 16450 Prevailing torque type hexagon domed cap nut with non-metallic insert

F01H

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | ≥ 6           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

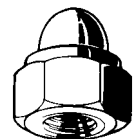


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">16450.040.001</a> | M8  | 200 | <a href="#">16450.080.001</a> | M16 | 50 | <a href="#">16450.160.001</a> |
| M5 | 200 | <a href="#">16450.050.001</a> | M10 | 200 | <a href="#">16450.100.001</a> | M20 | 25 | <a href="#">16450.200.001</a> |
| M6 | 200 | <a href="#">16450.060.001</a> | M12 | 100 | <a href="#">16450.120.001</a> |     |    |                               |

#### 51405 Prevailing torque type hexagon domed cap nut with non-metallic insert

R09A

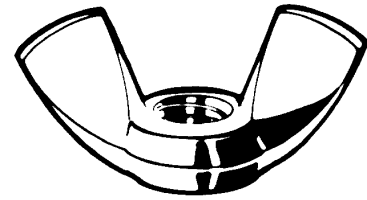
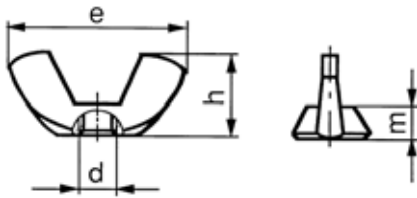
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-------|----|-------------------------------|
| M4 | 100 | <a href="#">51405.040.001</a> | M8  | 50 | <a href="#">51405.080.001</a> | M16 * | 50 | <a href="#">51405.160.001</a> |
| M5 | 100 | <a href="#">51405.050.001</a> | M10 | 50 | <a href="#">51405.100.001</a> |       |    |                               |
| M6 | 100 | <a href="#">51405.060.001</a> | M12 | 25 | <a href="#">51405.120.001</a> |       |    |                               |

## Wing nut light (American) type

ANSI =B18.17



### Technical data

| d   | P    | m ≈  | e ≈  | h ≈  |
|-----|------|------|------|------|
| M3  | 0,5  | 3    | 18,5 | 8,8  |
| M4  | 0,7  | 3    | 18,5 | 8,8  |
| M5  | 0,8  | 4    | 22   | 10,5 |
| M6  | 1    | 4,9  | 26,8 | 12,9 |
| M8  | 1,25 | 5,4  | 30,3 | 14,8 |
| M10 | 1,5  | 6,3  | 35,3 | 17,3 |
| M12 | 1,75 | 7,9  | 47,5 | 22,5 |
| M14 | 2    | 10,6 | 65   | 30,8 |
| M16 | 2    | 10,6 | 65   | 30,8 |
| M20 | 2,5  | 12,2 | 66,5 | 31,2 |

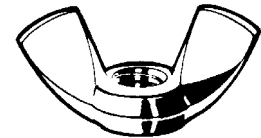
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | wing             | St        | 04    | Zipl              | Standard  | 16250 | 3-97 |
| M      | wing             | St.St. A2 |       |                   | Standard  | 51810 | 3-97 |
| M      | wing             | St.St. A4 |       |                   | Standard  | 55810 | 3-97 |

#### 16250 Wing nut light (American) type

F01X

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Class             | 04            |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |

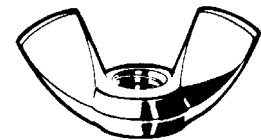


| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 250 | <a href="#">16250.030.001</a> | M6  | 250 | <a href="#">16250.060.001</a> | M12 | 50 | <a href="#">16250.120.001</a> |
| M4 | 250 | <a href="#">16250.040.001</a> | M8  | 100 | <a href="#">16250.080.001</a> | M16 | 25 | <a href="#">16250.160.001</a> |
| M5 | 250 | <a href="#">16250.050.001</a> | M10 | 100 | <a href="#">16250.100.001</a> | M20 | 10 | <a href="#">16250.200.001</a> |

#### 51810 Wing nut light (American) type

R09A

|           |                    |
|-----------|--------------------|
| Thread    | Metric thread      |
| Material  | Stainless steel A2 |
| Packaging | Standard           |

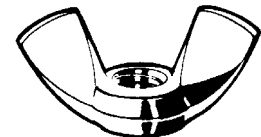


| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M3 | 100 | <a href="#">51810.030.001</a> | M8  | 50 | <a href="#">51810.080.001</a> | M16 | 5 | <a href="#">51810.160.001</a> |
| M4 | 100 | <a href="#">51810.040.001</a> | M10 | 25 | <a href="#">51810.100.001</a> | M20 | 3 | <a href="#">51810.200.001</a> |
| M5 | 100 | <a href="#">51810.050.001</a> | M12 | 10 | <a href="#">51810.120.001</a> |     |   |                               |
| M6 | 50  | <a href="#">51810.060.001</a> | M14 | 5  | <a href="#">51810.140.001</a> |     |   |                               |

#### 55810 Wing nut light (American) type

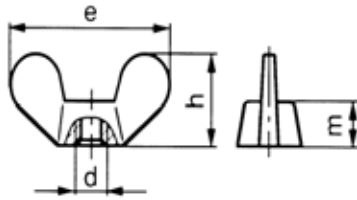
R49A

|           |                    |
|-----------|--------------------|
| Thread    | Metric thread      |
| Material  | Stainless steel A4 |
| Packaging | Standard           |

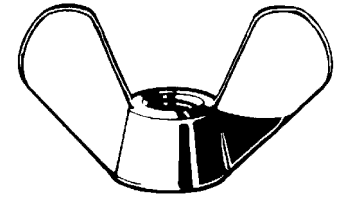


| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">55810.030.001</a> | M6  | 50 | <a href="#">55810.060.001</a> | M12 | 10 | <a href="#">55810.120.001</a> |
| M4 | 100 | <a href="#">55810.040.001</a> | M8  | 50 | <a href="#">55810.080.001</a> | M16 | 5  | <a href="#">55810.160.001</a> |
| M5 | 100 | <a href="#">55810.050.001</a> | M10 | 25 | <a href="#">55810.100.001</a> |     |    |                               |

## Wing nut rounded wings



DIN 315  
NEN 1625



### Technical data

| d          | P    | m (min.) | e (max.) | h (max.) |
|------------|------|----------|----------|----------|
| M3 (#DIN)  | 0,5  | 2,9      | 17,6     | 8,6      |
| M4         | 0,7  | 3,2      | 20       | 10,5     |
| M5         | 0,8  | 4        | 26       | 13       |
| M6         | 1    | 5        | 33       | 17       |
| M8         | 1,25 | 6,5      | 39       | 20       |
| M10        | 1,5  | 8        | 51       | 25       |
| M12        | 1,75 | 10       | 65       | 33,5     |
| M14 (#DIN) | 2    | 11,2     | 65       | 33,5     |
| M16        | 2    | 13       | 73       | 37,5     |
| M20        | 2,5  | 16       | 90       | 46,5     |
| M24        | 3    | 20       | 110      | 56,5     |

### Article groups

| Thread | Driving features | Material | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------------------|-----------|-------|------|
| M      | wing             | Cl       | Zipl              | Standard  | 16270 | 3-98 |
| M      | wing             | Br       |                   | Standard  | 47550 | 3-98 |
| M      | wing             | Br       | Ni.pl.            | Standard  | 47560 | 3-98 |

#### 16270 Wing nut rounded wings

F01X

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Cast iron     |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">16270.040.001</a> | M10 | 100 | <a href="#">16270.100.001</a> | M20 | 10 | <a href="#">16270.200.001</a> |
| M5 | 250 | <a href="#">16270.050.001</a> | M12 | 50  | <a href="#">16270.120.001</a> | M24 | 5  | <a href="#">16270.240.001</a> |
| M6 | 200 | <a href="#">16270.060.001</a> | M14 | 50  | <a href="#">16270.140.001</a> |     |    |                               |
| M8 | 100 | <a href="#">16270.080.001</a> | M16 | 20  | <a href="#">16270.160.001</a> |     |    |                               |

#### 47550 Wing nut rounded wings

M11D

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Brass         |
| <b>Packaging</b> | Standard      |



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 250 | <a href="#">47550.030.001</a> | M8  | 100 | <a href="#">47550.080.001</a> | M16 | 20 | <a href="#">47550.160.001</a> |
| M4 | 250 | <a href="#">47550.040.001</a> | M10 | 100 | <a href="#">47550.100.001</a> | M20 | 10 | <a href="#">47550.200.001</a> |
| M5 | 250 | <a href="#">47550.050.001</a> | M12 | 50  | <a href="#">47550.120.001</a> | M24 | 5  | <a href="#">47550.240.001</a> |
| M6 | 200 | <a href="#">47550.060.001</a> | M14 | 50  | <a href="#">47550.140.001</a> |     |    |                               |

#### 47560 Wing nut rounded wings

M11D

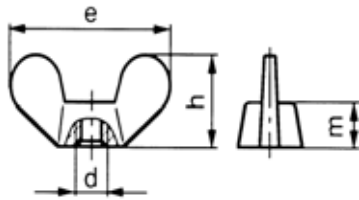
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Brass         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |



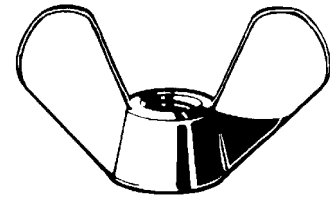
| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M4 | 250 | <a href="#">47560.040.001</a> | M8  | 100 | <a href="#">47560.080.001</a> | M16 | 20 | <a href="#">47560.160.001</a> |
| M5 | 250 | <a href="#">47560.050.001</a> | M10 | 100 | <a href="#">47560.100.001</a> |     |    |                               |
| M6 | 200 | <a href="#">47560.060.001</a> | M12 | 50  | <a href="#">47560.120.001</a> |     |    |                               |



## Wing nut BSW



DIN ≈313 (1956)  
 NEN ≈2324 (1960)



### Technical data

| d           | Threads per inch | m   | e    | h    |
|-------------|------------------|-----|------|------|
| 1/8 (#DIN)  | 40               | 2,9 | 17,6 | 8,6  |
| 5/32 (#DIN) | 32               | 3,2 | 20   | 10,5 |
| 3/16 (#DIN) | 24               | 4   | 26   | 13   |
| 1/4         | 20               | 5   | 33   | 17   |
| 5/16        | 18               | 6,5 | 39   | 20   |
| 3/8         | 16               | 8   | 51   | 25   |
| 1/2         | 12               | 10  | 65   | 33,5 |
| 5/8         | 11               | 13  | 73   | 37,5 |
| 3/4         | 10               | 16  | 90   | 46,5 |

- Whitworth thread (BSW/BSF) is not internationally recommended. It is advised to use metric (M/MF) or unified threads (UNC/UNF).
- Depending on availability the dimensions may deviate.
- The 1/8 inch wing nuts are the light American type.

### Article groups

| Thread | Driving features | Material | Packaging | Code  | Page |
|--------|------------------|----------|-----------|-------|------|
| BSW    | wing             | CI       | Standard  | 16280 | 3-99 |
| BSW    | wing             | Br Cu2   | Standard  | 47570 | 3-99 |

#### 16280 Wing nut BSW

X08A

**Thread** British Standard Whitworth  
**Material** Cast iron  
**Packaging** Standard



| d    | ✉   | Art.number                    | d    | ✉   | Art.number                    | d   | ✉  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-----|----|-------------------------------|
| 1/8  | 250 | <a href="#">16280.031.001</a> | 1/4  | 200 | <a href="#">16280.063.001</a> | 1/2 | 50 | <a href="#">16280.127.001</a> |
| 5/32 | 250 | <a href="#">16280.039.001</a> | 5/16 | 100 | <a href="#">16280.079.001</a> | 5/8 | 20 | <a href="#">16280.158.001</a> |
| 3/16 | 250 | <a href="#">16280.047.001</a> | 3/8  | 100 | <a href="#">16280.096.001</a> |     |    |                               |

#### 47570 Wing nut BSW

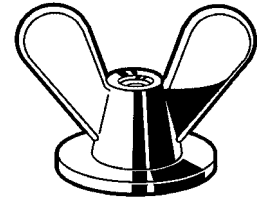
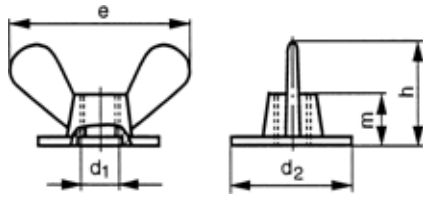
X08A

**Thread** British Standard Whitworth  
**Material** Brass Cu2  
**Packaging** Standard



| d    | ✉   | Art.number                    | d    | ✉   | Art.number                    | d   | ✉   | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|-----|-----|-------------------------------|
| 5/32 | 250 | <a href="#">47570.039.001</a> | 1/4  | 200 | <a href="#">47570.063.001</a> | 3/8 | 100 | <a href="#">47570.096.001</a> |
| 3/16 | 250 | <a href="#">47570.047.001</a> | 5/16 | 100 | <a href="#">47570.079.001</a> |     |     |                               |

## Wing nut with collar



### Technical data

|                |     |    |      |
|----------------|-----|----|------|
| d1             | M5  | M6 | M8   |
| P              | 0,8 | 1  | 1,25 |
| d <sub>2</sub> | 24  | 24 | 24   |
| m              | 14  | 14 | 14   |
| e              | 35  | 35 | 35   |
| h              | 24  | 24 | 24   |

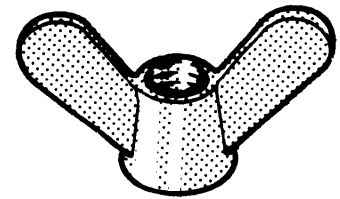
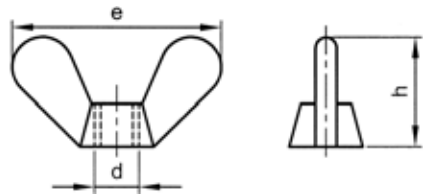
3

|                  |                                     |             |
|------------------|-------------------------------------|-------------|
| <b>56290</b>     | <b>Wing nut with collar plastic</b> | <b>W02A</b> |
| <b>Thread</b>    | Metric thread                       |             |
| <b>Material</b>  | Plastic Polyamide (nylon)           |             |
| <b>Class</b>     | PA 6.6                              |             |
| <b>Colour</b>    | White                               |             |
| <b>Packaging</b> | Standard                            |             |



| d1 | ☒   | Art.number                    | d1 | ☒  | Art.number                    | d1 | ☒  | Art.number                    |
|----|-----|-------------------------------|----|----|-------------------------------|----|----|-------------------------------|
| M5 | 100 | <a href="#">56290.050.001</a> | M6 | 50 | <a href="#">56290.060.001</a> | M8 | 50 | <a href="#">56290.080.001</a> |

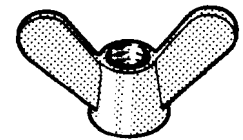
## Wing nut plastic



### Technical data

|     |      |    |    |
|-----|------|----|----|
| d   | P    | e  | h  |
| M4  | 0,7  | 35 | 22 |
| M5  | 0,8  | 35 | 22 |
| M6  | 1    | 35 | 22 |
| M8  | 1,25 | 35 | 22 |
| M10 | 1,5  | 41 | 25 |

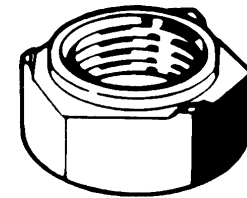
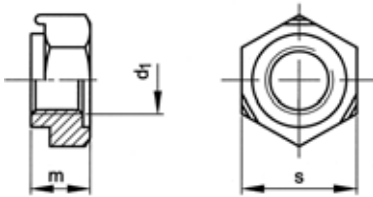
|                  |                           |             |
|------------------|---------------------------|-------------|
| <b>56280</b>     | <b>Wing nut plastic</b>   | <b>W02A</b> |
| <b>Thread</b>    | Metric thread             |             |
| <b>Material</b>  | Plastic Polyamide (nylon) |             |
| <b>Class</b>     | PA 6.6                    |             |
| <b>Colour</b>    | White                     |             |
| <b>Packaging</b> | Standard                  |             |



| d  | ☒   | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M4 | 100 | <a href="#">56280.040.001</a> | M6 | 50 | <a href="#">56280.060.001</a> | M10 | 25 | <a href="#">56280.100.001</a> |
| M5 | 100 | <a href="#">56280.050.001</a> | M8 | 50 | <a href="#">56280.080.001</a> |     |    |                               |

## Hexagon weld nut

DIN 929



### Technical data

| d1  | P    | m (h14) | s (h13) | Hole ø (H11) |
|-----|------|---------|---------|--------------|
| M3  | 0,5  | 3       | 7,5     | 4,5          |
| M4  | 0,7  | 3,5     | 9       | 6            |
| M5  | 0,8  | 4       | 10      | 7            |
| M6  | 1    | 5       | 11      | 8            |
| M8  | 1,25 | 6,5     | 14      | 10,5         |
| M10 | 1,5  | 8       | 17      | 12,5         |
| M12 | 1,75 | 10      | 19      | 14,8         |
| M14 | 2    | 11      | 22      | 16,8         |
| M16 | 2    | 13      | 24      | 18,8         |

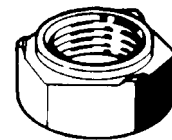
### Article groups

| Thread | Driving features | Material       | Packaging | Code  | Page  |
|--------|------------------|----------------|-----------|-------|-------|
| M      | hexagon          | St Max. 0,25%C | Standard  | 14020 | 3-101 |
| M      | hexagon          | St.St. A2      | Standard  | 51180 | 3-101 |
| M      | hexagon          | St.St. A4      | Standard  | 55180 | 3-101 |

#### 14020 Hexagon weld nut

F01F

**Thread** Metric thread  
**Material** Steel Max. 0,25%C  
**Packaging** Standard



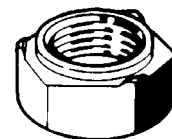
| d1 | ☒    | Art.number                    | d1  | ☒    | Art.number                    | d1  | ☒   | Art.number                    |
|----|------|-------------------------------|-----|------|-------------------------------|-----|-----|-------------------------------|
| M3 | 1000 | <a href="#">14020.030.001</a> | M6  | 1000 | <a href="#">14020.060.001</a> | M12 | 100 | <a href="#">14020.120.001</a> |
| M4 | 1000 | <a href="#">14020.040.001</a> | M8  | 1000 | <a href="#">14020.080.001</a> | M14 | 100 | <a href="#">14020.140.001</a> |
| M5 | 1000 | <a href="#">14020.050.001</a> | M10 | 500  | <a href="#">14020.100.001</a> | M16 | 100 | <a href="#">14020.160.001</a> |

- These weld nuts can be used with bolts class < 8.8.

#### 51180 Hexagon weld nut

R09A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard

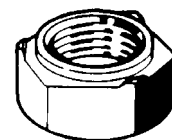


| d1 | ☒   | Art.number                    | d1  | ☒   | Art.number                    | d1  | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">51180.030.001</a> | M6  | 100 | <a href="#">51180.060.001</a> | M12 | 25 | <a href="#">51180.120.001</a> |
| M4 | 100 | <a href="#">51180.040.001</a> | M8  | 50  | <a href="#">51180.080.001</a> | M16 | 25 | <a href="#">51180.160.001</a> |
| M5 | 100 | <a href="#">51180.050.001</a> | M10 | 50  | <a href="#">51180.100.001</a> |     |    |                               |

#### 55180 Hexagon weld nut

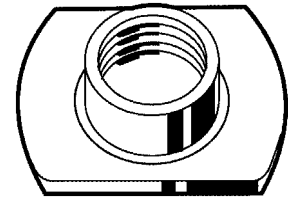
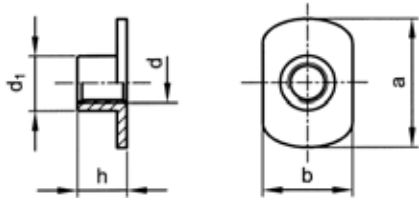
R49A

**Thread** Metric thread  
**Material** Stainless steel A4  
**Packaging** Standard



| d1 | ☒   | Art.number                    | d1  | ☒   | Art.number                    | d1  | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">55180.030.001</a> | M6  | 100 | <a href="#">55180.060.001</a> | M12 | 25 | <a href="#">55180.120.001</a> |
| M4 | 100 | <a href="#">55180.040.001</a> | M8  | 50  | <a href="#">55180.080.001</a> | M16 | 25 | <a href="#">55180.160.001</a> |
| M5 | 100 | <a href="#">55180.050.001</a> | M10 | 50  | <a href="#">55180.100.001</a> |     |    |                               |

## Weld nut with smooth flange



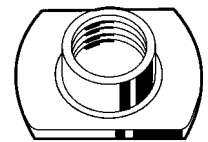
### Technical data

|                | M4  | M5  | M6  | M8   | M10  |
|----------------|-----|-----|-----|------|------|
| d              | M4  | M5  | M6  | M8   | M10  |
| P              | 0,7 | 0,8 | 1   | 1,25 | 1,5  |
| d <sub>1</sub> | 5   | 6,4 | 7,7 | 10,1 | 11,9 |
| a              | 17  | 19  | 22  | 26   | 26   |
| b              | 9   | 11  | 14  | 18   | 18   |
| h              | 6   | 7,5 | 8,5 | 10   | 10,5 |

### 14230 Weld nut with smooth flange

F01F

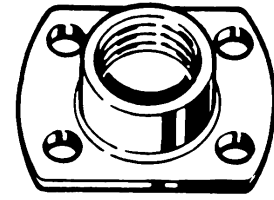
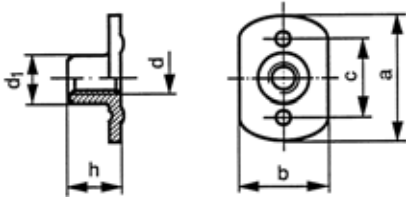
**Thread** Metric thread  
**Material** Steel  
**Packaging** Standard



| d  | ☒    | Art.number                    | d  | ☒    | Art.number                    | d   | ☒   | Art.number                    |
|----|------|-------------------------------|----|------|-------------------------------|-----|-----|-------------------------------|
| M4 | 1000 | <a href="#">14230.040.001</a> | M6 | 1000 | <a href="#">14230.060.001</a> | M10 | 500 | <a href="#">14230.100.001</a> |
| M5 | 1000 | <a href="#">14230.050.001</a> | M8 | 1000 | <a href="#">14230.080.001</a> |     |     |                               |

3

## Spot weld nut



### Technical data

| d x d1   | P    | a  | b  | h    | c  | Number of welding spots |
|----------|------|----|----|------|----|-------------------------|
| M3X4,1   | 0,5  | 17 | 9  | 5    | 12 | 2                       |
| M4X4,9   | 0,7  | 17 | 9  | 6    | 12 | 2                       |
| M4X5     | 0,7  | 17 | 9  | 6    | 12 | 2                       |
| M5X6,1   | 0,8  | 19 | 11 | 7,5  | 13 | 2/4                     |
| M5X6,4   | 0,8  | 19 | 11 | 7,5  | 14 | 2                       |
| M6X7,5   | 1    | 22 | 14 | 8,5  | 14 | 4                       |
| M6X7,7   | 1    | 22 | 14 | 8,5  | 16 | 2                       |
| M8X9,7   | 1,25 | 26 | 18 | 11   | 16 | 4                       |
| M8X10,1  | 1,25 | 26 | 18 | 10   | 16 | 4                       |
| M10X11,5 | 1,5  | 26 | 18 | 10,5 | 16 | 4                       |
| M10X11,9 | 1,5  | 26 | 18 | 10,5 | 16 | 4                       |

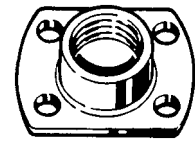
### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page  |
|--------|-----------|-------------------|-----------|-------|-------|
| M      | St        |                   | Standard  | 14200 | 3-103 |
| M      | St        | Zipl              | Standard  | 14210 | 3-103 |
| M      | St.St. A2 |                   | Standard  | 51183 | 3-103 |

#### 14200 Spot weld nut

**F01F**

Thread Metric thread  
 Material Steel  
 Packaging Standard

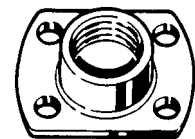


| d x d1 | Art.number                         | d x d1  | Art.number                         | d x d1   | Art.number                        |
|--------|------------------------------------|---------|------------------------------------|----------|-----------------------------------|
| M4x5   | 1000 <a href="#">14200.040.001</a> | M6x7,7  | 1000 <a href="#">14200.060.001</a> | M10x11,9 | 500 <a href="#">14200.100.001</a> |
| M5x6,4 | 1000 <a href="#">14200.050.001</a> | M8x10,1 | 1000 <a href="#">14200.080.001</a> |          |                                   |

#### 14210 Spot weld nut

**F01F**

Thread Metric thread  
 Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard

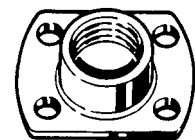


| d x d1 | Art.number                         | d x d1   | Art.number                         | d x d1 | Art.number |
|--------|------------------------------------|----------|------------------------------------|--------|------------|
| M5x6,4 | 1000 <a href="#">14210.050.001</a> | M8x10,1  | 1000 <a href="#">14210.080.001</a> |        |            |
| M6x7,7 | 1000 <a href="#">14210.060.001</a> | M10x11,9 | 500 <a href="#">14210.100.001</a>  |        |            |

#### 51183 Spot weld nut

**R09A**

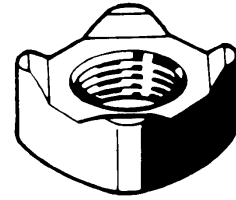
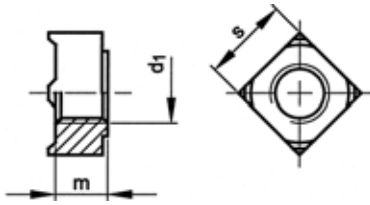
Thread Metric thread  
 Material Stainless steel A2  
 Packaging Standard



| d x d1 | Art.number                        | d x d1 | Art.number                        | d x d1   | Art.number                        |
|--------|-----------------------------------|--------|-----------------------------------|----------|-----------------------------------|
| M3x4,1 | 250 <a href="#">51183.030.001</a> | M5x6,1 | 250 <a href="#">51183.050.001</a> | M8x9,7   | 250 <a href="#">51183.080.001</a> |
| M4x4,9 | 250 <a href="#">51183.040.001</a> | M6x7,5 | 250 <a href="#">51183.060.001</a> | M10x11,5 | 100 <a href="#">51183.100.001</a> |

## Square weld nut

DIN 928



### Technical data

| d1        | P    | m (h14) | s (h14) | Hole ø (H11) |
|-----------|------|---------|---------|--------------|
| M4        | 0,7  | 3,5     | 7       | 6            |
| M5        | 0,8  | 4,2     | 9       | 7            |
| M5 (#DIN) | 0,8  | 4,2     | 8       | 7            |
| M6        | 1    | 5       | 10      | 8            |
| M8        | 1,25 | 6,5     | 14      | 10,5         |
| M10       | 1,5  | 8       | 17      | 12,5         |
| M12       | 1,75 | 9,5     | 19      | 14,8         |
| M14       | 2    | 11,4    | 22      | 16,8         |

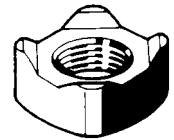
### Article groups

| Thread | Driving features | Material       | Packaging | Code  | Page  |
|--------|------------------|----------------|-----------|-------|-------|
| M      | square head      | St Max. 0,25%C | Standard  | 14000 | 3-104 |
| M      | square head      | St.St. A2      | Standard  | 51178 | 3-104 |

#### 14000 Square weld nut

F01F

|                  |                   |
|------------------|-------------------|
| <b>Thread</b>    | Metric thread     |
| <b>Material</b>  | Steel Max. 0,25%C |
| <b>Packaging</b> | Standard          |



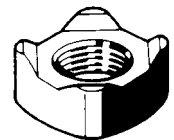
| d1 | ☒    | Art.number                    | d1  | ☒    | Art.number                    | d1  | ☒   | Art.number                    |
|----|------|-------------------------------|-----|------|-------------------------------|-----|-----|-------------------------------|
| M4 | 1000 | <a href="#">14000.040.001</a> | M8  | 1000 | <a href="#">14000.080.001</a> | M14 | 100 | <a href="#">14000.140.001</a> |
| M5 | 1000 | <a href="#">14000.050.001</a> | M10 | 500  | <a href="#">14000.100.001</a> |     |     |                               |
| M6 | 1000 | <a href="#">14000.060.001</a> | M12 | 100  | <a href="#">14000.120.001</a> |     |     |                               |

- These weld nuts can be used with bolts class < 8.8.

#### 51178 Square weld nut

R09A

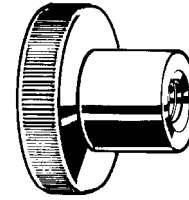
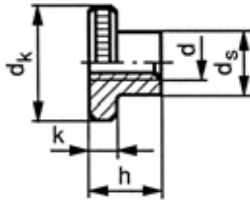
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d1 | ☒   | Art.number                    | d1 | ☒   | Art.number                    | d1 | ☒  | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|----|-------------------------------|
| M5 | 100 | <a href="#">51178.050.001</a> | M6 | 100 | <a href="#">51178.060.001</a> | M8 | 50 | <a href="#">51178.080.001</a> |

## Knurled thumb nut high type

DIN 466



### Technical data

| d   | P    | d <sub>k</sub> | d <sub>s</sub> | k   | h    |
|-----|------|----------------|----------------|-----|------|
| M2  | 0,4  | 9              | 4,5            | 2   | 5,3  |
| M3  | 0,5  | 12             | 6              | 2,5 | 7,5  |
| M4  | 0,7  | 16             | 8              | 3,5 | 9,5  |
| M5  | 0,8  | 20             | 10             | 4   | 11,5 |
| M6  | 1    | 24             | 12             | 5   | 15   |
| M8  | 1,25 | 30             | 16             | 6   | 18   |
| M10 | 1,5  | 36             | 20             | 8   | 23   |

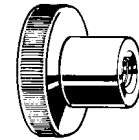
### Article groups

| Thread | Material  | Class | Surface treatment | Packaging | Code  | Page  |
|--------|-----------|-------|-------------------|-----------|-------|-------|
| M      | St        | 5     | Zipl              | Standard  | 16680 | 3-105 |
| M      | St.St. A1 | 50    |                   | Standard  | 51830 | 3-105 |
| M      | Br Cu3    |       |                   | Standard  | 47500 | 3-105 |

#### 16680 Knurled thumb nut high type

F01X

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Class             | 5             |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |

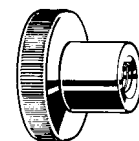


| d  | ☒   | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">16680.030.001</a> | M5 | 50 | <a href="#">16680.050.001</a> | M8  | 25 | <a href="#">16680.080.001</a> |
| M4 | 50  | <a href="#">16680.040.001</a> | M6 | 25 | <a href="#">16680.060.001</a> | M10 | 10 | <a href="#">16680.100.001</a> |

#### 51830 Knurled thumb nut high type

R09A

|           |                    |
|-----------|--------------------|
| Thread    | Metric thread      |
| Material  | Stainless steel A1 |
| Class     | 50                 |
| Packaging | Standard           |

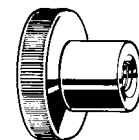


| d    | ☒   | Art.number                    | d  | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|------|-----|-------------------------------|----|----|-------------------------------|-----|---|-------------------------------|
| M2 * | 100 | <a href="#">51830.020.001</a> | M5 | 25 | <a href="#">51830.050.001</a> | M10 | 5 | <a href="#">51830.100.001</a> |
| M3   | 50  | <a href="#">51830.030.001</a> | M6 | 10 | <a href="#">51830.060.001</a> |     |   |                               |
| M4   | 25  | <a href="#">51830.040.001</a> | M8 | 10 | <a href="#">51830.080.001</a> |     |   |                               |

#### 47500 Knurled thumb nut high type

M11D

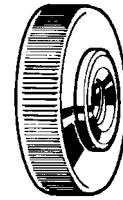
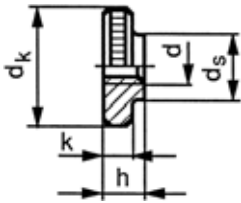
|           |               |
|-----------|---------------|
| Thread    | Metric thread |
| Material  | Brass Cu3     |
| Packaging | Standard      |



| d  | ☒   | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">47500.030.001</a> | M5 | 50 | <a href="#">47500.050.001</a> | M8  | 25 | <a href="#">47500.080.001</a> |
| M4 | 50  | <a href="#">47500.040.001</a> | M6 | 25 | <a href="#">47500.060.001</a> | M10 | 10 | <a href="#">47500.100.001</a> |

## Knurled thumb nut thin type

DIN 467



### Technical data

| d   | P    | dk | ds | k   | h  |
|-----|------|----|----|-----|----|
| M3  | 0,5  | 12 | 6  | 2,5 | 3  |
| M4  | 0,7  | 16 | 8  | 3,5 | 4  |
| M5  | 0,8  | 20 | 10 | 4   | 5  |
| M6  | 1    | 24 | 12 | 5   | 6  |
| M8  | 1,25 | 30 | 16 | 6   | 8  |
| M10 | 1,5  | 36 | 20 | 8   | 10 |

### Article groups

| Thread | Material  | Class | Surface treatment | Packaging | Code  | Page  |
|--------|-----------|-------|-------------------|-----------|-------|-------|
| M      | St        | 5     | Zipl              | Standard  | 16690 | 3-106 |
| M      | St.St. A1 | 50    |                   | Standard  | 51840 | 3-106 |
| M      | Br Cu3    |       |                   | Standard  | 47510 | 3-106 |
| M      | Br Cu3    |       | Ni.pl.            | Standard  | 47511 | 3-107 |

#### 16690 Knurled thumb nut thin type

F01X

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 5             |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d  | ☒   | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">16690.030.001</a> | M5 | 50 | <a href="#">16690.050.001</a> | M8  | 25 | <a href="#">16690.080.001</a> |
| M4 | 50  | <a href="#">16690.040.001</a> | M6 | 25 | <a href="#">16690.060.001</a> | M10 | 10 | <a href="#">16690.100.001</a> |

#### 51840 Knurled thumb nut thin type

R09A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A1 |
| <b>Class</b>     | 50                 |
| <b>Packaging</b> | Standard           |



| d  | ☒  | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 50 | <a href="#">51840.030.001</a> | M5 | 25 | <a href="#">51840.050.001</a> | M8  | 10 | <a href="#">51840.080.001</a> |
| M4 | 25 | <a href="#">51840.040.001</a> | M6 | 10 | <a href="#">51840.060.001</a> | M10 | 5  | <a href="#">51840.100.001</a> |

#### 47510 Knurled thumb nut thin type

M11D

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Brass Cu3     |
| <b>Packaging</b> | Standard      |



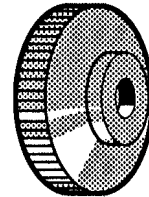
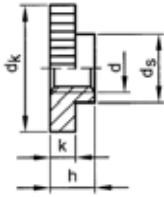
| d  | ☒   | Art.number                    | d  | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|----|----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">47510.030.001</a> | M5 | 50 | <a href="#">47510.050.001</a> | M8  | 25 | <a href="#">47510.080.001</a> |
| M4 | 100 | <a href="#">47510.040.001</a> | M6 | 50 | <a href="#">47510.060.001</a> | M10 | 25 | <a href="#">47510.100.001</a> |



|  |               |   |
|--|---------------|---|
| <b>47511 Knurled thumb nut thin type</b> |               | <b>M01D</b>   |
| <b>Thread</b>                            | Metric thread |  |
| <b>Material</b>                          | Brass Cu3     |   |
| <b>Surface treatment</b>                 | Nickel plated |   |
| <b>Packaging</b>                         | Standard      |   |

| <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉  | <b>Art.number</b>             | <b>d</b> | ✉  | <b>Art.number</b>             |
|----------|-----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M3       | 100 | <a href="#">47511.030.001</a> | M5       | 50 | <a href="#">47511.050.001</a> | M8       | 25 | <a href="#">47511.080.001</a> |
| M4       | 100 | <a href="#">47511.040.001</a> | M6       | 50 | <a href="#">47511.060.001</a> | M10      | 25 | <a href="#">47511.100.001</a> |

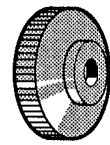
## Knurled thumb nut



### Technical data

|    | M4  | M5  | M6  |
|----|-----|-----|-----|
| d  | M4  | M5  | M6  |
| P  | 0,7 | 0,8 | 1   |
| dk | 16  | 16  | 16  |
| ds | 10  | 10  | 10  |
| k  | 4,6 | 4,6 | 4,6 |
| h  | 6   | 6   | 6   |

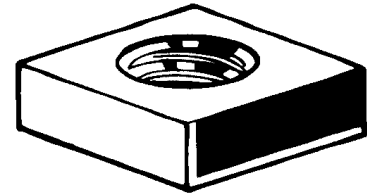
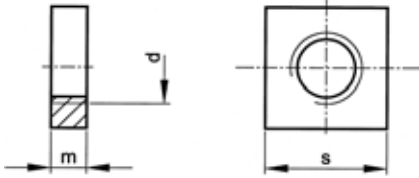
| 56240 Knurled thumb nut plastic |                           | W02A |
|---------------------------------|---------------------------|------|
| <b>Thread</b>                   | Metric thread             |      |
| <b>Material</b>                 | Plastic Polyamide (nylon) |      |
| <b>Class</b>                    | PA 6.6                    |      |
| <b>Colour</b>                   | White                     |      |
| <b>Packaging</b>                | Standard                  |      |



| d  | ✉   | Art.number                    | d  | ✉   | Art.number                    | d  | ✉  | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|----|-------------------------------|
| M4 | 100 | <a href="#">56240.040.001</a> | M5 | 100 | <a href="#">56240.050.001</a> | M6 | 50 | <a href="#">56240.060.001</a> |

## Square thin nut

DIN 562



### Technical data

| d    | P    | m   | s   |
|------|------|-----|-----|
| M2   | 0,4  | 1,2 | 4   |
| M2,5 | 0,45 | 1,6 | 5   |
| M3   | 0,5  | 1,8 | 5,5 |
| M4   | 0,7  | 2,2 | 7   |
| M5   | 0,8  | 2,7 | 8   |
| M6   | 1    | 3,2 | 10  |
| M8   | 1,25 | 4   | 13  |
| M10  | 1,5  | 5   | 16  |

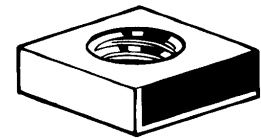
### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|-----------|-------|-------------------|-----------|-------|-------|
| M      | square head      | St        | 04    | Zipl              | Standard  | 24769 | 3-109 |
| M      | square head      | St        | 04    | Zipl              | Large     | 24770 | 3-109 |
| M      | square head      | St.St. A2 |       |                   | Standard  | 51095 | 3-109 |
| M      | square head      | St.St. A4 |       |                   | Standard  | 55095 | 3-110 |

#### 24769 Square thin nut

F01X

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 04            |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

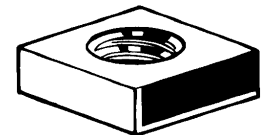


| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M3 | 250 | <a href="#">24769.030.001</a> | M5 | 250 | <a href="#">24769.050.001</a> | M8  | 250 | <a href="#">24769.080.001</a> |
| M4 | 250 | <a href="#">24769.040.001</a> | M6 | 250 | <a href="#">24769.060.001</a> | M10 | 250 | <a href="#">24769.100.001</a> |

#### 24770 Square thin nut

F01X

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 04            |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Large         |

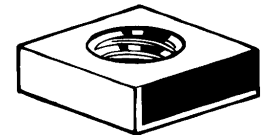


| d  | ☒    | Art.number                    | d  | ☒    | Art.number                    | d   | ☒    | Art.number                    |
|----|------|-------------------------------|----|------|-------------------------------|-----|------|-------------------------------|
| M3 | 2500 | <a href="#">24770.030.001</a> | M5 | 2500 | <a href="#">24770.050.001</a> | M8  | 1000 | <a href="#">24770.080.001</a> |
| M4 | 2500 | <a href="#">24770.040.001</a> | M6 | 2500 | <a href="#">24770.060.001</a> | M10 | 500  | <a href="#">24770.100.001</a> |

#### 51095 Square thin nut

R09A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



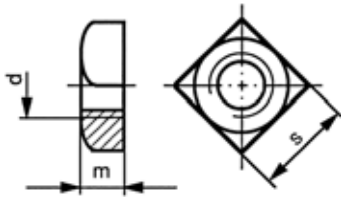
| d       | ☒   | Art.number                    | d  | ☒   | Art.number                    | d     | ☒   | Art.number                    |
|---------|-----|-------------------------------|----|-----|-------------------------------|-------|-----|-------------------------------|
| M2 *    | 500 | <a href="#">51095.020.001</a> | M4 | 250 | <a href="#">51095.040.001</a> | M8    | 250 | <a href="#">51095.080.001</a> |
| M 2.5 * | 500 | <a href="#">51095.025.001</a> | M5 | 250 | <a href="#">51095.050.001</a> | M10 * | 100 | <a href="#">51095.100.001</a> |
| M3      | 250 | <a href="#">51095.030.001</a> | M6 | 250 | <a href="#">51095.060.001</a> |       |     |                               |

|                              |                    |   |
|------------------------------|--------------------|---|
| <b>55095 Square thin nut</b> |                    | <b>R49A</b>   |
| <b>Thread</b>                | Metric thread      |  |
| <b>Material</b>              | Stainless steel A4 |   |
| <b>Packaging</b>             | Standard           |   |

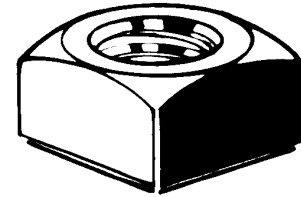
| <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉   | <b>Art.number</b>             | <b>d</b> | ✉   | <b>Art.number</b>             |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M3       | 250 | <a href="#">55095.030.001</a> | M5       | 250 | <a href="#">55095.050.001</a> | M8       | 250 | <a href="#">55095.080.001</a> |
| M4       | 250 | <a href="#">55095.040.001</a> | M6       | 250 | <a href="#">55095.060.001</a> | M10 *    | 100 | <a href="#">55095.100.001</a> |

3

## Square nut



DIN 557  
NF E25-404



### Technical data

| d         | P    | m (h15) | s  |
|-----------|------|---------|----|
| M4 (#DIN) | 0,7  | 3,2     | 7  |
| M5        | 0,8  | 4       | 8  |
| M6        | 1    | 5       | 10 |
| M8        | 1,25 | 6,5     | 13 |
| M10       | 1,5  | 8       | 17 |
| M12       | 1,75 | 10      | 19 |

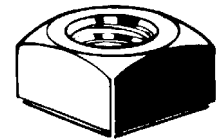
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|----------|-------|-------------------|-----------|-------|-------|
| M      | square head      | St       | ≥5    |                   | Standard  | 11120 | 3-111 |
| M      | square head      | St       | ≥5    | Zipl              | Standard  | 11140 | 3-111 |

#### 11120 Square nut

F01A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥5  
**Packaging** Standard

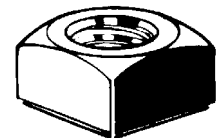


| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M4 | 250 | <a href="#">11120.040.001</a> | M6 | 250 | <a href="#">11120.060.001</a> | M10 | 250 | <a href="#">11120.100.001</a> |
| M5 | 250 | <a href="#">11120.050.001</a> | M8 | 250 | <a href="#">11120.080.001</a> | M12 | 100 | <a href="#">11120.120.001</a> |

#### 11140 Square nut

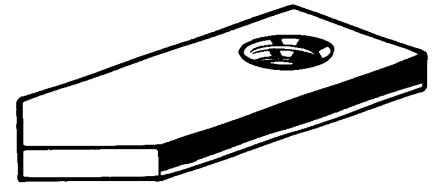
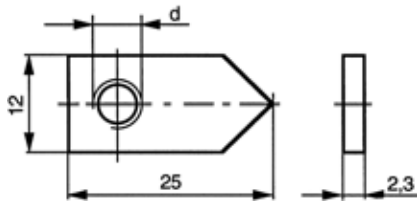
F01A

**Thread** Metric thread  
**Material** Steel  
**Class** ≥5  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M4 | 250 | <a href="#">11140.040.001</a> | M6 | 250 | <a href="#">11140.060.001</a> | M10 | 250 | <a href="#">11140.100.001</a> |
| M5 | 250 | <a href="#">11140.050.001</a> | M8 | 250 | <a href="#">11140.080.001</a> | M12 | 100 | <a href="#">11140.120.001</a> |

## Pointed nut

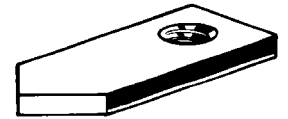


### Technical data

|   |    |
|---|----|
| d | M6 |
| P | 1  |

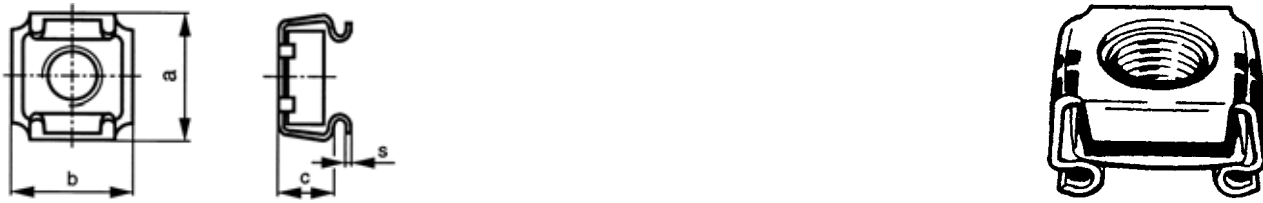
- Application in combination with cross recessed mushroom head screws in boxes and cabinets.

|                          |               |      |
|--------------------------|---------------|------|
| 24700                    | Pointed nut   | F01X |
| <b>Thread</b>            | Metric thread |      |
| <b>Material</b>          | Steel         |      |
| <b>Surface treatment</b> | Zinc plated   |      |
| <b>Packaging</b>         | Standard      |      |



| d  | ⊗ | Art.number | d | ⊗ | Art.number                    | d | ⊗ | Art.number |
|----|---|------------|---|---|-------------------------------|---|---|------------|
| M6 |   | 1000       |   |   | <a href="#">24700.060.001</a> |   |   |            |

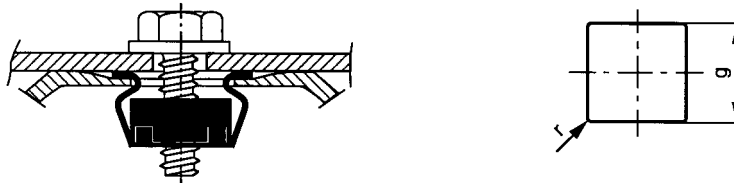
## Cage nut



### Technical data

| Type  | a    | b    | c   | s   | For screw | Material thickness | g (tol. - 0,2mm) | r   |
|-------|------|------|-----|-----|-----------|--------------------|------------------|-----|
| M4-A  | 13,5 | 13,2 | 6   | 0,5 | M4        | 0,7-1,6            | 9,5              | 0,5 |
| M4-B  | 13,5 | 13,2 | 6   | 0,5 | M4        | 1,7-2,7            | 9,5              | 0,5 |
| M5-A  | 13,5 | 13,2 | 6   | 0,5 | M5        | 0,7-1,6            | 9,5              | 0,5 |
| M5-B  | 13,5 | 13,2 | 6   | 0,5 | M5        | 1,7-2,7            | 9,5              | 0,5 |
| M6-A  | 13,5 | 13,2 | 6   | 0,5 | M6        | 0,7-1,6            | 9,5              | 0,5 |
| M6-B  | 13,5 | 13,2 | 6   | 0,5 | M6        | 1,7-2,7            | 9,5              | 0,5 |
| M8-A  | 16,6 | 16   | 7,8 | 0,6 | M8        | 1,0-1,7            | 12,3             | 0,5 |
| M8-B  | 16,6 | 16   | 7,8 | 0,6 | M8        | 1,8-3,2            | 12,3             | 0,5 |
| M10-A | 16,6 | 16   | 7,8 | 0,6 | M10       | 1,0-1,7            | 12,3             | 0,5 |
| M10-B | 16,6 | 16   | 7,8 | 0,6 | M10       | 1,8-3,2            | 12,3             | 0,5 |

### Assembly data

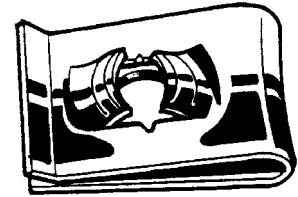
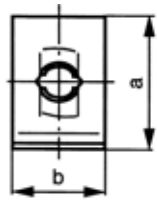


| 72350 Cage nut    |               | Y93A |
|-------------------|---------------|------|
| Thread            | Metric thread |      |
| Material          | Spring steel  |      |
| Surface treatment | Zinc plated   |      |
| Packaging         | Standard      |      |

| Type      | ☒  | Art.number                    | Type      | ☒  | Art.number                    | Type       | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|------------|----|-------------------------------|
| M4 TYPE A | 25 | <a href="#">72350.040.001</a> | M6 TYPE A | 25 | <a href="#">72350.060.001</a> | M10 TYPE A | 25 | <a href="#">72350.100.001</a> |
| M4 TYPE B | 25 | <a href="#">72350.040.002</a> | M6 TYPE B | 25 | <a href="#">72350.060.002</a> | M10 TYPE B | 25 | <a href="#">72350.100.002</a> |
| M5 TYPE A | 25 | <a href="#">72350.050.001</a> | M8 TYPE A | 25 | <a href="#">72350.080.001</a> |            |    |                               |
| M5 TYPE B | 25 | <a href="#">72350.050.002</a> | M8 TYPE B | 25 | <a href="#">72350.080.002</a> |            |    |                               |

- Technical brochure available on request.

## Speednut type SNU

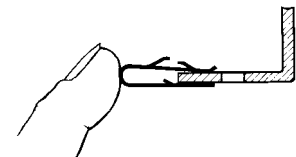
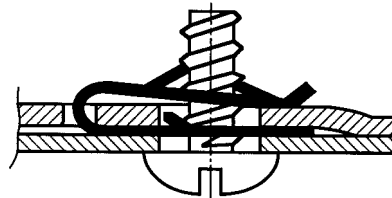
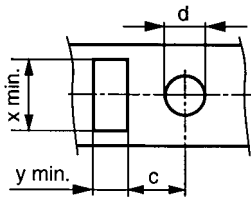


### Technical data

| Type               | SNU 1812 | SNU 1219 | SNU 0536 | SNU 1561 | SNU 0537 | SNU 1747 | SNU 0538 | SNU 5113 | SNU-M5 | SNU-M6 | SNU-M8 |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|--------|--------|--------|
| a                  | 11,1     | 16,4     | 16,5     | 24,6     | 19,8     | 12,2     | 26,2     | 27,3     | 20,4   | 23,6   | 27,5   |
| b                  | 7,9      | 11       | 11       | 11,1     | 12,7     | 16       | 15,1     | 14,3     | 15     | 16     | 18     |
| s                  | 0,5      | 0,6      | 0,6      | 0,6      | 0,7      | 0,7      | 0,8      | 0,9      | 0,6    | 0,8    | 1      |
| For screw          | ST2,9    | ST3,5    | ST4,2    | ST4,2    | ST4,8    | ST4,8    | ST5,5    | ST6,3    | -      | -      | -      |
| Material thickness | 0,7-1,2  | 0,7-1,6  | 0,7-1,6  | 0,7-1,6  | 0,9-2    | 0,9-1,6  | 0,9-2,6  | 0,8-1,8  | -      | -      | -      |
| c                  | 4,8      | 6,7      | 6,7      | 15       | 7,9      | 5,5      | 11,1     | 13,1     | -      | -      | -      |
| d                  | 4,8      | 6        | 7,2      | 7,2      | 8        | 8        | 10       | 10       | -      | -      | -      |
| x (min.)           | 8,3      | 11,4     | 11,4     | 11,4     | 12,9     | -        | 15,4     | 14,7     | -      | -      | -      |
| y (min.)           | 5,5      | 6,1      | 7,6      | 10,7     | 9,4      | -        | 9,9      | 10       | -      | -      | -      |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

### Assembly data



### Article groups

| Thread | Material     | Surface treatment | Packaging | Code  | Page  |
|--------|--------------|-------------------|-----------|-------|-------|
| M      | Spring steel | Zipl              | Standard  | 72340 | 3-114 |
| ST     | Spring steel | Zipl yell.p.      | Standard  | 72293 | 3-114 |

| 72340 Speednut type SNU |               | Y93A |  |
|-------------------------|---------------|------|--|
| Thread                  | Metric thread |      |  |
| Material                | Spring steel  |      |  |
| Surface treatment       | Zinc plated   |      |  |
| Packaging               | Standard      |      |  |



| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒  | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| M5   | 50 | <a href="#">72340.050.001</a> | M6   | 50 | <a href="#">72340.060.001</a> | M8   | 50 | <a href="#">72340.080.001</a> |

- Technical brochure available on request.

| 72293 Speednut type SNU |                               | Y93A |  |
|-------------------------|-------------------------------|------|--|
| Thread                  | Self tapping thread           |      |  |
| Material                | Spring steel                  |      |  |
| Surface treatment       | Zinc plated yellow passivated |      |  |
| Packaging               | Standard                      |      |  |

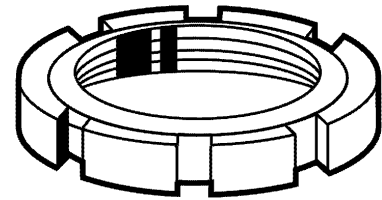
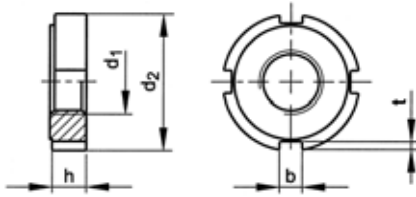


| Type            | ☒   | Art.number                    | Type            | ☒  | Art.number                    | Type            | ☒  | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| 2,9MM = No.1812 | 100 | <a href="#">72293.029.001</a> | 4,8MM = No.0537 | 50 | <a href="#">72293.048.001</a> | 5,5MM = No.0538 | 50 | <a href="#">72293.055.001</a> |
| 3,5MM = No.1219 | 100 | <a href="#">72293.035.001</a> | 4,8MM = No.1747 | 50 | <a href="#">72293.048.002</a> | 6,3MM = No.5113 | 50 | <a href="#">72293.063.001</a> |
| 4,2MM = No.0536 | 50  | <a href="#">72293.042.001</a> |                 |    |                               |                 |    |                               |
| 4,2MM = No.1561 | 50  | <a href="#">72293.042.002</a> |                 |    |                               |                 |    |                               |



## Slotted round nut for hook spanners

DIN 1804 W



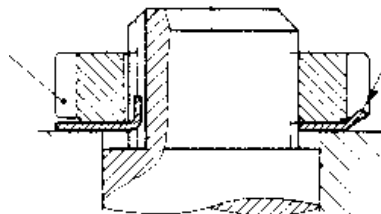
### Technical data

| d1   | d <sub>2</sub> (h11) | b  | h (h14) | t   | Number of slots |
|------|----------------------|----|---------|-----|-----------------|
| M10  | 25                   | 5  | 6       | 2   | 4               |
| M12  | 28                   | 5  | 6       | 2   | 4               |
| M14  | 30                   | 5  | 7       | 2   | 4               |
| M16  | 32                   | 5  | 7       | 2   | 4               |
| M18  | 34                   | 6  | 8       | 2,5 | 4               |
| M20  | 36                   | 6  | 8       | 2,5 | 4               |
| M22  | 40                   | 6  | 9       | 2,5 | 4               |
| M24  | 42                   | 6  | 9       | 2,5 | 4               |
| M26  | 45                   | 7  | 10      | 3   | 4               |
| M28  | 50                   | 7  | 10      | 3   | 4               |
| M30  | 50                   | 7  | 10      | 3   | 4               |
| M32  | 52                   | 7  | 11      | 3   | 4               |
| M35  | 55                   | 7  | 11      | 3   | 4               |
| M38  | 58                   | 8  | 11      | 3,5 | 4               |
| M40  | 62                   | 8  | 12      | 3,5 | 4               |
| M42  | 62                   | 8  | 12      | 3,5 | 4               |
| M45  | 68                   | 8  | 12      | 3,5 | 6               |
| M48  | 75                   | 8  | 13      | 3,5 | 6               |
| M50  | 75                   | 8  | 13      | 3,5 | 6               |
| M55  | 80                   | 10 | 13      | 4   | 6               |
| M58  | 90                   | 10 | 13      | 4   | 6               |
| M60  | 90                   | 10 | 13      | 4   | 6               |
| M62  | 95                   | 10 | 14      | 4   | 6               |
| M65  | 95                   | 10 | 14      | 4   | 6               |
| M68  | 100                  | 10 | 14      | 4   | 6               |
| M70  | 100                  | 10 | 14      | 4   | 6               |
| M72  | 110                  | 10 | 14      | 4   | 6               |
| M75  | 110                  | 10 | 14      | 4   | 6               |
| M80  | 115                  | 10 | 16      | 4   | 6               |
| M85  | 120                  | 10 | 16      | 4   | 6               |
| M90  | 130                  | 10 | 16      | 4   | 6               |
| M95  | 135                  | 12 | 16      | 5   | 6               |
| M100 | 145                  | 12 | 16      | 5   | 6               |

- Slotted round nuts for hookspanners are applicable with internal tab washers acc. to DIN 462 and are easily to assemble with hook wrench acc. to DIN 1810.

### Example of application / Assembly data

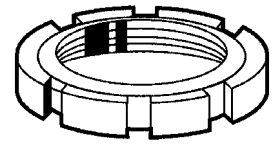
slotted round nut for  
hookspanners acc. to  
DIN 1804 W



internal tab washer  
acc. to DIN 462

**11572 Slotted round nut for hook spanners**
**F01X**

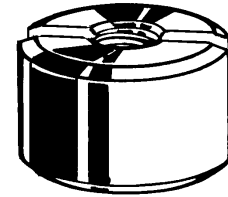
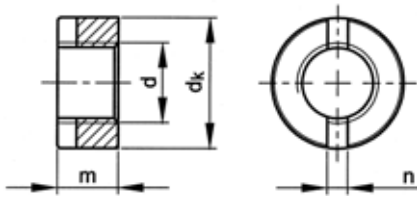
**Thread** Metric fine thread  
**Material** Steel  
**Class** |5|  
**Packaging** Standard


**3**

| d1 x P   | ☒  | Art.number                    | d1 x P   | ☒ | Art.number                    | d1 x P    | ☒ | Art.number                    |
|----------|----|-------------------------------|----------|---|-------------------------------|-----------|---|-------------------------------|
| M10X1,00 | 25 | <a href="#">11572.100.100</a> | M32X1,50 | 5 | <a href="#">11572.320.150</a> | M62X1,50  | 1 | <a href="#">11572.620.150</a> |
| M12X1,50 | 25 | <a href="#">11572.120.150</a> | M35X1,50 | 5 | <a href="#">11572.350.150</a> | M65X1,50  | 1 | <a href="#">11572.650.150</a> |
| M14X1,50 | 10 | <a href="#">11572.140.150</a> | M38X1,50 | 5 | <a href="#">11572.380.150</a> | M68X1,50  | 1 | <a href="#">11572.680.150</a> |
| M16X1,50 | 10 | <a href="#">11572.160.150</a> | M40X1,50 | 5 | <a href="#">11572.400.150</a> | M70X1,50  | 1 | <a href="#">11572.700.150</a> |
| M18X1,50 | 10 | <a href="#">11572.180.150</a> | M42X1,50 | 5 | <a href="#">11572.420.150</a> | M72X1,50  | 1 | <a href="#">11572.720.150</a> |
| M20X1,50 | 10 | <a href="#">11572.200.150</a> | M45X1,50 | 5 | <a href="#">11572.450.150</a> | M75X1,50  | 1 | <a href="#">11572.750.150</a> |
| M22X1,50 | 10 | <a href="#">11572.220.150</a> | M48X1,50 | 5 | <a href="#">11572.480.150</a> | M80X2,00  | 1 | <a href="#">11572.800.200</a> |
| M24X1,50 | 5  | <a href="#">11572.240.150</a> | M50X1,50 | 5 | <a href="#">11572.500.150</a> | M85X2,00  | 1 | <a href="#">11572.850.200</a> |
| M26X1,50 | 5  | <a href="#">11572.260.150</a> | M55X1,50 | 5 | <a href="#">11572.550.150</a> | M90X2,00  | 1 | <a href="#">11572.900.200</a> |
| M28X1,50 | 5  | <a href="#">11572.280.150</a> | M58X1,50 | 5 | <a href="#">11572.580.150</a> | M95X2,00  | 1 | <a href="#">11572.950.200</a> |
| M30X1,50 | 5  | <a href="#">11572.300.150</a> | M60X1,50 | 1 | <a href="#">11572.600.150</a> | M100X2,00 | 1 | <a href="#">11572.982.200</a> |

## Slotted round nut

DIN 546



### Technical data

| d    | P    | dk  | m   | n   |
|------|------|-----|-----|-----|
| M2   | 0,4  | 4,5 | 2   | 1   |
| M2,5 | 0,45 | 5,5 | 2,2 | 1,2 |
| M3   | 0,5  | 6   | 2,5 | 1,2 |
| M4   | 0,7  | 8   | 3,5 | 1,4 |
| M5   | 0,8  | 9   | 4,2 | 2   |
| M6   | 1    | 11  | 5   | 2,5 |
| M8   | 1,25 | 14  | 6,5 | 3   |
| M10  | 1,5  | 18  | 8   | 3,5 |

- Slotted round nuts are often used in the electrotechnical and fine mechanical industries, they are easily to assemble with a screwdriver acc. to DIN 3115.

### 11772 Slotted round nut

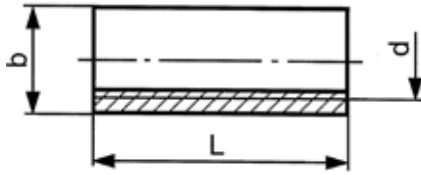
F01X

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|----|-------------------------------|
| M2 | 100 | <a href="#">11772.020.001</a> | M5 | 100 | <a href="#">11772.050.001</a> | M10 | 50 | <a href="#">11772.100.001</a> |
| M3 | 100 | <a href="#">11772.030.001</a> | M6 | 100 | <a href="#">11772.060.001</a> |     |    |                               |
| M4 | 100 | <a href="#">11772.040.001</a> | M8 | 50  | <a href="#">11772.080.001</a> |     |    |                               |

## Round connection nut

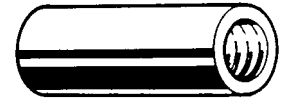


### Technical data

| d   | P    | b  |
|-----|------|----|
| M5  | 0,8  | 8  |
| M6  | 1    | 10 |
| M8  | 1,25 | 11 |
| M10 | 1,5  | 13 |
| M12 | 1,75 | 15 |

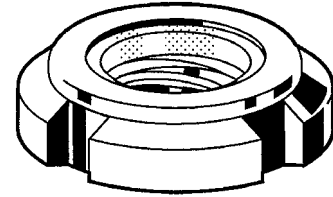
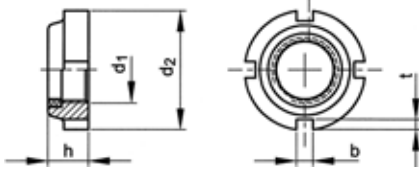
- These connection nuts are used among others for connection of threaded rods.

| 11401 Round connection nut |                    | F01C |
|----------------------------|--------------------|------|
| <b>Thread</b>              | Metric thread      |      |
| <b>Material</b>            | Free-cutting steel |      |
| <b>Surface treatment</b>   | Zinc plated        |      |
| <b>Packaging</b>           | Standard           |      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| M5X20 | 100 | <a href="#">11401.050.020</a> | M8X40  | 100 | <a href="#">11401.080.040</a> | M12X20 | 50 | <a href="#">11401.120.020</a> |
| M6X20 | 100 | <a href="#">11401.060.020</a> | M10X20 | 100 | <a href="#">11401.100.020</a> | M12X30 | 50 | <a href="#">11401.120.030</a> |
| M6X30 | 100 | <a href="#">11401.060.030</a> | M10X30 | 100 | <a href="#">11401.100.030</a> | M12X40 | 50 | <a href="#">11401.120.040</a> |
| M8X20 | 100 | <a href="#">11401.080.020</a> | M10X40 | 100 | <a href="#">11401.100.040</a> |        |    |                               |
| M8X30 | 100 | <a href="#">11401.080.030</a> |        |     |                               |        |    |                               |

## Prevailing torque type slotted round nut with non-metallic insert type GUK



### Technical data

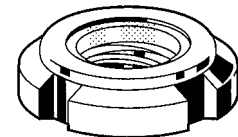
| d1   | d2  | b  | h    | t   | Number of slots |
|------|-----|----|------|-----|-----------------|
| M10  | 18  | 3  | 7,4  | 2   | 4               |
| M12  | 22  | 3  | 7,4  | 2   | 4               |
| M15  | 25  | 4  | 8,4  | 2   | 4               |
| M17  | 28  | 4  | 8,4  | 2   | 4               |
| M20  | 32  | 4  | 9,4  | 2,5 | 4               |
| M25  | 38  | 5  | 10,3 | 2,5 | 4               |
| M30  | 44  | 5  | 10,9 | 3   | 4               |
| M35  | 50  | 5  | 11,1 | 3   | 4               |
| M40  | 56  | 6  | 12,1 | 3   | 4               |
| M45  | 62  | 6  | 12,1 | 3,5 | 4               |
| M50  | 68  | 6  | 12,7 | 3,5 | 4               |
| M55  | 75  | 7  | 13,2 | 3,5 | 6               |
| M60  | 80  | 7  | 13,2 | 3,5 | 6               |
| M65  | 85  | 7  | 14,3 | 3,5 | 6               |
| M70  | 92  | 8  | 14,3 | 4   | 6               |
| M75  | 98  | 8  | 15,3 | 4   | 6               |
| M80  | 105 | 10 | 16,3 | 4   | 8               |
| M85  | 110 | 10 | 17,3 | 4   | 8               |
| M90  | 120 | 10 | 17,5 | 5   | 8               |
| M95  | 125 | 10 | 18,5 | 5   | 8               |
| M100 | 130 | 10 | 19,5 | 5   | 8               |

3

### 11790 Prevailing torque type slotted round nut with non-metallic insert type GUK

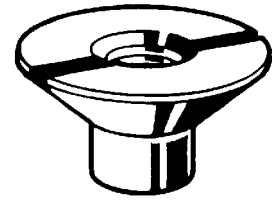
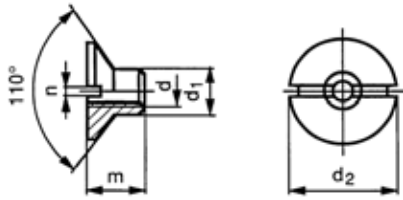
F01X

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric fine thread            |
| <b>Material</b>          | Steel                         |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d1 x P   | ☒  | Art.number                    | d1 x P   | ☒ | Art.number                    | d1 x P    | ☒ | Art.number                    |
|----------|----|-------------------------------|----------|---|-------------------------------|-----------|---|-------------------------------|
| M10X0,75 | 10 | <a href="#">11790.100.075</a> | M35X1,50 | 5 | <a href="#">11790.350.150</a> | M70X2,00  | 1 | <a href="#">11790.700.200</a> |
| M12X1,00 | 10 | <a href="#">11790.120.100</a> | M40X1,50 | 5 | <a href="#">11790.400.150</a> | M75X2,00  | 1 | <a href="#">11790.750.200</a> |
| M15X1,00 | 10 | <a href="#">11790.150.100</a> | M45X1,50 | 2 | <a href="#">11790.450.150</a> | M80X2,00  | 1 | <a href="#">11790.800.200</a> |
| M17X1,00 | 10 | <a href="#">11790.170.100</a> | M50X1,50 | 2 | <a href="#">11790.500.150</a> | M85X2,00  | 1 | <a href="#">11790.850.200</a> |
| M20X1,00 | 10 | <a href="#">11790.200.100</a> | M55X2,00 | 1 | <a href="#">11790.550.200</a> | M90X2,00  | 1 | <a href="#">11790.900.200</a> |
| M25X1,50 | 5  | <a href="#">11790.250.150</a> | M60X2,00 | 1 | <a href="#">11790.600.200</a> | M95X2,00  | 1 | <a href="#">11790.950.200</a> |
| M30X1,50 | 5  | <a href="#">11790.300.150</a> | M65X2,00 | 1 | <a href="#">11790.650.200</a> | M100X2,00 | 1 | <a href="#">11790.982.200</a> |

## Slotted countersunk (110°) nut



### Technical data

| d   | P    | d <sub>1</sub> | d <sub>2</sub> | m  | n   |
|-----|------|----------------|----------------|----|-----|
| M3  | 0,5  | 4              | 10             | 6  | 1   |
| M4  | 0,7  | 5              | 12             | 6  | 1   |
| M5  | 0,8  | 6              | 14             | 7  | 2   |
| M6  | 1    | 7              | 16             | 8  | 2   |
| M8  | 1,25 | 9              | 20             | 10 | 2   |
| M10 | 1,5  | 12             | 24             | 12 | 2,5 |

- Slotted countersunk nuts are used among others in wood connections, where the outside has to be flat.

### 11560 Slotted countersunk (110°) nut

F01X

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M3 | 250 | <a href="#">11560.030.010</a> | M5 | 250 | <a href="#">11560.050.014</a> | M8  | 250 | <a href="#">11560.080.020</a> |
| M4 | 250 | <a href="#">11560.040.012</a> | M6 | 250 | <a href="#">11560.060.016</a> | M10 | 250 | <a href="#">11560.100.024</a> |

## FABORY Blind rivet nuts and bolts

FABORY's blind rivet nut and bolt range is an expert range of more than 14 different series of blind rivet nuts and bolts. It offers a wide variety of sizes, alloys, head and body types, all from stock.



Sizes: M3 up to M12

Alloys: aluminium, steel, stainless steel (A2)

Head types: cylindrical, countersunk, reduced countersunk

Body types: round, hexagonal, open and closed end

The diameters of the blind rivet nuts have been adapted to the use of standard drill diameters. The blind riveting bolt provides an external thread connection and is available in 4 different thread sizes with 4 different lengths each, serving an 8.8 strength class.

### Advantages

- Can be set in thin material easily.
- The time consuming tapping of a thread or welding of a blind rivet nut is no longer required.
- Blind rivet nuts have the same properties as a tapped thread in solid material, because of the strong 'flush flange' that remains after deformation of the rivet nuts.
- Can be set from one side when the rear of the material and the inside of the object are inaccessible.
- The material will not be damaged.
- Will not deform or cause discolouration of the material.

### FABORY hand tools for blind rivet nuts and bolts

The FABORY range of hand tools for blind rivet nuts and bolts, offers you one of the widest and most innovative ranges of professional riveting tools in the market.

All the FABORY blind insert hand tools are equipped with a (patented) quick release mandrel system enabling you to exchange mandrels with your bare hands without using additional spanners.

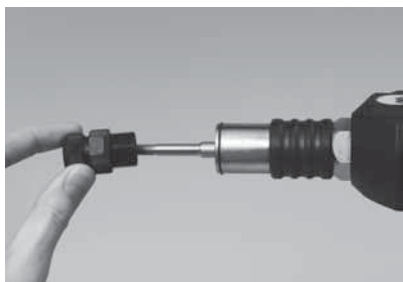
All tools are supplied in representative packaging with full sets of mandrels/adaptors and anvils.

FABORY's hand tools for blind rivet nuts and bolts are distinctive in a number of relevant areas

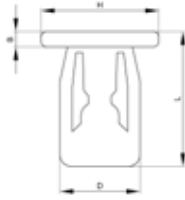
- Wide choice
- High professional quality
- Competitive price levels
- Continuous product development and innovations
- Complete supply of tools with full set of conversion kits and stroke regulation devices
- Quick-release system

### Quick-release mandrel system for blind rivet nut and bolt tools

1. Release the nosepiece and contra nut
2. Move protective sleeve forwards
3. Hold security part backwards and unscrew mandrel/adapter



## Jacknut

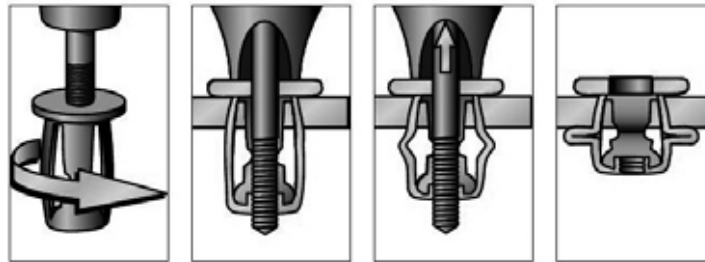


### Technical data

| Type                       | 4SJN | 6SJN | 8SJN  |
|----------------------------|------|------|-------|
| For nom. size              | M4   | M5   | M6    |
| Hole $\varnothing \approx$ | 8,25 | 9,95 | 11,25 |
| Material thickness (min.)  | 0,4  | 0,4  | 0,4   |
| Material thickness (max.)  | 4,8  | 4,8  | 4,8   |
| D                          | 7,8  | 9,7  | 11,1  |
| H                          | 11,9 | 13,5 | 15,9  |
| B                          | 1,9  | 1,9  | 1,9   |
| L                          | 16,6 | 18,2 | 18,6  |
| <b>Assembly data</b>       |      |      |       |
| Tightening torque in Nm    | 1,3  | 2,2  | 3,4   |
| Pull-out force in kN       | 1,4  | 2,8  | 4,7   |

- Assembly data: values valid for 1,5mm steel plate

### Assembly sequence

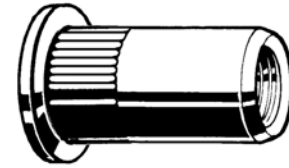


|                          |                |   |
|--------------------------|----------------|---|
| <b>65411</b>             | <b>Jacknut</b> | <b>N61B</b>   |
| <b>Thread</b>            | Metric thread  |  |
| <b>Material</b>          | Steel          |   |
| <b>Surface treatment</b> | Zinc plated    |   |
| <b>Packaging</b>         | Standard       |   |

| Type | ☒   | Art.number                    | Type | ☒   | Art.number                    | Type | ☒   | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|------|-----|-------------------------------|
| 4SJN | 100 | <a href="#">65411.040.015</a> | 6SJN | 100 | <a href="#">65411.050.017</a> | 8SJN | 100 | <a href="#">65411.060.018</a> |



## Blind rivet nuts cylindrical Stainless steel open serrated shank



### Technical data

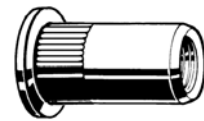
| Type      | $\varnothing d$ | $l$ [+0,5/-0] | Grip range | Drill $\varnothing$ | $\varnothing d_k$ | $k$        | $\varnothing d$ [+0/-0,2] |
|-----------|-----------------|---------------|------------|---------------------|-------------------|------------|---------------------------|
| 4 OCH 30  | M4              | 11,0          | 0,5-3,0    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 4 OCH 55  | M4              | 14,0          | 3,0-5,5    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 5 OCH 30  | M5              | 13,0          | 0,5-3,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 OCH 55  | M5              | 16,0          | 3,0-8,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 OCH 80  | M5              | 19,0          | 5,5-8,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 6 OCH 30  | M6              | 16,0          | 0,5-3,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 OCH 55  | M6              | 18,5          | 3,0-5,5    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 8 OCH 30  | M8              | 17,5          | 0,5-3,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 55  | M8              | 20,0          | 3,0-5,5    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 10 OCH 30 | M10             | 19,0          | 0,5-3,0    | 13,0                | 16,0              | $\leq 2,1$ | 12,9                      |
| 10 OCH 60 | M10             | 24,0          | 3,0-6,0    | 13,0                | 16,0              | $\leq 2,1$ | 12,9                      |

**3**

### 69025 Blind rivet nuts cylindrical Stainless steel open serrated shank

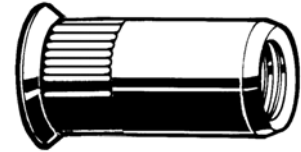
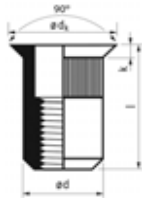
**F07A**

**Material** Stainless steel A2  
**Packaging** Standard



| Type     | ☒   | Art.number                    | Type     | ☒   | Art.number                    | Type      | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 4 OCH 30 | 250 | <a href="#">69025.040.030</a> | 6 OCH 30 | 250 | <a href="#">69025.060.030</a> | 10 OCH 30 | 250 | <a href="#">69025.100.030</a> |
| 5 OCH 30 | 250 | <a href="#">69025.050.030</a> | 6 OCH 55 | 250 | <a href="#">69025.060.055</a> | 10 OCH 60 | 250 | <a href="#">69025.100.060</a> |
| 5 OCH 55 | 250 | <a href="#">69025.050.055</a> | 8 OCH 30 | 250 | <a href="#">69025.080.030</a> |           |     |                               |
| 5 OCH 80 | 250 | <a href="#">69025.050.080</a> | 8 OCH 55 | 250 | <a href="#">69025.080.055</a> |           |     |                               |

## Blind rivet nuts countersunk open Stainless steel serrated shank



### Technical data

| Type             | 4 OCSH 40 | 5 OCSH 40 | 6 OCSH 40 | 8 OCSH 40 | 10 OCSH 45 |
|------------------|-----------|-----------|-----------|-----------|------------|
| ø d              | M4        | M5        | M6        | M8        | M10        |
| l [+0,5/-0]      | 12,5      | 13,5      | 15,5      | 18,5      | 21,0       |
| Grip range       | 1,5-4,0   | 1,5-4,0   | 1,5-4,0   | 1,5-4,0   | 2,0-4,5    |
| Drill ø          | 6,0       | 7,0       | 9,0       | 11,0      | 13,0       |
| ø d <sub>k</sub> | 8,5       | 9,5       | 11,5      | 13,5      | 15,5       |
| k                | ≤ 1,5     | ≤ 1,5     | ≤ 1,5     | ≤ 1,5     | ≤ 1,8      |
| ø d [+0/-0,2]    | 5,9       | 6,9       | 8,9       | 10,9      | 12,9       |

#### 69045 Blind rivet nuts countersunk open Stainless steel serrated shank

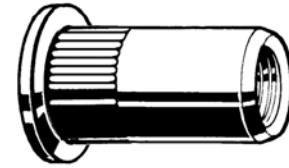
**F07A**

**Material** Stainless steel A2  
**Packaging** Standard



| Type      | ✉   | Art.number                    | Type      | ✉   | Art.number                    | Type       | ✉   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| 4 OCSH 40 | 250 | <a href="#">69045.040.040</a> | 6 OCSH 40 | 250 | <a href="#">69045.060.040</a> | 10 OCSH 45 | 250 | <a href="#">69045.100.045</a> |
| 5 OCSH 40 | 250 | <a href="#">69045.050.040</a> | 8 OCSH 40 | 250 | <a href="#">69045.080.040</a> |            |     |                               |

## Blind rivet nuts cylindrical Steel zinc open serrated shank



### Technical data

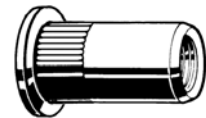
| Type       | $\varnothing d$ | $l$ [+0,5/-0] | Grip range | Drill $\varnothing$ | $\varnothing d_k$ | $k$        | $\varnothing d$ [+0/-0,2] |
|------------|-----------------|---------------|------------|---------------------|-------------------|------------|---------------------------|
| 3 OCH 30   | M3              | 10,5          | 0,5-3,0    | 5,0                 | 7,0               | $\leq 0,9$ | 4,9                       |
| 3 OCH 55   | M3              | 13,0          | 3,0-5,5    | 5,0                 | 7,0               | $\leq 0,9$ | 4,9                       |
| 4 OCH 30   | M4              | 11,0          | 0,5-3,0    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 4 OCH 55   | M4              | 14,0          | 3,0-5,5    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 5 OCH 30   | M5              | 13,0          | 0,5-3,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 OCH 55   | M5              | 16,0          | 3,0-5,5    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 OCH 80   | M5              | 149,0         | 5,5-8,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 6 OCH 30   | M6              | 16,0          | 0,5-3,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 OCH 55   | M6              | 18,5          | 3,0-5,5    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 OCH 80   | M6              | 21,0          | 5,5-8,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 8 OCH 30   | M8              | 17,5          | 0,5-3,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 55   | M8              | 20,0          | 3,0-5,5    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 80   | M8              | 22,5          | 5,5-9,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 105  | M8              | 25,0          | 8,0-10,5   | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 10 OCH 30  | M10             | 19,0          | 0,5-3,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 OCH 60  | M10             | 24,0          | 3,0-6,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 OCH 90  | M10             | 27,0          | 6,0-9,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 OCH 120 | M10             | 30,0          | 9,0-12,0   | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 12 OCH 40  | M12             | 25,0          | 1,0-4,0    | 16,0                | 22,0              | $\leq 2,1$ | 15,9                      |
| 12 OCH 70  | M12             | 28,0          | 4,0-7,0    | 16,0                | 22,0              | $\leq 2,1$ | 15,9                      |
| 12 OCH 100 | M12             | 31,0          | 7,0-10,0   | 16,0                | 22,0              | $\leq 2,1$ | 15,9                      |

**3**

### 69135 Blind rivet nuts cylindrical Steel zinc open serrated shank

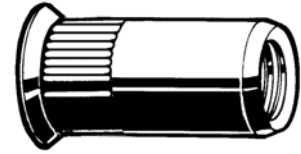
**F07A**

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type     | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| 4 OCH 30 | 250 | <a href="#">69135.040.030</a> | 6 OCH 80  | 250 | <a href="#">69135.060.080</a> | 10 OCH 90  | 100 | <a href="#">69135.100.090</a> |
| 4 OCH 55 | 250 | <a href="#">69135.040.055</a> | 8 OCH 30  | 250 | <a href="#">69135.080.030</a> | 10 OCH 120 | 100 | <a href="#">69135.100.120</a> |
| 5 OCH 30 | 250 | <a href="#">69135.050.030</a> | 8 OCH 55  | 250 | <a href="#">69135.080.055</a> | 12 OCH 40  | 100 | <a href="#">69135.120.040</a> |
| 5 OCH 55 | 250 | <a href="#">69135.050.055</a> | 8 OCH 80  | 250 | <a href="#">69135.080.080</a> | 12 OCH 70  | 100 | <a href="#">69135.120.070</a> |
| 5 OCH 80 | 250 | <a href="#">69135.050.080</a> | 8 OCH 105 | 250 | <a href="#">69135.080.105</a> | 12 OCH 100 | 100 | <a href="#">69135.120.100</a> |
| 6 OCH 30 | 250 | <a href="#">69135.060.030</a> | 10 OCH 30 | 250 | <a href="#">69135.100.030</a> |            |     |                               |
| 6 OCH 55 | 250 | <a href="#">69135.060.055</a> | 10 OCH 60 | 250 | <a href="#">69135.100.060</a> |            |     |                               |

## Blind rivet nuts countersunk open Steel zinc serrated shank



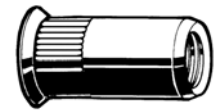
### Technical data

| Type        | ø d | l [+0,5/-0] | Grip range | Drill ø | ø d <sub>k</sub> | k     | ø d [+0/-0,2] |
|-------------|-----|-------------|------------|---------|------------------|-------|---------------|
| 3 OCSH 40   | M3  | 11,5        | 1,5-4,0    | 5,0     | 7,5              | ≤ 1,5 | 4,9           |
| 3 OCSH 65   | M3  | 14,0        | 4,0-6,5    | 5,5     | 7,5              | ≤ 1,5 | 4,9           |
| 4 OCSH 40   | M4  | 12,5        | 1,5-4,0    | 6,0     | 8,5              | ≤ 1,5 | 5,9           |
| 4 OCSH 65   | M4  | 15,0        | 4,0-6,5    | 6,0     | 8,5              | ≤ 1,5 | 5,9           |
| 5 OCSH 40   | M5  | 13,5        | 1,5-4,0    | 7,0     | 9,5              | ≤ 1,5 | 6,9           |
| 5 OCSH 65   | M5  | 16,0        | 4,0-6,5    | 7,0     | 9,5              | ≤ 1,5 | 6,9           |
| 5 OCSH 90   | M5  | 18,5        | 6,5-9,0    | 7,0     | 9,5              | ≤ 1,5 | 6,9           |
| 6 OCSH 40   | M6  | 15,5        | 1,4-4,0    | 9,0     | 11,5             | ≤ 1,5 | 8,9           |
| 6 OCSH 65   | M6  | 18,0        | 4,0-6,5    | 9,0     | 11,5             | ≤ 1,5 | 8,9           |
| 6 OCSH 90   | M6  | 20,5        | 6,5-9,0    | 9,0     | 11,5             | ≤ 1,5 | 8,9           |
| 8 OCSH 40   | M8  | 18,5        | 1,5-4,0    | 11,0    | 13,5             | ≤ 1,5 | 10,9          |
| 8 OCSH 65   | M8  | 21,0        | 4,0-6,5    | 11,0    | 13,5             | ≤ 1,5 | 10,9          |
| 8 OCSH 90   | M8  | 233,5       | 6,5-9,0    | 11,0    | 13,5             | ≤ 1,5 | 10,9          |
| 10 OCSH 45  | M10 | 21,0        | 2,0-4,5    | 12,0    | 14,5             | ≤ 1,7 | 11,9          |
| 10 OCSH 75  | M10 | 24,0        | 4,5-7,5    | 12,0    | 14,5             | ≤ 1,7 | 11,9          |
| 10 OCSH 105 | M10 | 27,0        | 7,5-10,5   | 12,0    | 14,5             | ≤ 1,7 | 11,9          |
| 12 OCSH 45  | M12 | 24,5        | 2,0-4,5    | 16,0    | 19,0             | ≤ 1,9 | 15,9          |
| 12 OCSH 75  | M12 | 27,5        | 4,5-7,5    | 16,0    | 19,0             | ≤ 1,9 | 15,9          |
| 12 OCSH 105 | M12 | 31,0        | 7,5-10,5   | 16,0    | 19,0             | ≤ 1,9 | 15,9          |

### 69155 Blind rivet nuts countersunk open Steel zinc serrated shank

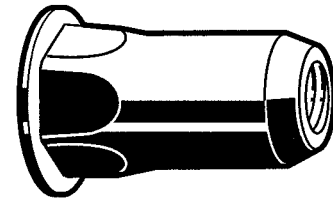
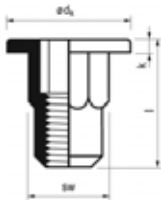
F07A

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    | Type        | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4 OCSH 40 | 250 | <a href="#">69155.040.040</a> | 6 OCSH 65  | 250 | <a href="#">69155.060.065</a> | 10 OCSH 75  | 250 | <a href="#">69155.100.075</a> |
| 4 OCSH 65 | 250 | <a href="#">69155.040.065</a> | 6 OCSH 90  | 250 | <a href="#">69155.060.090</a> | 10 OCSH 105 | 100 | <a href="#">69155.100.105</a> |
| 5 OCSH 40 | 250 | <a href="#">69155.050.040</a> | 8 OCSH 40  | 250 | <a href="#">69155.080.040</a> | 12 OCSH 45  | 100 | <a href="#">69155.120.045</a> |
| 5 OCSH 65 | 250 | <a href="#">69155.050.065</a> | 8 OCSH 65  | 250 | <a href="#">69155.080.065</a> | 12 OCSH 75  | 100 | <a href="#">69155.120.075</a> |
| 5 OCSH 90 | 250 | <a href="#">69155.050.090</a> | 8 OCSH 90  | 250 | <a href="#">69155.080.090</a> | 12 OCSH 105 | 100 | <a href="#">69155.120.105</a> |
| 6 OCSH 40 | 250 | <a href="#">69155.060.040</a> | 10 OCSH 45 | 250 | <a href="#">69155.100.045</a> |             |     |                               |

**Blind rivet nuts cylindrical Steel zinc open hexagon shank**



**Technical data**

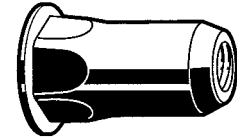
| Type         | 4 OCH 20   | 5 OCH 30   | 6 OCH 30   | 8 OCH 35   | 10 OCH 35  |
|--------------|------------|------------|------------|------------|------------|
| $\phi d$     | M4         | M5         | M6         | M8         | M10        |
| L            | 10,5       | 13,0       | 16,0       | 17,0       | 23,0       |
| Grip range   | 0,3-2,0    | 0,7-3,0    | 0,5-3,0    | 0,5-3,5    | 0,8-3,5    |
| Hole hexagon | 6,0        | 7,0        | 9,0        | 11,0       | 13,0       |
| $\phi d_k$   | 9,0        | 10,0       | 13,0       | 16,0       | 19,0       |
| k            | $\leq 0,8$ | $\leq 1,0$ | $\leq 1,5$ | $\leq 1,5$ | $\leq 2,0$ |
| W.a.f. (s)   | 5,9        | 6,9        | 8,9        | 10,9       | 12,9       |

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**69170 Blind rivet nuts cylindrical Steel zinc open hexagon shank**

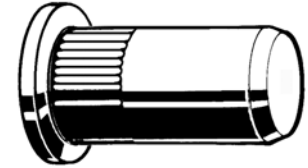
F07A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type     | ✉   | Art.number                    | Type     | ✉   | Art.number                    | Type      | ✉   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 4 OCH 20 | 250 | <a href="#">69170.040.020</a> | 6 OCH 30 | 250 | <a href="#">69170.060.030</a> | 10 OCH 35 | 250 | <a href="#">69170.100.035</a> |
| 5 OCH 30 | 250 | <a href="#">69170.050.030</a> | 8 OCH 35 | 250 | <a href="#">69170.080.035</a> |           |     |                               |

## Blind rivet nuts cylindrical Steel zinc serrated shank



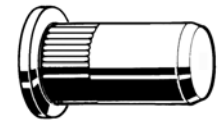
### Technical data

| Type       | $\varnothing d$ | $l$ [+0,5/-0] | Grip range | Drill $\varnothing$ | $\varnothing d_k$ | $k$        | $\varnothing d$ [+0/-0,2] |
|------------|-----------------|---------------|------------|---------------------|-------------------|------------|---------------------------|
| 3 CCH 30   | M3              | 15,0          | 0,5-3,0    | 5,0                 | 7,0               | $\leq 0,9$ | 4,9                       |
| 3 CCH 55   | M3              | 17,5          | 3,0-5,5    | 5,0                 | 7,0               | $\leq 0,9$ | 4,9                       |
| 4 CCH 30   | M4              | 16,0          | 0,5-3,0    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 4 CCH 55   | M4              | 19,0          | 3,0-5,5    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 5 CCH 30   | M5              | 18,5          | 0,5-3,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 CCH 55   | m5              | 21,5          | 3,0-5,5    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 CCH 80   | M5              | 24,5          | 5,5-8,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 6 CCH 30   | M6              | 21,5          | 0,5-3,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 CCH 55   | M6              | 24,0          | 3,0-5,5    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 CCH 80   | M6              | 26,5          | 5,5-8,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 8 CCH 30   | M8              | 26,0          | 0,5-3,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 CCH 55   | M8              | 28,5          | 3,0-5,5    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 CCH 80   | M8              | 31,0          | 5,5-8,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 CCH 105  | M8              | 33,5          | 8,0-10,5   | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 10 CCH 30  | M10             | 28,0          | 0,5-3,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 CCH 60  | M10             | 33,0          | 3,0-6,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 CCH 90  | M10             | 36,0          | 6,0-9,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 CCH 120 | M10             | 39,0          | 9,0-12,0   | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |

### 69190 Blind rivet nuts cylindrical Steel zinc serrated shank

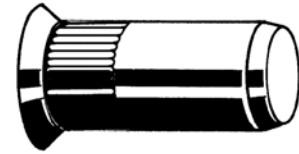
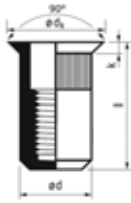
**F07A**

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type     | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| 4 CCH 30 | 250 | <a href="#">69190.040.030</a> | 6 CCH 55  | 250 | <a href="#">69190.060.055</a> | 10 CCH 30  | 250 | <a href="#">69190.100.030</a> |
| 4 CCH 55 | 250 | <a href="#">69190.040.055</a> | 6 CCH 80  | 250 | <a href="#">69190.060.080</a> | 10 CCH 60  | 250 | <a href="#">69190.100.060</a> |
| 5 CCH 30 | 250 | <a href="#">69190.050.030</a> | 8 CCH 30  | 250 | <a href="#">69190.080.030</a> | 10 CCH 90  | 100 | <a href="#">69190.100.090</a> |
| 5 CCH 55 | 250 | <a href="#">69190.050.055</a> | 8 CCH 55  | 250 | <a href="#">69190.080.055</a> | 10 CCH 120 | 100 | <a href="#">69190.100.120</a> |
| 5 CCH 80 | 250 | <a href="#">69190.050.080</a> | 8 CCH 80  | 250 | <a href="#">69190.080.080</a> |            |     |                               |
| 6 CCH 30 | 250 | <a href="#">69190.060.030</a> | 8 CCH 105 | 250 | <a href="#">69190.080.105</a> |            |     |                               |

## Blind rivet nuts countersunk Steel zinc serrated shank



### Technical data

| Type        | ø d | l [+0,5/-0] | Grip range | Drill ø | ø d <sub>k</sub> | k     | ø d [+0/-0,2] |
|-------------|-----|-------------|------------|---------|------------------|-------|---------------|
| 3 CESH 40   | M3  | 16,0        | 1,5-4,0    | 5,0     | 7,5              | ≤ 1,5 | 4,9           |
| 3 CESH 65   | M3  | 18,5        | 4,0-6,5    | 5,0     | 7,5              | ≤ 1,5 | 4,9           |
| 4 CESH 40   | M4  | 17,5        | 1,5-4,0    | 6,0     | 8,5              | ≤ 1,5 | 5,9           |
| 4 CESH 65   | M4  | 20,0        | 4,0-6,5    | 6,0     | 8,5              | ≤ 1,5 | 5,9           |
| 5 CESH 40   | M5  | 20,0        | 1,5-4,0    | 7,0     | 9,5              | ≤ 1,5 | 6,9           |
| 5 CESH 65   | M5  | 22,5        | 4,0-6,5    | 7,0     | 9,5              | ≤ 1,5 | 6,9           |
| 5 CESH 90   | M5  | 25,0        | 6,5-9,0    | 7,0     | 9,5              | ≤ 1,5 | 6,9           |
| 6 CESH 40   | M6  | 23,0        | 1,5-4,0    | 8,0     | 11,5             | ≤ 1,5 | 8,9           |
| 6 CESH 65   | M6  | 25,5        | 4,0-6,5    | 8,0     | 11,5             | ≤ 1,5 | 8,9           |
| 6 CESH 90   | M6  | 28,0        | 6,5-9,0    | 8,0     | 11,5             | ≤ 1,5 | 8,9           |
| 8 CESH 40   | M8  | 27,0        | 1,5-4,0    | 11,0    | 13,5             | ≤ 1,5 | 10,9          |
| 8 CESH 65   | M8  | 29,5        | 4,0-6,5    | 11,0    | 13,5             | ≤ 1,5 | 10,9          |
| 8 CESH 90   | M8  | 32,0        | 6,5-9,0    | 11,0    | 13,5             | ≤ 1,5 | 10,9          |
| 10 CESH 45  | M10 | 30,0        | 2,0-4,5    | 12,0    | 14,5             | ≤ 1,7 | 11,9          |
| 10 CESH 75  | M10 | 33,0        | 4,5-7,5    | 12,0    | 14,5             | ≤ 1,7 | 11,9          |
| 10 CESH 105 | M10 | 36,0        | 7,5-10,5   | 12,0    | 14,5             | ≤ 1,7 | 11,9          |
| 12 CESH 45  | M12 | 34,5        | 2,0-4,5    | 16,0    | 19,0             | ≤ 1,9 | 15,9          |
| 12 CESH 75  | M12 | 37,5        | 4,5-7,5    | 16,0    | 19,0             | ≤ 1,9 | 15,9          |
| 12 CESH 110 | M12 | 41,0        | 7,5-11,0   | 16,0    | 19,0             | ≤ 1,9 | 15,9          |

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### 69195 Blind rivet nuts countersunk Steel zinc serrated shank

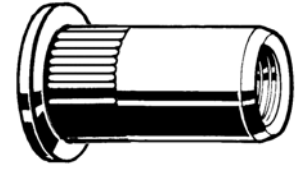
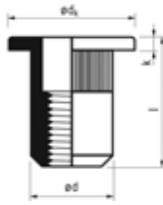
F07A

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    | Type        | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4 CESH 40 | 250 | <a href="#">69195.040.040</a> | 6 CESH 65  | 250 | <a href="#">69195.060.065</a> | 10 CESH 75  | 250 | <a href="#">69195.100.075</a> |
| 4 CESH 65 | 250 | <a href="#">69195.040.065</a> | 6 CESH 90  | 250 | <a href="#">69195.060.090</a> | 10 CESH 105 | 100 | <a href="#">69195.100.105</a> |
| 5 CESH 40 | 250 | <a href="#">69195.050.040</a> | 8 CESH 40  | 250 | <a href="#">69195.080.040</a> | 12 CESH 45  | 100 | <a href="#">69195.120.045</a> |
| 5 CESH 65 | 250 | <a href="#">69195.050.065</a> | 8 CESH 65  | 250 | <a href="#">69195.080.065</a> | 12 CESH 75  | 100 | <a href="#">69195.120.075</a> |
| 5 CESH 90 | 250 | <a href="#">69195.050.090</a> | 8 CESH 90  | 250 | <a href="#">69195.080.090</a> | 12 CESH 110 | 100 | <a href="#">69195.120.110</a> |
| 6 CESH 40 | 250 | <a href="#">69195.060.040</a> | 10 CESH 45 | 250 | <a href="#">69195.100.045</a> |             |     |                               |

## Blind rivet nuts cylindrical aluminium open serrated shank



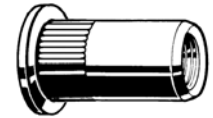
### Technical data

| Type       | $\varnothing d$ | $l$ [+0,5/-0] | Grip range | Drill $\varnothing$ | $\varnothing d_k$ | $k$        | $\varnothing d$ [+0/-0,2] |
|------------|-----------------|---------------|------------|---------------------|-------------------|------------|---------------------------|
| 3 OCH 30   | M3              | 10,5          | 0,5-3,0    | 5,0                 | 7,0               | $\leq 0,9$ | 4,9                       |
| 3 OCH 55   | M3              | 13,0          | 3,0-5,5    | 5,0                 | 7,0               | $\leq 0,9$ | 4,9                       |
| 4 OCH 30   | M4              | 11,0          | 0,5-3,0    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 4 OCH 55   | M4              | 14,0          | 3,0-5,5    | 6,0                 | 9,0               | $\leq 1,1$ | 5,9                       |
| 5 OCH 30   | M5              | 13,0          | 0,5-3,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 OCH 55   | M5              | 16,0          | 3,0-5,5    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 5 OCH 80   | M5              | 19,0          | 5,5-8,0    | 7,0                 | 10,0              | $\leq 1,1$ | 6,9                       |
| 6 OCH 30   | M6              | 16,0          | 0,5-3,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 OCH 55   | M6              | 18,5          | 3,0-5,5    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 6 OCH 80   | M6              | 21,0          | 5,5-8,0    | 9,0                 | 12,0              | $\leq 1,6$ | 8,9                       |
| 8 OCH 30   | M8              | 17,5          | 0,5-3,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 55   | M8              | 20,0          | 3,0-5,5    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 80   | M8              | 22,5          | 5,5-8,0    | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 8 OCH 105  | M8              | 25,0          | 8,0-10,5   | 11,0                | 15,0              | $\leq 1,6$ | 10,9                      |
| 10 OCH 30  | M10             | 19,0          | 0,5-3,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 OCH 60  | M10             | 24,0          | 3,0-6,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 OCH 90  | M10             | 27,0          | 6,0-9,0    | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 10 OCH 120 | M10             | 30,0          | 9,0-12,0   | 12,0                | 16,0              | $\leq 2,1$ | 11,9                      |
| 12 OCH 40  | M12             | 25,0          | 1,0-4,0    | 16,0                | 22,0              | $\leq 2,1$ | 15,9                      |
| 12 OCH 70  | M12             | 28,0          | 4,0-7,0    | 16,0                | 22,0              | $\leq 2,1$ | 15,9                      |
| 12 OCH 100 | M12             | 31,0          | 7,0-10,0   | 16,0                | 22,0              | $\leq 2,1$ | 15,9                      |

### 69315 Blind rivet nuts cylindrical aluminium open serrated shank

**F07A**

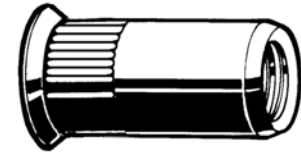
**Material** Aluminium  
**Packaging** Standard



| Type     | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| 4 OCH 30 | 250 | <a href="#">69315.040.030</a> | 6 OCH 80  | 250 | <a href="#">69315.060.080</a> | 10 OCH 60  | 250 | <a href="#">69315.100.060</a> |
| 5 OCH 30 | 250 | <a href="#">69315.050.030</a> | 8 OCH 30  | 250 | <a href="#">69315.080.030</a> | 10 OCH 90  | 100 | <a href="#">69315.100.090</a> |
| 5 OCH 55 | 250 | <a href="#">69315.050.055</a> | 8 OCH 55  | 250 | <a href="#">69315.080.055</a> | 10 OCH 120 | 100 | <a href="#">69315.100.120</a> |
| 5 OCH 80 | 250 | <a href="#">69315.050.080</a> | 8 OCH 80  | 250 | <a href="#">69315.080.080</a> | 12 OCH 40  | 100 | <a href="#">69315.120.040</a> |
| 6 OCH 30 | 250 | <a href="#">69315.060.030</a> | 8 OCH 105 | 250 | <a href="#">69315.080.105</a> | 12 OCH 70  | 100 | <a href="#">69315.120.070</a> |
| 6 OCH 55 | 250 | <a href="#">69315.060.055</a> | 10 OCH 30 | 250 | <a href="#">69315.100.030</a> | 12 OCH 100 | 100 | <a href="#">69315.120.100</a> |



## Blind rivet nuts countersunk open aluminium serrated shank



### Technical data

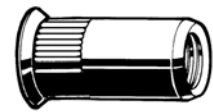
| Type        | $\varnothing d$ | $l$ [+0,5/-0] | Grip range | Drill $\varnothing$ | $\varnothing d_k$ | $k$        | $\varnothing d$ [+0/-0,2] |
|-------------|-----------------|---------------|------------|---------------------|-------------------|------------|---------------------------|
| 3 OCSH 40   | M3              | 11,5          | 1,5-4,0    | 5,0                 | 7,5               | $\leq 1,5$ | 4,9                       |
| 3 OCSH 65   | M3              | 14,0          | 4,0-6,5    | 5,0                 | 7,5               | $\leq 1,5$ | 4,9                       |
| 4 OCSH 40   | M4              | 12,5          | 1,5-4,0    | 6,0                 | 8,5               | $\leq 1,5$ | 5,9                       |
| 4 OCSH 65   | M4              | 15,0          | 4,0-6,5    | 6,0                 | 8,5               | $\leq 1,5$ | 5,9                       |
| 5 OCSH 40   | M5              | 13,5          | 1,5-4,0    | 7,0                 | 9,5               | $\leq 1,5$ | 6,9                       |
| 5 OCSH 65   | M5              | 16,0          | 4,0-6,5    | 7,0                 | $\leq 1,5$        | 6,9        | -                         |
| 5 OCSH 90   | M5              | 18,5          | 6,5-9,0    | 7,0                 | 9,5               | $\leq 1,5$ | 6,9                       |
| 6 OCSH 40   | M6              | 15,5          | 1,5-4,0    | 9,0                 | 11,5              | $\leq 1,5$ | 8,9                       |
| 6 OCSH 65   | M6              | 18,0          | 4,0-6,5    | 9,0                 | 11,5              | $\leq 1,5$ | 8,9                       |
| 6 OCSH 90   | M6              | 20,5          | 6,5-9,0    | 9,0                 | 11,5              | $\leq 1,5$ | 8,9                       |
| 8 OCSH 40   | M8              | 18,5          | 1,5-4,0    | 11,0                | 13,5              | $\leq 1,5$ | 10,9                      |
| 8 OCSH 65   | M8              | 21,0          | 4,0-6,5    | 11,0                | 13,5              | $\leq 1,5$ | 10,9                      |
| 8 OCSH 90   | M8              | 23,5          | 6,5-9,0    | 11,0                | 13,5              | $\leq 1,5$ | 10,9                      |
| 10 OCSH 45  | M10             | 21,0          | 2,0-4,5    | 12,0                | 14,5              | $\leq 1,7$ | 11,9                      |
| 10 OCSH 75  | M10             | 24,0          | 4,5-7,5    | 12,0                | 14,5              | $\leq 1,7$ | 11,9                      |
| 10 OCSH 105 | M10             | 27,0          | 7,5-10,5   | 12,0                | 14,5              | $\leq 1,7$ | 11,9                      |
| 12 OCSH 45  | M12             | 24,5          | 2,0-4,5    | 16,0                | 19,0              | $\leq 1,9$ | 15,9                      |
| 12 OCSH 75  | M12             | 27,5          | 4,5-7,5    | 16,0                | 19,0              | $\leq 1,9$ | 15,9                      |
| 12 OCSH 105 | M12             | 31,0          | 7,5-10,5   | 16,0                | 19,0              | $\leq 1,9$ | 15,9                      |

3

### 69335 Blind rivet nuts countersunk open aluminium serrated shank

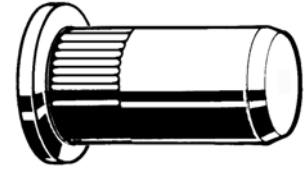
F07A

**Material** Aluminium  
**Packaging** Standard



| Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    | Type        | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4 OCSH 40 | 250 | <a href="#">69335.040.040</a> | 6 OCSH 90  | 250 | <a href="#">69335.060.090</a> | 10 OCSH 105 | 100 | <a href="#">69335.100.105</a> |
| 5 OCSH 40 | 250 | <a href="#">69335.050.040</a> | 8 OCSH 40  | 250 | <a href="#">69335.080.040</a> | 12 OCSH 45  | 100 | <a href="#">69335.120.045</a> |
| 5 OCSH 65 | 250 | <a href="#">69335.050.065</a> | 8 OCSH 65  | 250 | <a href="#">69335.080.065</a> | 12 OCSH 75  | 100 | <a href="#">69335.120.075</a> |
| 5 OCSH 90 | 250 | <a href="#">69335.050.090</a> | 8 OCSH 90  | 250 | <a href="#">69335.080.090</a> | 12 OCSH 105 | 100 | <a href="#">69335.120.105</a> |
| 6 OCSH 40 | 250 | <a href="#">69335.060.040</a> | 10 OCSH 45 | 250 | <a href="#">69335.100.045</a> |             |     |                               |
| 6 OCSH 65 | 250 | <a href="#">69335.060.065</a> | 10 OCSH 75 | 250 | <a href="#">69335.100.075</a> |             |     |                               |

## Blind rivet nuts cylindrical aluminium serrated shank



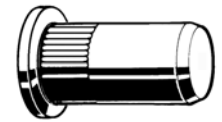
### Technical data

| Type       | ø d | l [+0,5/-0] | Grip range | Drill ø | ø d <sub>k</sub> | k     | ø d [+0/-0,2] |
|------------|-----|-------------|------------|---------|------------------|-------|---------------|
| 3 CCH 30   | M3  | 15,0        | 0,5-3,0    | 5,0     | 7,0              | ≤ 0,9 | 4,9           |
| 3 CCH 55   | M3  | 17,5        | 3,0-5,5    | 5,0     | 7,0              | ≤ 0,9 | 4,9           |
| 4 CCH 30   | M4  | 16,0        | 0,5-3,0    | 6,0     | 9,0              | ≤ 1,1 | 5,9           |
| 4 CCH 55   | M4  | 19,0        | 3,0-5,5    | 6,0     | 9,0              | ≤ 1,1 | 5,9           |
| 5 CCH 30   | M5  | 18,5        | 0,5-3,0    | 7,0     | 10,0             | ≤ 1,1 | 6,9           |
| 5 CCH 55   | M5  | 21,5        | 3,0-5,5    | 7,0     | 10,0             | ≤ 1,1 | 6,9           |
| 5 CCH 80   | M5  | 24,5        | 5,5-8,0    | 7,0     | 10,0             | ≤ 1,1 | 6,9           |
| 6 CCH 30   | M6  | 21,5        | 0,5-3,0    | 9,0     | 12,0             | ≤ 1,6 | 8,9           |
| 6 CCH 55   | M6  | 24,0        | 3,0-5,5    | 9,0     | 12,0             | ≤ 1,6 | 8,9           |
| 6 CCH 80   | M6  | 26,5        | 5,5-8,0    | 9,0     | 12,0             | ≤ 1,6 | 8,9           |
| 8 CCH 30   | M8  | 26,0        | 0,5-3,0    | 11,0    | 15,0             | ≤ 1,6 | 10,9          |
| 8 CCH 55   | M8  | 28,5        | 3,0-5,5    | 11,0    | 15,0             | ≤ 1,6 | 10,9          |
| 8 CCH 80   | M8  | 31,0        | 5,5-8,0    | 11,0    | 15,0             | ≤ 1,6 | 10,9          |
| 8 CCH 105  | M8  | 33,5        | 8,0-10,5   | 11,0    | 15,0             | ≤ 1,6 | 10,9          |
| 10 CCH 30  | M10 | 28,0        | 0,5-3,0    | 12,0    | 16,0             | ≤ 2,1 | 11,9          |
| 10 CCH 60  | M10 | 33,0        | 3,0-6,0    | 12,0    | 16,0             | ≤ 2,1 | 11,9          |
| 10 CCH 90  | M10 | 36,0        | 6,0-9,0    | 12,0    | 16,0             | ≤ 2,1 | 11,9          |
| 10 CCH 120 | M10 | 39,0        | 9,0-10,5   | 12,0    | 16,0             | ≤ 2,1 | 11,9          |

### 69355 Blind rivet nuts cylindrical aluminium serrated shank

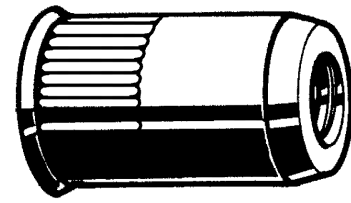
**F07A**

**Material** Aluminium  
**Packaging** Standard



| Type     | ☒   | Art.number                    | Type     | ☒   | Art.number                    | Type       | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|------------|-----|-------------------------------|
| 4 CCH 30 | 250 | <a href="#">69355.040.030</a> | 6 CCH 55 | 250 | <a href="#">69355.060.055</a> | 8 CCH 105  | 250 | <a href="#">69355.080.105</a> |
| 5 CCH 30 | 250 | <a href="#">69355.050.030</a> | 6 CCH 80 | 250 | <a href="#">69355.060.080</a> | 10 CCH 30  | 250 | <a href="#">69355.100.030</a> |
| 5 CCH 55 | 250 | <a href="#">69355.050.055</a> | 8 CCH 30 | 250 | <a href="#">69355.080.030</a> | 10 CCH 60  | 250 | <a href="#">69355.100.060</a> |
| 5 CCH 80 | 250 | <a href="#">69355.050.080</a> | 8 CCH 55 | 250 | <a href="#">69355.080.055</a> | 10 CCH 90  | 100 | <a href="#">69355.100.090</a> |
| 6 CCH 30 | 250 | <a href="#">69355.060.030</a> | 8 CCH 80 | 250 | <a href="#">69355.080.080</a> | 10 CCH 120 | 100 | <a href="#">69355.100.120</a> |

### Blind rivet nuts reduced countersunk open Steel zinc serrated shank



#### Technical data

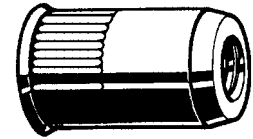
| Type             | 3 ORCSH 30 | 4 ORCSH 30 | 5 ORCSH 30 | 6 ORCSH 30 | 8 ORCSH 30 | 10 ORCSH 35 |
|------------------|------------|------------|------------|------------|------------|-------------|
| ø d              | M3         | M4         | M5         | M6         | M8         | M10         |
| l [+0,5/-0]      | 9,5        | 10,0       | 11,5       | 14,0       | 15,0       | 19,5        |
| Grip range       | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,8-3,5     |
| Drill ø          | 5,0        | 6,0        | 7,0        | 9,0        | 11,0       | 12,0        |
| ø d <sub>k</sub> | 6,0        | 7,0        | 8,0        | 10,0       | 12,0       | 13,5        |
| k                | ≤ 0,7      | ≤ 0,7      | ≤ 0,7      | ≤ 0,7      | ≤ 0,7      | ≤ 0,9       |
| ø d [+0/-0,2]    | 4,9        | 5,9        | 6,9        | 8,9        | 10,9       | 11,9        |

**3**

#### 69435 Blind rivet nuts reduced countersunk open Steel zinc serrated shank

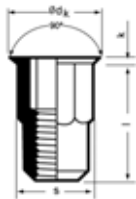
**F07A**

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type       | ✉   | Art.number                    | Type       | ✉   | Art.number                    | Type        | ✉   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4 ORCSH 30 | 250 | <a href="#">69435.040.030</a> | 6 ORCSH 30 | 250 | <a href="#">69435.060.030</a> | 10 ORCSH 35 | 250 | <a href="#">69435.100.035</a> |
| 5 ORCSH 30 | 250 | <a href="#">69435.050.030</a> | 8 ORCSH 30 | 250 | <a href="#">69435.080.030</a> |             |     |                               |

### Blind rivet nuts reduced countersunk open Stainless steel hexagon shank



#### Technical data

| Type             | 4 ORCSH 30 | 5 ORCSH 30 | 6 ORCSH 30 | 8 ORCSH 30 | 10 ORCSH 35 |
|------------------|------------|------------|------------|------------|-------------|
| ø d              | M4         | M5         | M6         | M8         | M10         |
| l [+0,5/-0]      | 12,5       | 14,0       | 16,0       | 17,0       | 20,5        |
| Grip range       | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,8-6,5     |
| Hole hexagon     | 6,1        | 7,1        | 9,1        | 11,1       | 13,1        |
| ø d <sub>k</sub> | 7,0        | 8,0        | 10,0       | 12,0       | 14,5        |
| k                | ≤ 0,9      | ≤ 0,9      | ≤ 0,9      | ≤ 0,9      | ≤ 1,1       |
| W.a.f. (s)       | 6,0        | 7,0        | 9,0        | 11,0       | 13,0        |

#### 69440 Blind rivet nuts reduced countersunk open Stainless steel hexagon shank

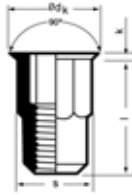
**F07A**

Material Stainless steel A2  
 Packaging Standard



| Type       | ✉   | Art.number                    | Type       | ✉   | Art.number                    | Type        | ✉   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4 ORCSH 30 | 250 | <a href="#">69440.040.030</a> | 6 ORCSH30  | 250 | <a href="#">69440.060.030</a> | 10 ORCSH 35 | 250 | <a href="#">69440.100.035</a> |
| 5 ORCSH 30 | 250 | <a href="#">69440.050.030</a> | 8 ORCSH 30 | 250 | <a href="#">69440.080.030</a> |             |     |                               |

## Blind rivet nuts reduced countersunk open Steel zinc hexagon shank



### Technical data

| Type             | 3 ORCSH 30 | 4 ORCSH 30 | 5 ORCSH 30 | 6 ORCSH 30 | 8 ORCSH 30 | 10 ORCSH 35 |
|------------------|------------|------------|------------|------------|------------|-------------|
| ø d              | M3         | M4         | M5         | M6         | M8         | M10         |
| l [+0,5/-0]      | 10,5       | 12,5       | 14,0       | 16,0       | 17,0       | 20,5        |
| Grip range       | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,5-3,0    | 0,8-3,5     |
| Hole hexagon     | 5,1        | 6,1        | 7,1        | 9,1        | 11,1       | 13,1        |
| ø d <sub>k</sub> | 6,5        | 7,0        | 8,0        | 10,0       | 12,0       | 14,5        |
| k                | ≤ 0,8      | ≤ 0,8      | ≤ 0,8      | ≤ 0,8      | ≤ 0,8      | ≤ 0,8       |
| W.a.f. (s)       | 5,0        | 6,0        | 7,0        | 9,0        | 11,0       | 13,0        |

### 69450 Blind rivet nuts reduced countersunk open Steel zinc hexagon shank

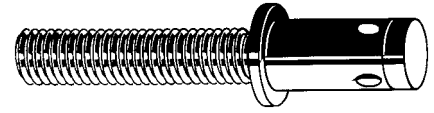
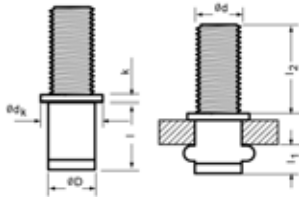
F07A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type       | ☒   | Art.number                    | Type       | ☒   | Art.number                    | Type        | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4 ORCSH 30 | 250 | <a href="#">69450.040.030</a> | 6 ORCSH 30 | 250 | <a href="#">69450.060.030</a> | 10 ORCSH 35 | 250 | <a href="#">69450.100.035</a> |
| 5 ORCSH 30 | 250 | <a href="#">69450.050.030</a> | 8 ORCSH 30 | 250 | <a href="#">69450.080.030</a> |             |     |                               |

## Blind rivet screw cylindrical Steel zinc



### Technical data

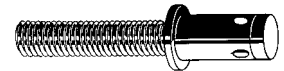
| Type    | Grip range | Drill $\varnothing$ | $\varnothing d_k$ | k   | $\varnothing d$ | $L_1$ | $L_2$ | I [+/-0,5] |
|---------|------------|---------------------|-------------------|-----|-----------------|-------|-------|------------|
| M4X2010 | 0,5-2,0    | 5,5                 | 8,0               | 0,5 | 5,4             | 3,5   | 10    | 8,0        |
| M4X2015 | 0,5-2,0    | 5,5                 | 8,0               | 0,5 | 5,4             | 3,5   | 15    | 8,0        |
| M4X3010 | 2,0-3,0    | 5,5                 | 8,0               | 0,5 | 5,4             | 4,0   | 10    | 8,0        |
| M4X3015 | 2,0-3,0    | 5,5                 | 8,0               | 0,5 | 5,4             | 4,0   | 15    | 8,0        |
| M5X2010 | 0,5-2,0    | 6,6                 | 9,0               | 0,8 | 6,5             | 4,5   | 10    | 9,0        |
| M5X2015 | 0,5-2,0    | 6,6                 | 9,0               | 0,8 | 6,5             | 4,5   | 15    | 9,0        |
| M5X3510 | 2,0-3,5    | 6,6                 | 9,0               | 0,8 | 6,5             | 4,5   | 10    | 10,5       |
| M5X3515 | 2,0-3,5    | 6,6                 | 9,0               | 0,8 | 6,5             | 4,5   | 15    | 10,5       |
| M6X2510 | 0,5-2,5    | 7,8                 | 10,0              | 1,0 | 7,7             | 5,0   | 10    | 10,0       |
| M6X2515 | 0,5-2,5    | 7,8                 | 10,0              | 1,0 | 7,7             | 5,0   | 15    | 10,0       |
| M6X4010 | 2,5-4,0    | 7,8                 | 10,0              | 1,0 | 7,7             | 5,5   | 10    | 11,5       |
| M6X4015 | 2,5-4,0    | 7,8                 | 10,0              | 1,0 | 7,7             | 5,0   | 15    | 11,5       |
| M8X3020 | 1,0-3,0    | 9,9                 | 12,0              | 1,5 | 9,8             | 7,0   | 15    | 12,5       |
| M8X3515 | 1,0-3,0    | 9,9                 | 12,0              | 1,5 | 9,8             | 7,0   | 20    | 12,5       |
| M8X5015 | 3,0-5,0    | 9,9                 | 12,0              | 1,5 | 9,8             | 7,0   | 15    | 15,0       |
| M8X5020 | 3,0-5,0    | 9,9                 | 12,0              | 1,5 | 9,8             | 7,0   | 20    | 15,0       |

3

69975 Blind rivet screw cylindrical Steel zinc

F09A

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type    | ☒   | Art.number                    | Type    | ☒   | Art.number                    | Type    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X2010 | 250 | <a href="#">69975.042.010</a> | M5X3510 | 250 | <a href="#">69975.053.510</a> | M8X3020 | 250 | <a href="#">69975.083.020</a> |
| M4X2015 | 250 | <a href="#">69975.042.015</a> | M5X3515 | 250 | <a href="#">69975.053.515</a> | M8X3515 | 250 | <a href="#">69975.083.515</a> |
| M4X3010 | 250 | <a href="#">69975.043.010</a> | M6X2510 | 250 | <a href="#">69975.062.510</a> | M8X5015 | 250 | <a href="#">69975.085.015</a> |
| M4X3015 | 250 | <a href="#">69975.043.015</a> | M6X2515 | 250 | <a href="#">69975.062.515</a> | M8X5020 | 250 | <a href="#">69975.085.020</a> |
| M5X2010 | 250 | <a href="#">69975.052.010</a> | M6X4010 | 250 | <a href="#">69975.064.010</a> |         |     |                               |
| M5X2015 | 250 | <a href="#">69975.052.015</a> | M6X4015 | 250 | <a href="#">69975.064.015</a> |         |     |                               |

**Blind rivet tool**

3



|               |  | M3 |    |        | M4 |    |        | M5 |    |        | M6 |    |        | M8 |    |        | M10 |    |        | M12 |    |        |  |
|---------------|--|----|----|--------|----|----|--------|----|----|--------|----|----|--------|----|----|--------|-----|----|--------|-----|----|--------|--|
|               |  | Al | St | St.st. | Al | St | St.st. | Al | St | St.st. | Al | St | St.st. | Al | St | St.st. | Al  | St | St.st. | Al  | St | St.st. |  |
| <b>F 360</b>  |  |    |    |        |    |    |        |    |    |        |    |    |        |    |    |        |     |    |        |     |    |        |  |
| <b>F 510</b>  |  |    |    |        |    |    |        |    |    |        |    |    |        |    |    |        |     |    |        |     |    |        |  |
| <b>F 511</b>  |  |    |    |        |    |    |        |    |    |        |    |    |        |    |    |        |     |    |        |     |    |        |  |
| <b>F 612</b>  |  |    |    |        |    |    |        |    |    |        |    |    |        |    |    |        |     |    |        |     |    |        |  |
| <b>FEZ 12</b> |  |    |    |        |    |    |        |    |    |        |    |    |        |    |    |        |     |    |        |     |    |        |  |

additional option  
 recommended capacity

|                  |                         |             |
|------------------|-------------------------|-------------|
| <b>69685</b>     | <b>Blind rivet tool</b> | <b>T90A</b> |
| <b>Packaging</b> | Standard                |             |



| Type   | Art.number                    |  |
|--------|-------------------------------|--|
| FEZ 12 | <a href="#">69685.012.001</a> | <ul style="list-style-type: none"> <li>• Unique hand tool with built-in transmission of power, allowing setting of large size blind rivet nuts with little effort.</li> <li>• Equipped with stroke setting mechanism and a quick-release mandrel system.</li> <li>• Capacity: M5 - M12.</li> <li>• Weight: 2,5 kg.</li> <li>• Dimensions: 555 mm.</li> <li>• Body: Aluminium.</li> <li>• Lever: Steel.</li> </ul>  |
| F 360  | <a href="#">69685.360.001</a> | <ul style="list-style-type: none"> <li>• Equipment: Conversion kit blind rivet nuts M5 - M12.</li> <li>• Professional hand tool for setting blind rivet nuts and blind rivet bolts.</li> <li>• Equipped with stroke setting mechanism and quick-release mandrel system.</li> <li>• Capacity: M3 - M6.</li> <li>• Weight: 0,8 kg.</li> <li>• Dimensions: 280 mm.</li> <li>• Body: Aluminium.</li> <li>• Lever: Steel.</li> </ul>  |
| F 510  | <a href="#">69685.510.001</a> | <ul style="list-style-type: none"> <li>• Equipment: Conversion kit blind rivet nuts M3 - M6.</li> <li>• Equipment: Conversion kit blind rivet bolts M4 - M6.</li> <li>• Powerful tool for setting blind rivet nuts and bolts, equipped with both a stroke setting mechanism ensuring every blind rivet nut and bolt to be set with equal clamping force, and a quick-release mandrel system.</li> <li>• Capacity: M5 - M10.</li> <li>• Weight: 2,2 kg.</li> <li>• Dimensions: 555 mm.</li> <li>• Body: ABS plastic with steel parts.</li> <li>• Lever: Steel.</li> <li>• Equipment: Conversion kit blind rivet nuts M5 - M10.</li> <li>• Equipment: Conversion kit blind rivet bolts M5 - M8.</li> </ul> |



**69685 Blind rivet tool** ←


| Type  | ✉ | Art.number                    | Type   | ✉ | Art.number | Type | ✉ | Art.number |
|-------|---|-------------------------------|--|---|------------|------|---|------------|
| F 511 | 1 | <a href="#">69685.511.001</a> | <ul style="list-style-type: none"> <li>• Powerful tool for setting blind rivet nuts and bolts, equipped with both a stroke setting mechanism ensuring every blind rivet nut and bolt to be set with equal clamping force, and a quick-release mandrel system.</li> <li>• The quick-release spindle provides quick installation.</li> <li>• Capacity: M5 - M10.</li> <li>• Weight: 2,4 kg.</li> <li>• Dimensions: 555 mm.</li> <li>• Body: ABS plastic with steel parts.</li> <li>• Lever: Steel.</li> <li>• Equipment: Conversion kit blind rivet nuts M5 - M10.</li> </ul>  |   |            |      |   |            |
| F 612 | 1 | <a href="#">69685.612.001</a> | <ul style="list-style-type: none"> <li>• Equipment: Conversion kit blind rivet bolts M5 - M8.</li> <li>• Powerful compact blind rivet nut tool with built-in ratched key.</li> <li>• Especially suited to place large size blind rivet nuts in small areas.</li> <li>• Equipped with ideal stroke setting mechanism and quick-release mandrel system.</li> <li>• Capacity: M6 - M12.</li> <li>• Weight: 1,1 kg.</li> <li>• Dimensions: 210 mm.</li> <li>• Body: Steel.</li> <li>• Lever: Steel.</li> <li>• Equipment: Conversion kit blind rivet nuts M6 - M12.</li> <li>• Equipment: Conversion kit blind rivet bolts M5 - M8.</li> </ul> |   |            |      |   |            |



**Blind rivet nut assortment**



3

| 69670 Blind rivet nut assortment |                                 | F90A   |
|----------------------------------|---------------------------------|--|
| Packaging                        | Standard                        |   |
| Type                             | Art.number                      |  |
| F360                             | 1 <a href="#">69670.360.001</a> | <ul style="list-style-type: none"> <li>• Set in aluminium case.</li> <li>• F360 Robust hand tool for blind rivet nuts and blind rivet bolts with 6 (x 30 pieces) sizes of rivet nuts: M4, M5, M6 (cylindrical and reduced countersunk).</li> </ul> |



## AMECOIL Wire thread inserts

### Application

AMECOIL wire thread inserts are not only economical for recovering worn or damaged screw threads but also very suitable to achieve high-loadable internal thread in metal and non-metal materials. AMECOIL wire thread inserts can be used at temperatures from -40°C up to +400°C.

### Material

AMECOIL wire thread inserts are produced from a stainless steel A2 wire of diamond cross-section, that is wound in a coil like a spring.

### Threads

The internal screw thread of the nut-part of the AMECOIL wire thread insert is conforming to the normal tolerance field 6H. For details concerning the external screw thread in the material see DIN 8140-2.

### Assembly

For assembly of AMECOIL wire thread inserts see also the assembly sequence:

- drill the hole (do not countersink)
- tapping the thread with the special AMECOIL tap, the sizes of the thread of the special AMECOIL taps are larger than of a standard tap!
- screwing in the AMECOIL wire thread insert with AMECOIL manual fitting tool by 1/4 to 1/2 pitch under the surface of the part
- breaking-off the engaging stem of the AMECOIL wire thread insert up to  $\varnothing$  18 mm after fitting with the AMECOIL tang break, for sizes larger than M18 resp. 5/8 UNC/UNF a pointed plier has to be used
- assembly ready
- disassembly of a AMECOIL wire thread insert is possible with the special extractor.

3



### Guide values for determination of the nominal length L <sup>①</sup>

| Tensile strength material $R_m$ in N/mm <sup>2</sup> |                 | Property class/yield strength bolt in N/mm <sup>2</sup> <sup>②</sup> |         |          |           |
|--|-----------------|--|---------|----------|-----------|
| above  | up to and incl. | 5.8/400  | 8.8/640 | 10.9/900 | 12.9/1080 |
| -  | 150             | 2 d  | 2,5 d   | 2,5 d    | 2,5 d     |
| 150  | 200             | 1,5 d  | 2 d     | 2 d      | 2,5 d     |
| 200  | 250             | 1,5 d  | 1,5 d   | 2 d      | 2,5 d     |
| 250  | 300             | 1 d  | 1,5 d   | 1,5 d    | 2 d       |
| 300  | 400             | 1 d  | 1 d     | 1,5 d    | 1,5 d     |

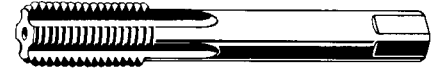


<sup>①</sup> Corresponding to the proofloads of DIN ISO 898-2.

<sup>②</sup> d = nominal size of the wire thread insert.

Technical brochure available on request.

**Machine oversized tap for wire thread insert M**



- ATTENTION: the sizes of the thread of the special AMECOIL taps are larger than of a standard tap!
- Technical brochure available on request.

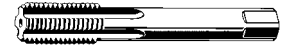
3

**Article groups**

| Material               | Packaging | Code  | Page  |
|------------------------|-----------|-------|-------|
| St HSS                 | Standard  | 71310 | 3-140 |
| St HSS for blind holes | Standard  | 71410 | 3-140 |

**71310 AMECOIL Machine tap oversized for wire thread insert S91A**

**Material** Steel HSS  
**Packaging** Standard



| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M3 | 1 | <a href="#">71310.030.001</a> | M8  | 1 | <a href="#">71310.080.001</a> | M18 | 1 | <a href="#">71310.180.001</a> |
| M4 | 1 | <a href="#">71310.040.001</a> | M10 | 1 | <a href="#">71310.100.001</a> | M20 | 1 | <a href="#">71310.200.001</a> |
| M5 | 1 | <a href="#">71310.050.001</a> | M12 | 1 | <a href="#">71310.120.001</a> | M22 | 1 | <a href="#">71310.220.001</a> |
| M6 | 1 | <a href="#">71310.060.001</a> | M14 | 1 | <a href="#">71310.140.001</a> | M24 | 1 | <a href="#">71310.240.001</a> |
| M7 | 1 | <a href="#">71310.070.001</a> | M16 | 1 | <a href="#">71310.160.001</a> | M27 | 1 | <a href="#">71310.270.001</a> |

**71410 AMECOIL Machine tap oversized for wire thread insert S91A**

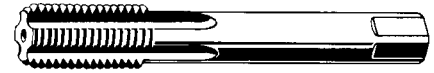
**Material** Steel HSS  
**Packaging** Standard



| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 1 | <a href="#">71410.060.001</a> | M10 | 1 | <a href="#">71410.100.001</a> | M16 | 1 | <a href="#">71410.160.001</a> |
| M8 | 1 | <a href="#">71410.080.001</a> | M12 | 1 | <a href="#">71410.120.001</a> |     |   |                               |

- Recommended for blind holes.
- Machinetap up to and including M8 sharp pointed and over M8 with flat point.

**Machine tap for wire thread insert MF**



- ATTENTION: the sizes of the thread of the special AMECOIL taps are larger than of a standard tap!
- Technical brochure available on request.

|                  |  |   |
|------------------|--|---|
| <b>71320</b>     | <b>AMECOIL Machine tap for wire thread insert MF</b> | <b>S91A</b>   |
| <b>Material</b>  | Steel HSS  |   |
| <b>Packaging</b> | Standard   |   |
| <b>AMECA</b>     |  |  |

| d x P    | ☒ | Art.number                    | d x P    | ☒ | Art.number                    | d x P    | ☒ | Art.number                    |
|----------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| M8X1,00  | 1 | <a href="#">71320.080.100</a> | M12X1,50 | 1 | <a href="#">71320.120.150</a> | M18X1,50 | 1 | <a href="#">71320.180.150</a> |
| M10X1,00 | 1 | <a href="#">71320.100.100</a> | M14X1,25 | 1 | <a href="#">71320.140.125</a> | M20X1,50 | 1 | <a href="#">71320.200.150</a> |
| M10X1,25 | 1 | <a href="#">71320.100.125</a> | M14X1,50 | 1 | <a href="#">71320.140.150</a> | M22X1,50 | 1 | <a href="#">71320.220.150</a> |
| M12X1,00 | 1 | <a href="#">71320.120.100</a> | M16X1,50 | 1 | <a href="#">71320.160.150</a> | M24X1,50 | 1 | <a href="#">71320.240.150</a> |
| M12X1,25 | 1 | <a href="#">71320.120.125</a> |          |   |                               |          |   |                               |

3

### Staged tap for spark plug wire thread inserts



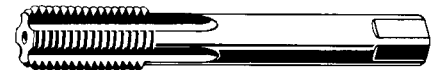
- ATTENTION: the sizes of the thread of the special AMECOIL taps are larger than of a standard tap!
- Technical brochure available on request.

3

|                  |  |   |
|------------------|--|---|
| <b>71930</b>     | <b>AMECOIL Staged tap for spark plug wire thread inserts</b> | <b>S91A</b>   |
| <b>Material</b>  | Steel HSS  |   |
| <b>Packaging</b> | Standard   |   |
| <b>AMECA</b>     |  |  |

| d x P    | ☒ | Art.number                    | d x P | ☒ | Art.number | d x P | ☒ | Art.number |
|----------|---|-------------------------------|-------|---|------------|-------|---|------------|
| M12X1,25 | 1 | <a href="#">71930.120.125</a> |       |   |            |       |   |            |
| M14X1,25 | 1 | <a href="#">71930.140.125</a> |       |   |            |       |   |            |

### Machine tap for wire thread insert UNC

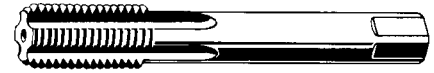


- ATTENTION: the sizes of the thread of the special AMECOIL taps are larger than of a standard tap!
- Technical brochure available on request.

|                  |  |   |
|------------------|--|---|
| <b>71340</b>     | <b>AMECOIL Machine tap for wire thread inserts</b> | <b>S91A</b>   |
| <b>Material</b>  | Steel HSS  |   |
| <b>Packaging</b> | Standard   |   |
| <b>AMECA</b>     |  |  |


| d    | ☒ | Art.number                    | d    | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|-------|---|-------------------------------|
| 1/4  | 1 | <a href="#">71340.063.001</a> | 1/2  | 1 | <a href="#">71340.127.001</a> | 7/8   | 1 | <a href="#">71340.222.001</a> |
| 5/16 | 1 | <a href="#">71340.079.001</a> | 9/16 | 1 | <a href="#">71340.142.001</a> | 1.IN. | 1 | <a href="#">71340.254.001</a> |
| 3/8  | 1 | <a href="#">71340.096.001</a> | 5/8  | 1 | <a href="#">71340.158.001</a> |       |   |                               |
| 7/16 | 1 | <a href="#">71340.111.001</a> | 3/4  | 1 | <a href="#">71340.191.001</a> |       |   |                               |

**Machine tap for wire thread insert UNF**



- ATTENTION: the sizes of the thread of the special AMECOIL taps are larger than of a standard tap!
- Technical brochure is available on request.

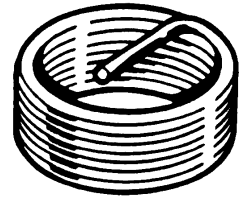
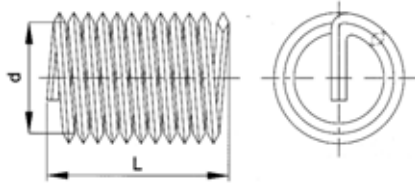
3

|                  |  |   |
|------------------|--|---|
| <b>71330</b>     | <b>AMECOIL Machine tap for wire thread inserts</b> | <b>S91A</b>   |
| <b>Material</b>  | Steel HSS  |   |
| <b>Packaging</b> | Standard   |   |
| <b>AMECA</b>     |  |  |

| d    | ☒ | Art.number                    | d    | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|-------|---|-------------------------------|
| 1/4  | 1 | <a href="#">71330.063.001</a> | 1/2  | 1 | <a href="#">71330.127.001</a> | 7/8   | 1 | <a href="#">71330.222.001</a> |
| 5/16 | 1 | <a href="#">71330.079.001</a> | 9/16 | 1 | <a href="#">71330.142.001</a> | 1.IN. | 1 | <a href="#">71330.255.001</a> |
| 3/8  | 1 | <a href="#">71330.096.001</a> | 5/8  | 1 | <a href="#">71330.158.001</a> |       |   |                               |
| 7/16 | 1 | <a href="#">71330.111.001</a> | 3/4  | 1 | <a href="#">71330.191.001</a> |       |   |                               |

## Wire thread insert

DIN 8140-1A



### Technical data

| d (nom.) | P   | Drill ø | d (nom.) | P    | Drill ø | d (nom.) | P   | Drill ø |
|----------|-----|---------|----------|------|---------|----------|-----|---------|
| M3       | 0,5 | 3,2     | M8       | 1,25 | 8,4     | M18      | 2,5 | 18,75   |
| M4       | 0,7 | 4,2     | M10      | 1,5  | 10,5    | M20      | 2,5 | 20,75   |
| M5       | 0,8 | 5,2     | M12      | 1,75 | 12,5    | M22      | 2,5 | 22,75   |
| M6       | 1   | 6,3     | M14      | 2    | 14,5    | M24      | 3   | 24,75   |
| M7       | 1   | 7,3     | M16      | 2    | 16,5    | M27      | 3   | 27,75   |

- L - P = thread length after assembly.
- Technical brochure available on request.

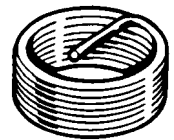
### Article groups

| Thread | Material  | Colour | Packaging              | Code  | Page  |
|--------|-----------|--------|------------------------|-------|-------|
| M      | St.St. A2 |        | Standard               | 71110 | 3-144 |
| M      | St.St. A2 | Red    | prevailing torque type | 71210 | 3-144 |

#### 71110 AMECOIL Wire thread insert

S07A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |

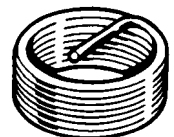



| d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
|--------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M3X4,5       | 50 | <a href="#">71110.030.004</a> | M7X10,5      | 50 | <a href="#">71110.070.010</a> | M14X28       | 25 | <a href="#">71110.140.028</a> |
| M4X4         | 50 | <a href="#">71110.040.004</a> | M8X8         | 50 | <a href="#">71110.080.008</a> | M16X16       | 25 | <a href="#">71110.160.016</a> |
| M4X6         | 50 | <a href="#">71110.040.006</a> | M8X12        | 50 | <a href="#">71110.080.012</a> | M16X24       | 25 | <a href="#">71110.160.024</a> |
| M4X8         | 50 | <a href="#">71110.040.008</a> | M8X16        | 50 | <a href="#">71110.080.016</a> | M16X32       | 25 | <a href="#">71110.160.032</a> |
| M5X5         | 50 | <a href="#">71110.050.005</a> | M10X10       | 25 | <a href="#">71110.100.010</a> | M18X27       | 10 | <a href="#">71110.180.027</a> |
| M5X7,5       | 50 | <a href="#">71110.050.007</a> | M10X15       | 25 | <a href="#">71110.100.015</a> | M20X30       | 10 | <a href="#">71110.200.030</a> |
| M5X10        | 50 | <a href="#">71110.050.010</a> | M10X20       | 25 | <a href="#">71110.100.020</a> | M20X40       | 10 | <a href="#">71110.200.040</a> |
| M6X6         | 50 | <a href="#">71110.060.006</a> | M12X12       | 25 | <a href="#">71110.120.012</a> | M22X33       | 10 | <a href="#">71110.220.033</a> |
| M6X9         | 50 | <a href="#">71110.060.009</a> | M12X18       | 25 | <a href="#">71110.120.018</a> | M24X36       | 10 | <a href="#">71110.240.036</a> |
| M6X12        | 50 | <a href="#">71110.060.012</a> | M12X24       | 25 | <a href="#">71110.120.024</a> | M27X40,5     | 10 | <a href="#">71110.270.040</a> |
| M6X18        | 50 | <a href="#">71110.060.018</a> | M14X21       | 25 | <a href="#">71110.140.021</a> |              |    |                               |

#### 71210 AMECOIL Prevailing torque type wire thread insert

S07A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Colour</b>    | Red                |
| <b>Packaging</b> | Standard           |
|                  | DIN 8140-1B        |

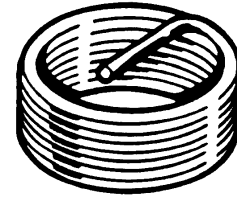
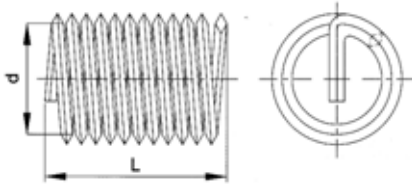



| d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
|--------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M6X9         | 50 | <a href="#">71210.060.009</a> | M10X15       | 25 | <a href="#">71210.100.015</a> | M16X24       | 25 | <a href="#">71210.160.024</a> |
| M8X12        | 50 | <a href="#">71210.080.012</a> | M12X18       | 25 | <a href="#">71210.120.018</a> |              |    |                               |

- The prevailing torque type wire thread insert achieves its locking ability, between bolt and AMECOIL, by polygonal deformation of one or more spirals of the wire thread insert.
- They are painted red for easier identification with the standard type.

## Wire thread insert MF


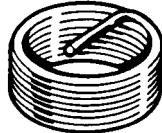
DIN 8140-1A



### Technical data

| d (nom.) x P | Drill ø |
|--------------|---------|
| M8x1         | 8,3     |
| M10x1,25     | 10,4    |
| M12x1,5      | 12,5    |
| M14x1,5      | 14,5    |
| M16x1,5      | 16,5    |

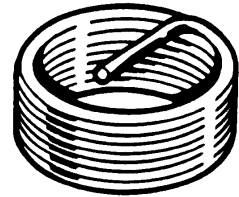
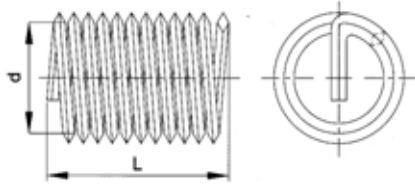
- L - P = thread length after assembly.
- Technical brochure available on request.

| 71120 AMECOIL Wire thread insert |                    | S07A   |
|----------------------------------|--------------------|--|
| <b>Thread</b>                    | Metric fine thread |   |
| <b>Material</b>                  | Stainless steel A2 |  |
| <b>Packaging</b>                 | Standard           |  |

| d (nom.) x P x L | ☒  | Art.number                    | d (nom.) x P x L | ☒  | Art.number                    | d (nom.) x P x L | ☒  | Art.number                    |
|------------------|----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| M8X1,00X12       | 50 | <a href="#">71120.080.012</a> | M12X1,50X18      | 25 | <a href="#">71120.120.018</a> | M16X1,50X24      | 25 | <a href="#">71120.160.024</a> |
| M10X1,25X10      | 25 | <a href="#">71120.100.010</a> | M14X1,50X14      | 25 | <a href="#">71120.140.014</a> |                  |    |                               |
| M10X1,25X15      | 25 | <a href="#">71120.100.015</a> | M14X1,50X21      | 25 | <a href="#">71120.140.021</a> |                  |    |                               |
| M10X1,25X20      | 25 | <a href="#">71120.100.020</a> | M16X1,50X16      | 25 | <a href="#">71120.160.016</a> |                  |    |                               |

## Wire thread insert MEF

DIN 8140-1A



### Technical data

| d (nom.) x P | Drill ø |
|--------------|---------|
| M10x1        | 10,25   |
| M12x1        | 12,4    |
| M12x1,25     | 12,4    |
| M14x1,25     | 14,4    |
| M18x1,5      | 18,5    |
| M20x1,5      | 20,5    |
| M22x1,5      | 22,5    |
| M24x1,5      | 24,5    |

- L - P = thread length after assembly.
- Technical brochure available on request.

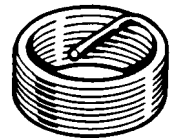
### Article groups

| Thread | Material  | Packaging      | Code  | Page  |
|--------|-----------|----------------|-------|-------|
| MEF    | St.St. A2 | Standard       | 71121 | 3-146 |
| MEF    | St.St. A2 | for spark plug | 71920 | 3-146 |

#### 71121 AMECOIL Wire thread insert

S07A

**Thread** Metric extra fine thread  
**Material** Stainless steel A2  
**Packaging** Standard

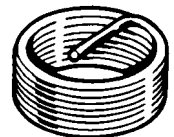



| d (nom.) x P x L | ☒  | Art.number                    | d (nom.) x P x L | ☒  | Art.number                    | d (nom.) x P x L | ☒  | Art.number                    |
|------------------|----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| M10X1,00X15      | 25 | <a href="#">71121.100.015</a> | M18X1,50X12      | 10 | <a href="#">71121.180.012</a> | M20X1,50X30      | 10 | <a href="#">71121.200.030</a> |
| M12X1,25X18      | 25 | <a href="#">71121.120.018</a> | M18X1,50X18      | 10 | <a href="#">71121.180.018</a> | M22X1,50X22      | 10 | <a href="#">71121.220.022</a> |
| M12X1,00X18      | 25 | <a href="#">71121.121.018</a> | M18X1,50X27      | 10 | <a href="#">71121.180.027</a> | M24X1,50X24      | 10 | <a href="#">71121.240.024</a> |
| M14X1,25X14      | 25 | <a href="#">71121.140.014</a> | M20X1,50X20      | 10 | <a href="#">71121.200.020</a> |                  |    |                               |

#### 71920 AMECOIL Wire thread insert for spark plugs

S07A

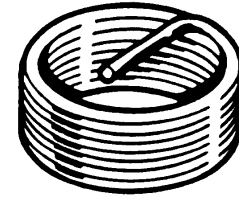
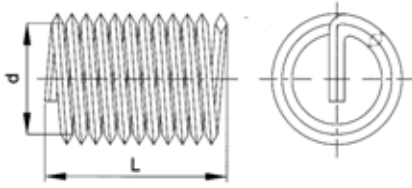
**Thread** Metric extra fine thread  
**Material** Stainless steel A2  
**Packaging** Standard

| d (nom.) x P x L | ☒  | Art.number                    | d (nom.) x P x L | ☒  | Art.number                    | d (nom.) x P x L | ☒  | Art.number                    |
|------------------|----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| M12X1,25X10,5    | 25 | <a href="#">71920.120.010</a> | M14X1,25X10,5    | 25 | <a href="#">71920.140.010</a> | M14X1,25X18      | 25 | <a href="#">71920.140.018</a> |
| M14X1,25X7,5     | 25 | <a href="#">71920.140.007</a> |                  |    |                               |                  |    |                               |



## Wire thread insert UNC



### Technical data

| d (nom.) | Threads per inch | Drill ø |
|----------|------------------|---------|
| 1/4      | 20               | 6,7     |
| 5/16     | 18               | 8,4     |
| 3/8      | 16               | 10      |
| 7/16     | 14               | 11,6    |
| 1/2      | 13               | 13,2    |
| 9/16     | 12               | 14,9    |
| 5/8      | 11               | 16,5    |
| 3/4      | 10               | 19,8    |
| 7/8      | 9                | 23      |
| 1.IN.    | 8                | 26,4    |

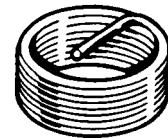
- L - P = thread length after assembly.
- Technical brochure available on request.

### 71140 AMECOIL Wire thread insert

S07A

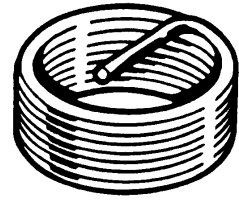
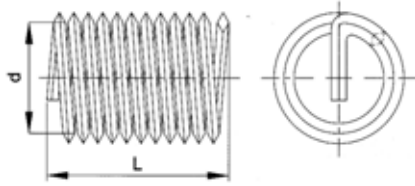
**Thread** Unified National Coarse  
**Material** Stainless steel A2  
**Packaging** Standard

**AMECA**



| d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
|--------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| 1/4X9,5      | 50 | <a href="#">71140.063.009</a> | 1/2X19,1     | 25 | <a href="#">71140.127.019</a> | 7/8X33,3     | 10 | <a href="#">71140.222.033</a> |
| 5/16X11,9    | 50 | <a href="#">71140.079.011</a> | 9/16X21,4    | 25 | <a href="#">71140.142.021</a> | 1.IN.X38,1   | 10 | <a href="#">71140.254.038</a> |
| 3/8X14,3     | 25 | <a href="#">71140.096.014</a> | 5/8X23,8     | 25 | <a href="#">71140.158.023</a> |              |    |                               |
| 7/16X16,7    | 25 | <a href="#">71140.111.016</a> | 3/4X28,6     | 10 | <a href="#">71140.191.028</a> |              |    |                               |

## Wire thread insert UNF



### Technical data

| d (nom.) | Threads per inch | Drill ø |
|----------|------------------|---------|
| 1/4      | 28               | 6,7     |
| 5/16     | 24               | 8,3     |
| 3/8      | 24               | 9,9     |
| 7/16     | 20               | 11,5    |
| 1/2      | 20               | 13,1    |
| 9/16     | 18               | 14,7    |
| 5/8      | 18               | 16,3    |
| 3/4      | 16               | 19,5    |
| 7/8      | 14               | 22,7    |
| 1.IN.    | 12               | 26      |

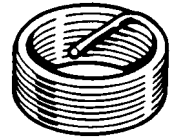
- L - P = thread length after assembly.
- Technical brochure available on request.

### 71130 AMECOIL Wire thread insert

S07A

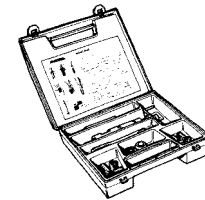
**Thread** Unified National Fine  
**Material** Stainless steel A2  
**Packaging** Standard

**AMECA**

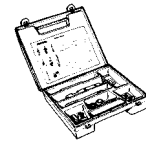


| d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    | d (nom.) x L   | ☒  | Art.number                    |
|--------------|----|-------------------------------|--------------|----|-------------------------------|----------------|----|-------------------------------|
| 1/4X9,5      | 50 | <a href="#">71130.063.009</a> | 1/2X19,1     | 25 | <a href="#">71130.127.019</a> | 7/8X22,2       | 10 | <a href="#">71130.222.022</a> |
| 5/16X11,9    | 50 | <a href="#">71130.079.011</a> | 9/16X14,3    | 25 | <a href="#">71130.142.014</a> | 1.IN.-12GX25,4 | 10 | <a href="#">71130.255.025</a> |
| 3/8X14,3     | 25 | <a href="#">71130.096.014</a> | 5/8X15,9     | 25 | <a href="#">71130.158.015</a> |                |    |                               |
| 7/16X16,7    | 25 | <a href="#">71130.111.016</a> | 3/4X19,1     | 10 | <a href="#">71130.191.019</a> |                |    |                               |

## Workshop kit wire thread insert M



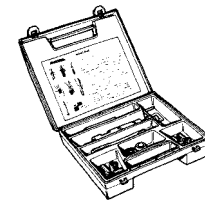
|                  |  |  |
|------------------|--|--|
| <b>71010</b>     | <b>AMECOIL Workshop kit wire thread insert</b> | <b>S90A</b>  |
| <b>Material</b>  | Stainless steel A2                             |  |
| <b>Packaging</b> | Standard                                       |  |



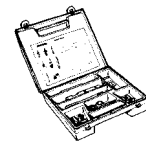
| d (nom.) x L | ☒ | Art.number                    | d (nom.) x L | ☒ | Art.number                    | d (nom.) x L | ☒ | Art.number                    |
|--------------|---|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| M3X4,5       | 1 | <a href="#">71010.030.004</a> | M8X12        | 1 | <a href="#">71010.080.012</a> | M18X27       | 1 | <a href="#">71010.180.027</a> |
| M4X6         | 1 | <a href="#">71010.040.006</a> | M10X15       | 1 | <a href="#">71010.100.015</a> | M20X30       | 1 | <a href="#">71010.200.030</a> |
| M5X7,5       | 1 | <a href="#">71010.050.007</a> | M12X18       | 1 | <a href="#">71010.120.018</a> | M22X33       | 1 | <a href="#">71010.220.033</a> |
| M6X9         | 1 | <a href="#">71010.060.009</a> | M14X21       | 1 | <a href="#">71010.140.021</a> | M24X36       | 1 | <a href="#">71010.240.036</a> |
| M7X10,5      | 1 | <a href="#">71010.070.010</a> | M16X24       | 1 | <a href="#">71010.160.024</a> |              |   |                               |

- Contents:
- Complete unidimensional manuel fitting tool
- Machine tap (≥ M18 with extra starting tap)
- Tang break
- Stainless steel A2 wire thread inserts acc. to DIN 8140

## Workshop kit wire thread insert MF



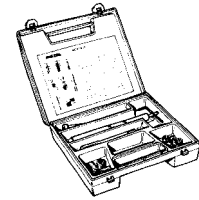
|                  |   |  |
|------------------|---|--|
| <b>71020</b>     | <b>AMECOIL Workshop kit wire thread insert MF</b> | <b>S90A</b>  |
| <b>Material</b>  | Stainless steel A2                                |  |
| <b>Packaging</b> | Standard  |  |



| d (nom.) x P x L | ☒ | Art.number                    | d (nom.) x P x L | ☒ | Art.number                    | d (nom.) x P x L | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| M8X1,00X12       | 1 | <a href="#">71020.080.012</a> | M12X1,50X18      | 1 | <a href="#">71020.120.018</a> | M16X1,50X16      | 1 | <a href="#">71020.160.016</a> |
| M10X1,25X15      | 1 | <a href="#">71020.100.015</a> | M14X1,50X14      | 1 | <a href="#">71020.140.014</a> |                  |   |                               |

- Contents:
- Complete unidimensional manuel fitting tool
- Machine tap
- Tang break
- Stainless steel A2 wire thread inserts acc. to DIN 8140

## Workshop kit wire thread insert MEF



- Technical brochure available on request.

3


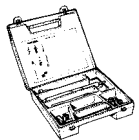
### Article groups

| Material  | Packaging | Code  | Page  |
|-----------|-----------|-------|-------|
| St.St. A2 | Standard  | 71021 | 3-150 |
| St.St. A2 | Standard  | 71910 | 3-150 |

|   |  |  |
|---|--|--|
| <b>71021</b>  | <b>AMECOIL Workshop kit wire thread insert MEF</b> | <b>S90A</b>  |
| <b>Material</b>   | Stainless steel A2                                 |  |
| <b>Packaging</b>  | Standard   |  |
|  |  |  |

| d (nom.) x P x L | ✉ | Art.number                    | d (nom.) x P x L | ✉ | Art.number                    | d (nom.) x P x L | ✉ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| M10X1,00X15      | 1 | <a href="#">71021.100.015</a> | M18X1,50X18      | 1 | <a href="#">71021.180.018</a> | M24X1,50X24      | 1 | <a href="#">71021.240.024</a> |
| M12X1,25X18      | 1 | <a href="#">71021.120.018</a> | M20X1,50X20      | 1 | <a href="#">71021.200.020</a> |                  |   |                               |
| M14X1,25X14      | 1 | <a href="#">71021.140.014</a> | M22X1,50X22      | 1 | <a href="#">71021.220.022</a> |                  |   |                               |

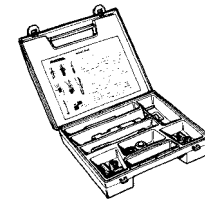
- These workshop kits are made from plastic, contents wire thread inserts and accessories and are for frequent use of one size.
- Contents:
  - Complete unidimensional manual fitting tool
  - Machine tap
  - Tang break
  - Stainless steel A2 wire thread inserts acc. to DIN 8140-1A

|   |  |  |
|---|--|--|
| <b>71910</b>  | <b>AMECOIL Workshop kit wire thread insert MEF</b> | <b>S90A</b>  |
| <b>Material</b>   | Stainless steel A2                                 |  |
| <b>Packaging</b>  | Standard   |  |
|  |  |  |

| d (nom.) x P | ✉ | Art.number                    |  |
|--------------|---|-------------------------------|--|
| M12X1,25     | 1 | <a href="#">71910.120.125</a> | <ul style="list-style-type: none"> <li>• Contents:                             <ul style="list-style-type: none"> <li>• Manual fitting tool with nozzle</li> <li>• Carrier adapted to length for M12 x 1,25 x 10,5 / M12 x 1,25 x 18</li> <li>• Staged tap</li> <li>• 10 stainless steel A2 wire thread inserts M12 x 1,25 x 10,5 / M12 x 1,25 x 18 acc. to DIN 8140-1A</li> </ul> </li> <li>• Contents:                             <ul style="list-style-type: none"> <li>• Manual fitting tool with nozzle</li> <li>• Carrier adapted to length for M14 x 1,25 x 7,5 / M14 x 1,25 x 10,5 / M14 x 1,25 x 18</li> <li>• Staged tap</li> <li>• 10 stainless steel A2 wire thread inserts M14 x 1,25 x 7,5 acc. to DIN 8140-1A</li> <li>• 20 stainless steel A2 wire thread inserts M14 x 1,25 x 10,5 acc. to DIN 8140-1A</li> <li>• 10 stainless steel A2 wire thread inserts M14 x 1,25 x 18 acc. to DIN 8140-1A</li> </ul> </li> </ul> |
| M14X1,25     | 1 | <a href="#">71910.140.125</a> |  |

- These workshop kits are made from plastic, contents wire thread inserts and accessories and are recommended for general use.

## Workshop kit wire thread insert UNC



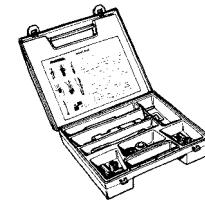
|                  |  |             |
|------------------|--|-------------|
| <b>71040</b>     | <b>AMECOIL Workshop kit wire thread insert UNC</b> | <b>S90A</b> |
| <b>Material</b>  | Stainless steel A2                                 |             |
| <b>Packaging</b> | Standard   |             |
| <b>AMECA</b>     |  |             |

3

| d (nom.) x L | ☒ | Art.number                    | d (nom.) x L | ☒ | Art.number                    | d (nom.) x L | ☒ | Art.number                    |
|--------------|---|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| 1/4X9,5      | 1 | <a href="#">71040.063.009</a> | 1/2X19,1     | 1 | <a href="#">71040.127.019</a> | 7/8X33,3     | 1 | <a href="#">71040.222.033</a> |
| 5/16X11,9    | 1 | <a href="#">71040.079.011</a> | 9/16X21,4    | 1 | <a href="#">71040.142.021</a> | 1.IN.X38,1   | 1 | <a href="#">71040.254.038</a> |
| 3/8X14,3     | 1 | <a href="#">71040.096.014</a> | 5/8X23,8     | 1 | <a href="#">71040.158.023</a> |              |   |                               |
| 7/16X16,7    | 1 | <a href="#">71040.111.016</a> | 3/4X28,6     | 1 | <a href="#">71040.191.028</a> |              |   |                               |

- Contents:
- Complete unidimensional manual fitting tool
- Machine tap ( $\geq 5/8$  UNC with extra starting tap)
- Tang break
- Stainless steel A2 wire thread inserts

## Workshop kit wire thread insert UNF

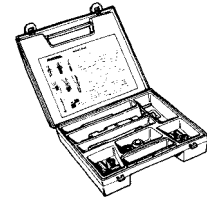


|                  |  |             |
|------------------|--|-------------|
| <b>71030</b>     | <b>AMECOIL Workshop kit wire thread insert UNF</b> | <b>S90A</b> |
| <b>Material</b>  | Stainless steel A2                                 |             |
| <b>Packaging</b> | Standard   |             |
| <b>AMECA</b>     |  |             |

| d (nom.) x L | ☒ | Art.number                    | d (nom.) x L | ☒ | Art.number                    | d (nom.) x L   | ☒ | Art.number                    |
|--------------|---|-------------------------------|--------------|---|-------------------------------|----------------|---|-------------------------------|
| 1/4X9,5      | 1 | <a href="#">71030.063.009</a> | 1/2X19,1     | 1 | <a href="#">71030.127.019</a> | 7/8X22,2       | 1 | <a href="#">71030.222.022</a> |
| 5/16X11,9    | 1 | <a href="#">71030.079.011</a> | 9/16X14,3    | 1 | <a href="#">71030.142.014</a> | 1.IN.-12GX25,4 | 1 | <a href="#">71030.255.025</a> |
| 3/8X14,3     | 1 | <a href="#">71030.096.014</a> | 5/8X15,9     | 1 | <a href="#">71030.158.015</a> |                |   |                               |
| 7/16X16,7    | 1 | <a href="#">71030.111.016</a> | 3/4X19,1     | 1 | <a href="#">71030.191.019</a> |                |   |                               |

- Contents:
- Complete unidimensional manual fitting tool
- Machine tap
- Tang break
- Stainless steel A2 wire thread inserts

**Workshop kit wire thread insert BSW**



- Whitworth thread (BSW/BSF) is not internationally recommended.
- It is advised to use metric (M/MF) or unified threads (UNC/UNF).

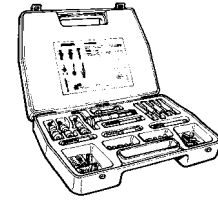
3

|                  |  |             |
|------------------|--|-------------|
| <b>71050</b>     | <b>AMECOIL Workshop kit wire thread insert BSW</b> | <b>S90A</b> |
| <b>Material</b>  | Stainless steel A2                                 |             |
| <b>Packaging</b> | Standard   |             |
| <b>AMECA</b>     |  |             |

| d (nom.) x L | ✉ | Art.number                    | d (nom.) x L | ✉ | Art.number | d (nom.) x L | ✉ | Art.number |
|--------------|---|-------------------------------|--------------|---|------------|--------------|---|------------|
| 1/2X19,1     | 1 | <a href="#">71050.127.019</a> |              |   |            |              |   |            |

- Contents:
- Complete unidimensional manuel fitting tool
- Machine tap
- Tang break
- Stainless steel A2 wire thread inserts

## Repair kit with wire thread inserts

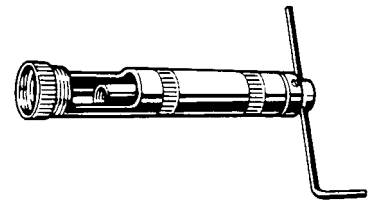


|                  |  |   |
|------------------|--|---|
| <b>71090</b>     | <b>AMECOIL Repair kit with wire thread inserts</b> | <b>S90A</b>   |
| <b>Packaging</b> | Standard   |   |
| <b>AMECA</b>     |  |  |

3

| No.      | ✉ | Art.number                    |   |
|----------|---|-------------------------------|---|
| No.1-MM  | 1 | <a href="#">71090.100.010</a> | <ul style="list-style-type: none"> <li>• Repair kit no. 1 with/for metric wire thread inserts</li> <li>• Contents: <ul style="list-style-type: none"> <li>• Manual fitting tool no. 3.</li> <li>• Nozzle and mandrel for M6 / M8 / M10 and M12.</li> <li>• Tang break for each size.</li> <li>• Machine tap for each size.</li> <li>• 15 stainless steel A2 wire thread inserts M6 x 9 / M8 x 12 / M10 x 15 / M12 x 18 acc. to DIN 8140.</li> <li>• ATTENTION: nozzles and mandrels M6 and M8 are specially for manual fitting tool no. 3 adjusted and only replaceable by nozzles and mandrels article group 71711.</li> <li>• For nozzles and mandrels M10 / M12, see group code 71710.</li> </ul> </li> </ul>  |
| No.2-MM  | 1 | <a href="#">71090.100.020</a> | <ul style="list-style-type: none"> <li>• Repair kit no. 2 with/for metric wire thread inserts.</li> <li>• Contents: <ul style="list-style-type: none"> <li>• Manual fitting tool no. 4.</li> <li>• Nozzle and mandrel for M6 / M8 / M10 / M12 / M14 x 1,25.</li> <li>• Tang break for each size.</li> <li>• Machine tap for each size (for M14 x 1,25 staged tap).</li> <li>• 15 stainless steel A2 wire thread inserts M6 x 9 / M8 x 12 / M10 x 15 / M12 x 18 / M14 x 1,25 x 14 acc. to DIN 8140.</li> <li>• ATTENTION: nozzles and mandrels M6 / M8 / M10 / M12 / M14 x 1,25 are specially for manual fitting tool no. 4 adjusted and only replaceable by nozzles and mandrels article groups 71712 and 71722</li> </ul> </li> </ul>                          |
| No.1C-NC | 1 | <a href="#">71090.400.010</a> | <ul style="list-style-type: none"> <li>• Repair kit no. 1C with/for UNC wire thread inserts.</li> <li>• Contents: <ul style="list-style-type: none"> <li>• Manual fitting tool no. 3.</li> <li>• Nozzle and mandrel for 1/4 / 5/16 / 3/8 / 7/16 / 1/2 UNC.</li> <li>• Tang break for each size.</li> <li>• Machine tap for each size.</li> <li>• 15 stainless steel A2 wire thread inserts 1/4 x 9,5 / 5/16 x 11,9 / 3/8 x 14,3 / 7/16 x 16,7 / 1/2 x 19,1 UNC.</li> <li>• ATTENTION: nozzles and mandrels 1/4 UNC en 5/16 UNC are specially for manual fitting tool no. 3 adjusted and only replaceable by nozzles and mandrels article group 71741.</li> </ul> </li> </ul>  |
| No.1D-NF | 1 | <a href="#">71090.500.010</a> | <ul style="list-style-type: none"> <li>• Repair kit no. 1D with/for UNF wire thread inserts.</li> <li>• Contents: <ul style="list-style-type: none"> <li>• Manual fitting tool no. 3.</li> <li>• Nozzle and mandrel for 1/4 / 5/16 / 3/8 / 7/16 / 1/2 UNF.</li> <li>• Tang break for each size.</li> <li>• Machine tap for each size.</li> <li>• 15 stainless steel A2 wire thread inserts 1/4 x 9,5 / 5/16 x 11,9 / 3/8 x 14,3 / 7/16 x 16,7 / 1/2 x 19,1 UNF.</li> <li>• ATTENTION: nozzles and mandrels 1/4 UNF en 5/16 UNF are specially for manual fitting tool no. 3 adjusted and only replaceable by nozzles and mandrels article group 71731.</li> <li>• For nozzles and mandrels 3/8 / 7/16 / 1/2 UNF, see article group 71730.</li> </ul> </li> </ul> |

**Multidimensional manual fitting tool**



3

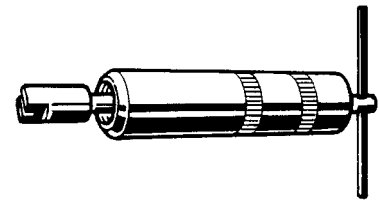
|                  |   |   |
|------------------|---|---|
| <b>71510</b>     | <b>AMECOIL Multidimensional manual fitting tool</b> | <b>S91A</b>   |
| <b>Packaging</b> | Standard  |   |
| <b>AMECA</b>     |   |  |

| No.  | ✉ | Art.number                    |   |
|------|---|-------------------------------|---|
| No.1 | 1 | <a href="#">71510.000.001</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M4 / M5</li> </ul>   |
| No.2 | 1 | <a href="#">71510.000.002</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M6 / M7 / M8 / M8x1 / 1/4 UNC / 5/16 UNC / 1/4 UNF / 5/16 UNF</li> </ul>   |
| No.3 | 1 | <a href="#">71510.000.003</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M10 / M12 / M10x1 / M10x1,25 / M12x1 / M12x1,25 / M12x1,5 / 3/8 UNC / 7/16 UNC / 1/2 UNC / 3/8 UNF / 7/16 UNF / 1/2 UNF</li> </ul> |
| No.4 | 1 | <a href="#">71510.000.004</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M14 / M16 / M14x1,25 / M14x1,5 / M16x1,5 / 9/16 UNC / 5/8 UNC / 9/16 UNF / 5/8 UNF / 1/2 BSW</li> </ul>                            |

- Intended for the fitting of wire thread inserts.
- Excl. nozzle and mandrel, these have to be ordered, per diameter, separately.
- Aluminium body with steel inside work.


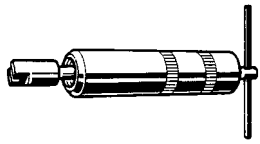


**Complete manual fitting tool**



**71610 AMECOIL Complete manual fitting tool Metric** S91A

Packaging Standard

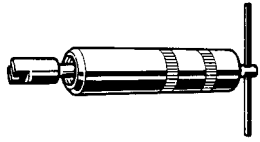



| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M18 | 1 | <a href="#">71610.180.001</a> | M22 | 1 | <a href="#">71610.220.001</a> | M27 | 1 | <a href="#">71610.270.001</a> |
| M20 | 1 | <a href="#">71610.200.001</a> | M24 | 1 | <a href="#">71610.240.001</a> |     |   |                               |

- Complete manual fitting tool.
- Intended for the fitting of metric wire thread inserts.
- Aluminium with steel inside work.

**71620 AMECOIL Complete manual fitting tool Metric fine** S91A

Packaging Standard


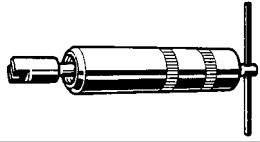



| d x P    | ☒ | Art.number                    | d x P    | ☒ | Art.number                    | d x P | ☒ | Art.number |
|----------|---|-------------------------------|----------|---|-------------------------------|-------|---|------------|
| M18X1,50 | 1 | <a href="#">71620.180.150</a> | M22X1,50 | 1 | <a href="#">71620.220.150</a> |       |   |            |
| M20X1,50 | 1 | <a href="#">71620.200.150</a> | M24X1,50 | 1 | <a href="#">71620.240.150</a> |       |   |            |

- Complete manual fitting tool.
- Intended for the fitting of metric extra fine wire thread inserts.
- Aluminium with steel inside work.

**71940 AMECOIL Manual fitting tool with nozzle Metric** S91A

Packaging Standard


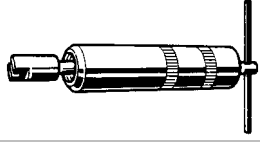



| d x P    | ☒ | Art.number                    | d x P    | ☒ | Art.number                    | d x P | ☒ | Art.number |
|----------|---|-------------------------------|----------|---|-------------------------------|-------|---|------------|
| M12X1,25 | 1 | <a href="#">71940.120.125</a> | M14X1,25 | 1 | <a href="#">71940.140.125</a> |       |   |            |

- Manual fitting tool with nozzle.
- Suitable for the fitting of spark plug wire thread inserts.
- Excl. carrier adapted to length, to be ordered separately per diameter and length (d nom. x L) wire thread insert.
- Aluminium body with steel inside work.

**71640 AMECOIL Complete manual fitting tool UNC** S91A

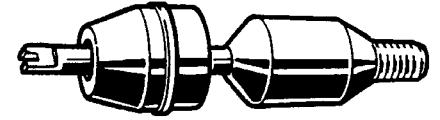
Packaging Standard

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 3/4 | 1 | <a href="#">71640.191.001</a> | 7/8 | 1 | <a href="#">71640.222.001</a> | 1.IN. | 1 | <a href="#">71640.254.001</a> |

- Complete manual fitting tool.
- Intended for the fitting of UNC wire thread inserts.
- Aluminium with steel inside work.

## Nozzle and mandrel for manual fitting

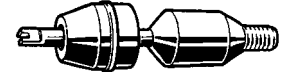


3

### 71710 AMECOIL Nozzle and mandrel for manual fitting Metric S91A

Packaging Standard

# AMECA

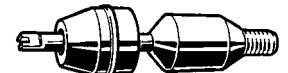


| d   |   | ✉ | Art.number                    |  |
|-----|---|---|-------------------------------|--|
| M3  | 1 |   | <a href="#">71710.030.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 1</li> <li>• Suitable for wire thread insert: M3</li> </ul>  |
| M4  | 1 |   | <a href="#">71710.040.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 1</li> <li>• Suitable for wire thread insert: M4</li> </ul>  |
| M5  | 1 |   | <a href="#">71710.050.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 1</li> <li>• Suitable for wire thread insert: M5</li> </ul>  |
| M6  | 1 |   | <a href="#">71710.060.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 2</li> <li>• Suitable for wire thread insert: M6.</li> </ul> |
| M7  | 1 |   | <a href="#">71710.070.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 2</li> <li>• Suitable for wire thread insert: M7</li> </ul>  |
| M8  | 1 |   | <a href="#">71710.080.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 2</li> <li>• Suitable for wire thread insert: M8</li> </ul>  |
| M10 | 1 |   | <a href="#">71710.100.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 3</li> <li>• Suitable for wire thread insert: M10</li> </ul> |
| M12 | 1 |   | <a href="#">71710.120.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no.3</li> <li>• Suitable for wire thread insert: M12</li> </ul>  |
| M14 | 1 |   | <a href="#">71710.140.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 4</li> <li>• Suitable for wire thread insert: M14</li> </ul> |
| M16 | 1 |   | <a href="#">71710.160.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 4</li> <li>• Suitable for wire thread insert: M16</li> </ul> |

### 71711 AMECOIL Nozzle and mandrel for manual fitting Metric S91A

Packaging Standard

# AMECA

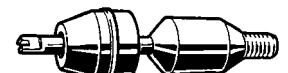


| d       |   | ✉ | Art.number                    |  |
|---------|---|---|-------------------------------|--|
| M6-ASS1 | 1 |   | <a href="#">71711.060.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 3 (repair kit no.1)</li> <li>• Suitable for wire thread insert: M6</li> </ul>  |
| M8-ASS1 | 1 |   | <a href="#">71711.080.001</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 3 (repair kit no. 1)</li> <li>• Suitable for wire thread insert: M8</li> </ul> |

### 71720 AMECOIL Nozzle and mandrel for manual fitting Metric fine S91A

Packaging Standard

# AMECA




| d x P    |   | ✉ | Art.number                    |   |
|----------|---|---|-------------------------------|---|
| M8X1,00  | 1 |   | <a href="#">71720.080.100</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 2</li> <li>• Suitable for wire thread insert: M8x1</li> </ul>     |
| M10X1,00 | 1 |   | <a href="#">71720.100.100</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 3</li> <li>• Suitable for wire thread insert: M10x1</li> </ul>    |
| M10X1,25 | 1 |   | <a href="#">71720.100.125</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 3</li> <li>• Suitable for wire thread insert: M10x1,25</li> </ul> |
| M12X1,00 | 1 |   | <a href="#">71720.120.100</a> | <ul style="list-style-type: none"> <li>• Nozzle and mandrel for manual fitting tool no. 3</li> <li>• Suitable for wire thread insert: M12x1</li> </ul>    |

**71720 AMECOIL Nozzle and mandrel for manual fitting Metric fine** ←

| d        | ✉ | Art.number                    | d   | ✉ | Art.number                    | d        | ✉ | Art.number                    |
|----------|---|-------------------------------|---|---|-------------------------------|----------|---|-------------------------------|
| M12X1,25 | 1 | <a href="#">71720.120.125</a> | • Nozzle and mandrel for manual fitting tool no. 3<br>• Suitable for wire thread insert: M12x1,25 | ✉ | <a href="#">71720.120.150</a> | M12X1,50 | 1 | <a href="#">71720.120.150</a> |
| M12X1,50 | 1 | <a href="#">71720.120.150</a> |   |   |                               |          |   |                               |
| M14X1,25 | 1 | <a href="#">71720.140.125</a> | • Nozzle and mandrel for manual fitting tool no. 4<br>• Suitable for wire thread insert: M14x1,25 | ✉ | <a href="#">71720.140.150</a> | M14X1,50 | 1 | <a href="#">71720.140.150</a> |
| M14X1,50 | 1 | <a href="#">71720.140.150</a> |   |   |                               |          |   |                               |
| M16X1,50 | 1 | <a href="#">71720.160.150</a> | • Nozzle and mandrel for manual fitting tool no. 4<br>• Suitable for wire thread insert: M16x1,5  | ✉ |                               |          | 1 |                               |

**71740 AMECOIL Nozzle and mandrel for manual fitting UNC** S91A



Packaging Standard

| d    | ✉ | Art.number                    |  |
|------|---|-------------------------------|--|
| 1/4  | 1 | <a href="#">71740.063.001</a> | • Nozzle and mandrel for manual fitting tool no. 2<br>• Suitable for wire thread insert: 1/4 UNC |
| 5/16 | 1 | <a href="#">71740.079.001</a> |  |
| 3/8  | 1 | <a href="#">71740.096.001</a> | • Nozzle and mandrel for manual fitting tool no. 3<br>• Suitable for wire thread insert: 3/8 UNC |
| 7/16 | 1 | <a href="#">71740.111.001</a> |  |
| 1/2  | 1 | <a href="#">71740.127.001</a> | • Nozzle and mandrel for manual fitting tool no. 3<br>• Suitable for wire thread insert: 1/2 UNC |
| 9/16 | 1 | <a href="#">71740.142.001</a> |  |
| 5/8  | 1 | <a href="#">71740.158.001</a> | • Nozzle and mandrel for manual fitting tool no. 4<br>• Suitable for wire thread insert: 5/8 UNC |

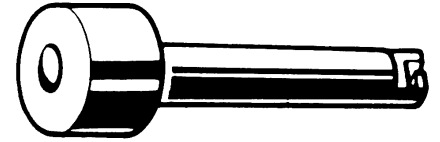
**71730 AMECOIL Nozzle and mandrel for manual fitting UNF** S91A

Packaging Standard

| d    | ✉ | Art.number                    |  |
|------|---|-------------------------------|--|
| 1/4  | 1 | <a href="#">71730.063.001</a> | • Nozzle and mandrel for manual fitting tool no. 2<br>• Suitable for wire thread insert: 1/4 UNF |
| 5/16 | 1 | <a href="#">71730.079.001</a> |  |
| 3/8  | 1 | <a href="#">71730.096.001</a> | • Nozzle and mandrel for manual fitting tool no. 3<br>• Suitable for wire thread insert: 3/8 UNF |
| 7/16 | 1 | <a href="#">71730.111.001</a> |  |
| 1/2  | 1 | <a href="#">71730.127.001</a> | • Nozzle and mandrel for manual fitting tool no. 3<br>• Suitable for wire thread insert: 1/2 UNF |
| 9/16 | 1 | <a href="#">71730.142.001</a> |  |
| 5/8  | 1 | <a href="#">71730.158.001</a> | • Nozzle and mandrel for manual fitting tool no. 4<br>• Suitable for wire thread insert: 5/8 UNF |

### Carrier adapted



3

|                  |                                |             |
|------------------|--------------------------------|-------------|
| <b>71950</b>     | <b>AMECOIL Carrier adapted</b> | <b>S91A</b> |
| <b>Packaging</b> | Standard                       |             |
| <b>AMECA</b>     |                                |             |

| d x P x L     | ☒ | Art.number                    | d x P x L     | ☒ | Art.number                    | d x P x L   | ☒ | Art.number                    |
|---------------|---|-------------------------------|---------------|---|-------------------------------|-------------|---|-------------------------------|
| M12X1,25X10,5 | 1 | <a href="#">71950.120.010</a> | M14X1,25X7,5  | 1 | <a href="#">71950.140.007</a> | M14X1,25X18 | 1 | <a href="#">71950.140.018</a> |
| M12X1,25X18   | 1 | <a href="#">71950.120.018</a> | M14X1,25X10,5 | 1 | <a href="#">71950.140.010</a> |             |   |                               |

- For manual fitting tool with nozzle.

### Tang break

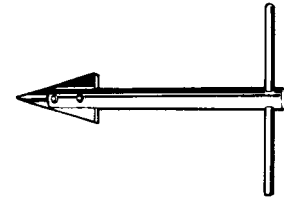


|                  |                           |             |
|------------------|---------------------------|-------------|
| <b>71810</b>     | <b>AMECOIL Tang break</b> | <b>S91A</b> |
| <b>Packaging</b> | Standard                  |             |
| <b>AMECA</b>     |                           |             |

| For use with nr. | ☒ | Art.number                    | For use with nr. | ☒ | Art.number                    | For use with nr. | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| M3               | 1 | <a href="#">71810.030.001</a> | M7               | 1 | <a href="#">71810.070.001</a> | M14 - 9/16       | 1 | <a href="#">71810.140.001</a> |
| M4               | 1 | <a href="#">71810.040.001</a> | M8 - 5/16        | 1 | <a href="#">71810.080.001</a> | M16 - 5/8        | 1 | <a href="#">71810.160.001</a> |
| M5               | 1 | <a href="#">71810.050.001</a> | M10 - 3/8 - 7/16 | 1 | <a href="#">71810.100.001</a> | M18              | 1 | <a href="#">71810.180.001</a> |
| M6 - 1/4         | 1 | <a href="#">71810.060.001</a> | M12 - 1/2        | 1 | <a href="#">71810.120.001</a> |                  |   |                               |

- Intended to use for breaking off the engaging stem after fitting of the wire thread insert.
- ATTENTION: for sizes larger than M18 resp. 5/8 UNC/UNF a pointed plier has to be used.

**Extractor**



|                  |                          |             |
|------------------|--------------------------|-------------|
| <b>71860</b>     | <b>AMECOIL Extractor</b> | <b>S91A</b> |
| <b>Packaging</b> | Standard                 |             |
| <b>AMECA</b>     |                          |             |

3

| No.  | ☒ | Art.number                    |   |
|------|---|-------------------------------|---|
| No.1 | 1 | <a href="#">71860.000.001</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M3 / M4 / M5 / M6 / M7 / M8 / 1/4 / 5/16</li> </ul>                                      |
| No.2 | 1 | <a href="#">71860.000.002</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M5 / M6 / M7 / M8 / M10 / M12 / 1/4 / 5/16 / 3/8 / 7/16</li> </ul>                       |
| No.3 | 1 | <a href="#">71860.000.003</a> | <ul style="list-style-type: none"> <li>• Suitable for wire thread insert:</li> <li>• M10 / M12 / M14 / M16 / M18 / M20 / M22 / M24 / 3/8 / 7/16 / 1/2 / 9/16 / 5/8</li> </ul> |

- Intended to use when an inserted wire thread insert has been poorly positioned and has to be extracted (metric / metric fine / UNC / UNF / BSW).
- ATTENTION: if the screwthread has not been damaged, a new wire thread insert can be fitted.

## FABORY Self-cutting threaded inserts

3

### General

The principle of the *FABORY* self-cutting threaded insert is quite simple. Not only "soft" materials i.e. aluminium, copper, brass, plastic and hardwood, but also metal with a tensile-strength of up to 420 N/mm<sup>2</sup> can easily be fitted with a reliable metric screw thread, and pretapping, is not necessary. Worn and damaged screw threads can now be quickly and easily repaired with a *FABORY* self-cutting threaded insert.

### Function

The *FABORY* self-cutting threaded insert uses an external thread to cut its way into the workpiece, and the metric internal thread offers an exceptional fixing with high-tensile values.

### Fitting

For fitting the *FABORY* self-tapping thread inserts, three handy tools are available:

- hand tool **type 610**
- hand/machine tool **type 620**
- hand/machine tool **type 6102**
  - exclusively suitable for the *FABORY* self-tapping thread inserts with a hexagon socket, **types 302 2** and **308 2**

For application in materials with a high tensile strength, we recommend:

- the use of a suitable lubricant, and/or
- pre-tapping with hand tap no. 1 (taper tap, marked with one ring)

### Types of thread insert

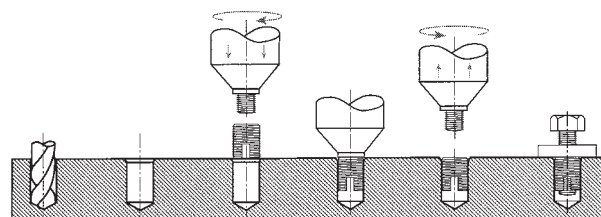
- **Type 302**, provided with two flutes and:
  - o in steel version, applicable in somewhat softer materials, with a tensile strength up to 300 N/mm<sup>2</sup>
  - o in stainless steel version, applicable in materials with a tensile strength up to 320 N/mm<sup>2</sup>
- **Type 307**, provided with three radial cutting holes, and applicable in somewhat harder materials, with a tensile strength from 360 to 420 N/mm<sup>2</sup>
- **Type 308**, same as type 307, but this type is the longer version of type 307
- **Type 302 2**, provided with two flutes, with hexagon socket, and applicable in somewhat softer materials with a tensile strength up to 300 N/mm<sup>2</sup>
- **Type 308 2**, provided with three radial cutting holes, with hexagon socket, long version, and applicable in somewhat harder materials, with a tensile strength from 360 to 420 N/mm<sup>2</sup>

| Hole diameters                     |  | Guidelines for type 302 |      |      |      | Guidelines for types 307 and 308 |             |      |      |
|------------------------------------|--|-------------------------|------|------|------|----------------------------------|-------------|------|------|
| workpiece material                 | light metal with tensile strength $R_m$ (N/mm <sup>2</sup> ) | $R_m < 250$             |      |      |      |                                  |             |      |      |
|                                    |  | $R_m < 300$             |      |      |      | $R_m < 300$                      |             |      |      |
|                                    |  | $R_m < 350$             |      |      |      |                                  | $R_m < 350$ |      |      |
|                                    |  | $R_m > 350$             |      |      |      |                                  | $R_m > 350$ |      |      |
|                                    | Brass, bronze, non-ferrous metal                             | $HB < 150$              |      |      |      |                                  | $HB < 150$  |      |      |
|                                    |  | $HB < 200$              |      |      |      |                                  | $HB < 200$  |      |      |
| $HB > 200$                         |  |                         |      |      |      | $HB > 200$                       |             |      |      |
| Cast iron<br>HB = Brinell hardness | $HB < 150$   |                         |      |      |      | $HB < 150$                       |             |      |      |
|                                    | $HB < 200$   |                         |      |      |      | $HB < 200$                       |             |      |      |
|                                    | $HB > 200$   |                         |      |      |      | $HB > 200$                       |             |      |      |
| thread insert internal thread      | M3   |                         | 4,6  | 4,7  | 4,8  | 4,6                              | 4,7         | 4,8  |      |
|                                    | M4   | 5,9                     | 6,0  | 6,1  | 6,2  | 6,0                              | 6,1         | 6,2  |      |
|                                    | M5   | 7,2                     | 7,3  | 7,5  | 7,6  | 7,4                              | 7,5         | 7,6  | 7,7  |
|                                    | M6   | 8,8                     | 9,0  | 9,2  | 9,4  | 9,3                              | 9,4         | 9,5  | 9,6  |
|                                    | M8   | 10,8                    | 11,0 | 11,2 | 11,4 | 11,1                             | 11,2        | 11,3 | 11,5 |
|                                    | M10  | 12,8                    | 13,0 | 13,2 | 13,4 | 13,1                             | 13,2        | 13,3 | 13,5 |
|                                    | M12  | 14,8                    | 15,0 | 15,2 | 15,4 | 15,0                             | 15,1        | 15,2 | 15,4 |
|                                    | M14  | 16,8                    | 17,0 | 17,2 | 17,4 | 17,0                             | 17,1        | 17,2 | 17,4 |
|                                    | M16  | 18,8                    | 19,0 | 19,2 | 19,4 | 19,0                             | 19,1        | 19,2 | 19,4 |
|                                    | M20  | 24,8                    | 25,0 | 25,2 | 25,4 |                                  |             |      |      |
|                                    | M24  | 28,8                    | 29,0 | 29,2 | 29,4 |                                  |             |      |      |
| M27                                | 32,8   | 33,0                    | 33,2 | 33,4 |      |                                  |             |      |      |
| M30                                | 34,8   | 35,0                    | 35,2 | 35,4 |      |                                  |             |      |      |
| Flank overlap approx.              |  | 60 %                    | 50 % | 40 % | 30 % | 80 %                             | 70 %        | 60 % | 50 % |

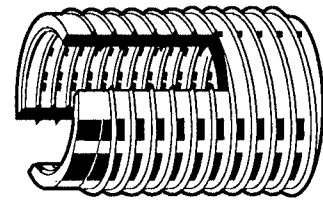
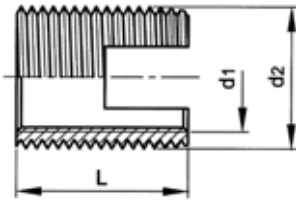
Recommended hole diameters for problem-free fitting. For the other hole diameters, lubrication or pre-tapping may be necessary.

### Assembly sequence:

- 1) bore hole (see table above)
- 2) countersink hole (recommended)
- 3) screw insertion device into thread insert
- 4) screw thread insert in to approx. 0.1 to 0.2 mm below surface of workpiece
- 5) remove insertion device
- 6) component can be fitted



## Self-cutting threaded insert type 302



### Technical data

| d1 x L | P (d1) | d <sub>2</sub> | P (d2) | Drill depth (min.) |
|--------|--------|----------------|--------|--------------------|
| M3x6   | 0,5    | 5              | 0,5    | 8                  |
| M4x8   | 0,7    | 6,5            | 0,75   | 10                 |
| M5x10  | 0,8    | 8              | 1      | 13                 |
| M6x10  | 1      | 10             | 1,5    | 13                 |
| M6x12  | 1      | 10             | 1,5    | 15                 |
| M6x14  | 1      | 10             | 1,5    | 17                 |
| M8x12  | 1,25   | 12             | 1,5    | 15                 |
| M8x15  | 1,25   | 12             | 1,5    | 18                 |
| M10x15 | 1,5    | 14             | 1,5    | 18                 |
| M10x18 | 1,5    | 14             | 1,5    | 22                 |
| M12x22 | 1,75   | 16             | 1,5    | 26                 |
| M14x24 | 2      | 18             | 1,5    | 28                 |
| M16x22 | 2      | 20             | 1,5    | 27                 |
| M20x27 | 2,5    | 26             | 1,5    | 32                 |
| M24x30 | 3      | 30             | 1,5    | 36                 |
| M27x30 | 3,5    | 34             | 1,5    | 36                 |
| M30x40 | 3,5    | 36             | 1,5    | 46                 |

- Drill depth (min.) = Minimum bore depth for blind holes.

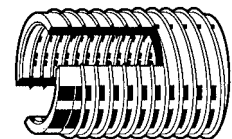
### Article groups

| Thread | Material         | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|-------------------|-----------|-------|-------|
| M      | St Case-hardened | Zipl yell.p.      | Standard  | 71550 | 3-161 |
| M      | St.St. A1        |                   | Standard  | 71566 | 3-161 |
| M      | St.St. C4        |                   | Standard  | 71560 | 3-162 |

#### 71550 Self-cutting threaded insert type 302

S93A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel Case-hardened           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



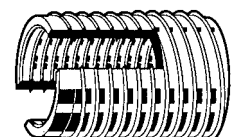
| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X6   | 50 | <a href="#">71550.030.001</a> | M8X15  | 50 | <a href="#">71550.080.001</a> | M14X24 | 25 | <a href="#">71550.140.001</a> |
| M4X8   | 50 | <a href="#">71550.040.001</a> | M8X12  | 50 | <a href="#">71550.080.012</a> | M16X22 | 25 | <a href="#">71550.160.001</a> |
| M5X10  | 50 | <a href="#">71550.050.001</a> |        |    |                               | M20X27 | 10 | <a href="#">71550.200.001</a> |
| M6X14  | 50 | <a href="#">71550.060.001</a> | M10X18 | 25 | <a href="#">71550.100.001</a> | M24X30 | 10 | <a href="#">71550.240.001</a> |
| M6X10  | 50 | <a href="#">71550.060.010</a> | M10X15 | 25 | <a href="#">71550.100.015</a> | M27X30 | 5  | <a href="#">71550.270.001</a> |
| M6X12  | 50 | <a href="#">71550.060.012</a> | M12X22 | 25 | <a href="#">71550.120.001</a> | M30X40 | 5  | <a href="#">71550.300.001</a> |

- For use in materials with tensile strength up to 300 N/mm<sup>2</sup>.
- Light metal alloys, cast iron, brass, bronze, non-ferrous metals, plastics and hardwoods.

#### 71566 Self-cutting threaded insert type 302

S93A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A1 |
| <b>Packaging</b> | Standard           |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X6   | 25 | <a href="#">71566.030.001</a> | M6X14  | 25 | <a href="#">71566.060.001</a> | M12X22 | 10 | <a href="#">71566.120.001</a> |
| M4X8   | 25 | <a href="#">71566.040.001</a> | M8X15  | 25 | <a href="#">71566.080.001</a> | M16X22 | 10 | <a href="#">71566.160.001</a> |
| M5X10  | 25 | <a href="#">71566.050.001</a> | M10X18 | 10 | <a href="#">71566.100.001</a> |        |    |                               |

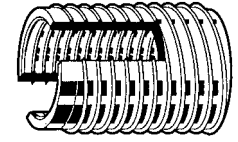
**71566 Self-cutting threaded insert type 302**

| d1 x L | Art.number | d1 x L | Art.number | d1 x L | Art.number |
|--------|------------|--------|------------|--------|------------|
|--------|------------|--------|------------|--------|------------|

- For use in materials with tensile strength up to 320 N/mm<sup>2</sup>.

**71560 Self-cutting threaded insert type 302** S93A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel C4 |
| <b>Packaging</b> | Standard           |


**3**

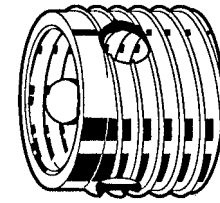
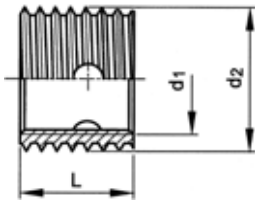
| d1 x L | Art.number | d1 x L | Art.number | d1 x L | Art.number |
|--------|------------|--------|------------|--------|------------|
|--------|------------|--------|------------|--------|------------|

|       |    |                               |        |    |                               |        |    |                               |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X6  | 25 | <a href="#">71560.030.001</a> | M6X14  | 25 | <a href="#">71560.060.001</a> | M12X22 | 10 | <a href="#">71560.120.001</a> |
| M4X8  | 25 | <a href="#">71560.040.001</a> | M8X15  | 25 | <a href="#">71560.080.001</a> | M16X22 | 10 | <a href="#">71560.160.001</a> |
| M5X10 | 25 | <a href="#">71560.050.001</a> | M10X18 | 10 | <a href="#">71560.100.001</a> |        |    |                               |

- For use in materials with tensile strength up to 320 N/mm<sup>2</sup>.



## Self-cutting threaded insert type 307/308



### Technical data

| d1 x L | P (d1) | d2  | P (d2) | Drill depth (min.) |
|--------|--------|-----|--------|--------------------|
| M3x4   | 0,5    | 5   | 0,6    | 6                  |
| M3x6   | 0,5    | 5   | 0,6    | 8                  |
| M4x6   | 0,7    | 6,5 | 0,8    | 8                  |
| M4x8   | 0,7    | 6,5 | 0,8    | 10                 |
| M5x7   | 0,8    | 8   | 1      | 9                  |
| M5x10  | 0,8    | 8   | 1      | 13                 |
| M6x8   | 1      | 10  | 1,25   | 10                 |
| M6x12  | 1      | 10  | 1,25   | 15                 |
| M8x9   | 1,25   | 12  | 1,5    | 11                 |
| M8x14  | 1,25   | 12  | 1,5    | 17                 |
| M10x10 | 1,5    | 14  | 1,5    | 13                 |
| M10x18 | 1,5    | 14  | 1,5    | 22                 |
| M12x12 | 1,75   | 16  | 1,75   | 15                 |
| M12x22 | 1,75   | 16  | 1,75   | 26                 |
| M16x14 | 2      | 20  | 2      | 17                 |
| M16x24 | 2      | 20  | 2      | 28                 |

- Drill depth (min.) = Minimum bore depth for blind holes.

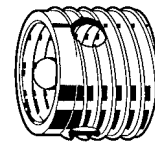
### Article groups

| Thread | Material | Surface treatment |     | Packaging | Code  | Page  |
|--------|----------|-------------------|-----|-----------|-------|-------|
| M      | St       | Zipl yell.p.      | 307 | Standard  | 71552 | 3-163 |
| M      | St       | Zipl yell.p.      | 308 | Standard  | 71554 | 3-163 |

#### 71552 Self-cutting threaded insert type 307

S93A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



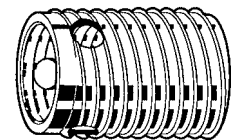
| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X4   | 50 | <a href="#">71552.030.001</a> | M6X8   | 50 | <a href="#">71552.060.001</a> | M12X12 | 25 | <a href="#">71552.120.001</a> |
| M4X6   | 50 | <a href="#">71552.040.001</a> | M8X9   | 50 | <a href="#">71552.080.001</a> | M16X14 | 25 | <a href="#">71552.160.001</a> |
| M5X7   | 50 | <a href="#">71552.050.001</a> | M10X10 | 25 | <a href="#">71552.100.001</a> |        |    |                               |

- For use in materials with tensile strength from 360 to 420 N/mm<sup>2</sup>.
- Aluminium and aluminium alloys, magnesium alloys, duroplastic and thermoplastic polymers.

#### 71554 Self-cutting threaded insert type 308

S93A

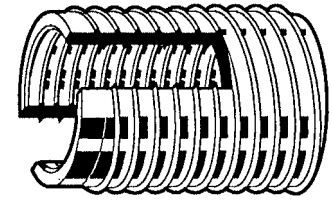
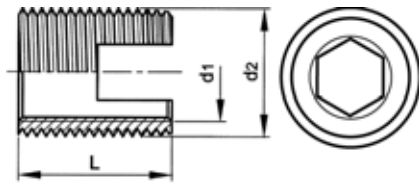
|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X6   | 50 | <a href="#">71554.030.001</a> | M6X12  | 50 | <a href="#">71554.060.001</a> | M12X22 | 25 | <a href="#">71554.120.001</a> |
| M4X8   | 50 | <a href="#">71554.040.001</a> | M8X14  | 50 | <a href="#">71554.080.001</a> | M16X24 | 25 | <a href="#">71554.160.001</a> |
| M5X10  | 50 | <a href="#">71554.050.001</a> | M10X18 | 25 | <a href="#">71554.100.001</a> |        |    |                               |

- For use in materials with tensile strength from 360 to 420 N/mm<sup>2</sup>.
- Aluminium and aluminium alloys, magnesium alloys, duroplastic and thermoplastic polymers.

## Self-cutting threaded insert with hexagon socket type 302 2



### Technical data

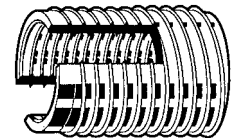
| d1 x L             | M4x8 | M5x10 | M6x14 | M8x15 | M10x18 | M12x22 |
|--------------------|------|-------|-------|-------|--------|--------|
| P (d1)             | 0,7  | 0,8   | 1     | 1,25  | 1,5    | 1,75   |
| d <sub>2</sub>     | 6,5  | 8     | 10    | 12    | 14     | 16     |
| P (d2)             | 0,75 | 1     | 1,5   | 1,5   | 1,5    | 1,5    |
| S (+0,1mm)         | 3,2  | 4,1   | 4,9   | 6,6   | 8,3    | 10,1   |
| Drill depth (min.) | 10   | 13    | 17    | 18    | 22     | 27     |
| Thickness          | 8    | 10    | 14    | 15    | 18     | 22     |

- Drill depth (min.) = Minimum bore depth for blind holes.
- Thickness = min. material thickness.
- S = W.a.f. hexagon socket.

### 71551 Self-cutting threaded insert with hexagon socket type 302 2

S93A

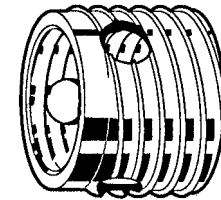
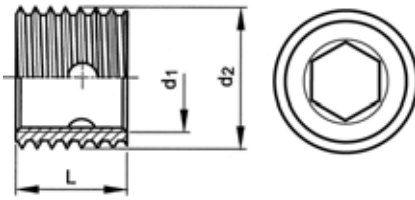
|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel Case-hardened           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X8   | 50 | <a href="#">71551.040.008</a> | M6X14  | 50 | <a href="#">71551.060.014</a> | M10X18 | 25 | <a href="#">71551.100.018</a> |
| M5X10  | 50 | <a href="#">71551.050.010</a> | M8X15  | 50 | <a href="#">71551.080.015</a> | M12X22 | 25 | <a href="#">71551.120.022</a> |

- For use in materials with tensile strength up to 300 N/mm<sup>2</sup>.
- Light metal alloys, cast iron, brass, bronze, non-ferrous metals, plastics and hardwoods.
- Advantages of the self-cutting thread inserts with hexagon socket:
  - Thread insert does not have to be screwed onto device: saves up to 50% of fitting time.
  - Simple insertion tool type 6102: use with tommy bar or optionally by machine.
  - Insertion device only needs to turn clockwise.
- Thread inserts are simple to unscrew (when recycling workpiece).

## Self-cutting threaded insert with hexagon socket type 308 2



### Technical data

| d1 x L             | M4x8 | M5x10 | M6x12 | M8x14 | M10x18 | M12x22 |
|--------------------|------|-------|-------|-------|--------|--------|
| P (d1)             | 0,7  | 0,8   | 1     | 1,25  | 1,5    | 1,75   |
| d <sub>2</sub>     | 6,5  | 8     | 10    | 12    | 14     | 16     |
| P (d2)             | 0,8  | 1     | 1,25  | 1,5   | 1,5    | 1,75   |
| S (+0,1mm)         | 3,2  | 4,1   | 4,9   | 6,6   | 8,3    | 10,1   |
| Drill depth (min.) | 10   | 13    | 15    | 17    | 22     | 26     |
| Thickness          | 8    | 10    | 12    | 14    | 18     | 22     |

- Drill depth (min.) = Minimum bore depth for blind holes.
- Thickness = min. material thickness.
- S = W.a.f. hexagon socket.

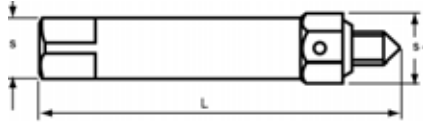
3

| 71556 Self-cutting threaded insert with hexagon socket type 308 2 |                               | S93A |
|---|-------------------------------|------|
| <b>Thread</b>   | Metric thread                 |      |
| <b>Material</b>   | Steel Case-hardened           |      |
| <b>Surface treatment</b>  | Zinc plated yellow passivated |      |
| <b>Packaging</b>  | Standard                      |      |

| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X8   | 50 | <a href="#">71556.040.008</a> | M6X12  | 50 | <a href="#">71556.060.012</a> | M10X18 | 25 | <a href="#">71556.100.018</a> |
| M5X10  | 50 | <a href="#">71556.050.010</a> | M8X14  | 50 | <a href="#">71556.080.014</a> | M12X22 | 25 | <a href="#">71556.120.022</a> |

- For use in materials with tensile strength from 360 to 420 N/mm<sup>2</sup>.
- Aluminium and aluminium alloys, magnesium alloys, duroplastic and thermoplastic polymers.
- Advantages of the self-tapping thread inserts with hexagon socket:
  - Thread insert does not have to be screwed onto device: saves up to 50% of fitting time.
  - Simple insertion tool type 6102: use with tommy bar or optionally by machine.
  - Insertion device only needs to turn clockwise.
- Thread inserts are simple to unscrew (when recycling workpiece).

## Self-cutting threaded insert tool type 610



### Technical data

| d1  | L  | S    | S <sub>1</sub> |
|-----|----|------|----------------|
| M3  | 55 | 5    | 7              |
| M4  | 60 | 5    | 7              |
| M5  | 75 | 8    | 13             |
| M6  | 75 | 8    | 13             |
| M8  | 75 | 8    | 13             |
| M10 | 95 | 12,5 | 19             |
| M12 | 95 | 12,5 | 19             |

- L = Total length.
- S = Square s.
- S<sub>1</sub> = Contra-nut s.
- For manual insertion of self-tapping thread inserts types 302, 307 and 308 (with aid of tommy bar and open-ended spanner).

### 71595 Self-cutting threaded insert tool type 610

S94A

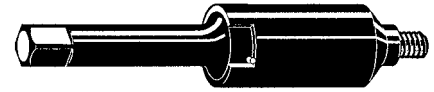
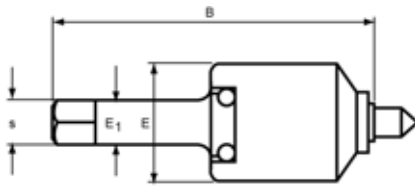
**Material** Steel  
**Packaging** Standard



| Nom. size d1 | ☒ | Art.number                    | Nom. size d1 | ☒ | Art.number                    | Nom. size d1 | ☒ | Art.number                    |
|--------------|---|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| M3           | 1 | <a href="#">71595.030.001</a> | M6           | 1 | <a href="#">71595.060.001</a> | M12          | 1 | <a href="#">71595.120.001</a> |
| M4           | 1 | <a href="#">71595.040.001</a> | M8           | 1 | <a href="#">71595.080.001</a> |              |   |                               |
| M5           | 1 | <a href="#">71595.050.001</a> | M10          | 1 | <a href="#">71595.100.001</a> |              |   |                               |

- No spare parts are available for this hand tool.

## Self-cutting threaded insert tool type 620



### Technical data

| d1  | E  | E <sub>1</sub> | S    | B   |
|-----|----|----------------|------|-----|
| M3  | 18 | 8              | 6,3  | 78  |
| M4  | 18 | 8              | 6,3  | 78  |
| M5  | 24 | 12,5           | 10   | 95  |
| M6  | 24 | 12,5           | 10   | 95  |
| M8  | 24 | 12,5           | 10   | 95  |
| M10 | 32 | 16             | 12,5 | 118 |
| M12 | 32 | 16             | 12,5 | 118 |
| M14 | 50 | 25             | 20   | 145 |
| M16 | 50 | 25             | 20   | 145 |
| M20 | 58 | 25             | 20   | 169 |
| M24 | 70 | 30             | 25   | 198 |
| M27 | 70 | 30             | 25   | 198 |
| M30 | 70 | 30             | 25   | 198 |

- d<sub>1</sub> = For dimension d<sub>1</sub>.
- E = Housing E diameter
- E<sub>1</sub> = Shaft diameter E<sub>1</sub>.
- S = Square w.a.f.
- B = Length B.
- For insertion manually (with aid of tommy bar) or by machine of self-tapping thread inserts types 302, 307 and 308.
- For this 620 device, spare threaded studs are available, group code 71597.

#### 71592 Self-cutting threaded insert tool type 620

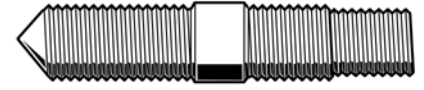
S94A

**Material** Steel  
**Packaging** Standard



| d1 | ☒ | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M3 | 1 | <a href="#">71592.030.001</a> | M10 | 1 | <a href="#">71592.100.001</a> | M24 | 1 | <a href="#">71592.240.001</a> |
| M4 | 1 | <a href="#">71592.040.001</a> | M12 | 1 | <a href="#">71592.120.001</a> | M27 | 1 | <a href="#">71592.270.001</a> |
| M5 | 1 | <a href="#">71592.050.001</a> | M14 | 1 | <a href="#">71592.140.001</a> | M30 | 1 | <a href="#">71592.300.001</a> |
| M6 | 1 | <a href="#">71592.060.001</a> | M16 | 1 | <a href="#">71592.160.001</a> |     |   |                               |
| M8 | 1 | <a href="#">71592.080.001</a> | M20 | 1 | <a href="#">71592.200.001</a> |     |   |                               |

**Spare threaded pin for tool type 620**



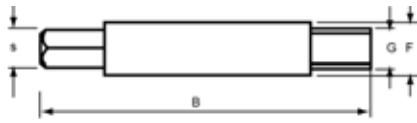
3

|                  |   |             |
|------------------|---|-------------|
| <b>71597</b>     | <b>Spare threaded pin for tool type 620</b> | <b>S94A</b> |
| <b>Packaging</b> | Standard                                    |             |



| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M3 | 1 | <a href="#">71597.030.001</a> | M10 | 1 | <a href="#">71597.100.001</a> | M22 | 1 | <a href="#">71597.220.001</a> |
| M4 | 1 | <a href="#">71597.040.001</a> | M12 | 1 | <a href="#">71597.120.001</a> | M24 | 1 | <a href="#">71597.240.001</a> |
| M5 | 1 | <a href="#">71597.050.001</a> | M14 | 1 | <a href="#">71597.140.001</a> | M30 | 1 | <a href="#">71597.300.001</a> |
| M6 | 1 | <a href="#">71597.060.001</a> | M16 | 1 | <a href="#">71597.160.001</a> |     |   |                               |
| M8 | 1 | <a href="#">71597.080.001</a> | M20 | 1 | <a href="#">71597.200.001</a> |     |   |                               |

## Self-tapping thread insert with hexagon socket tool type 6102



### Technical data

| For nom.size d1 | s    | F  | G   | B   |
|-----------------|------|----|-----|-----|
| <b>M4</b>       | 3,2  | 6  | 4,9 | 80  |
| <b>M5</b>       | 4,1  | 8  | 6,2 | 90  |
| <b>M6</b>       | 4,9  | 10 | 8   | 100 |
| <b>M8</b>       | 6,6  | 10 | 8   | 100 |
| <b>M10</b>      | 8,3  | 12 | 9   | 110 |
| <b>M12</b>      | 10,1 | 14 | 11  | 125 |

- s = Hex stud s (nom.).
- F = Shaft diameter F.
- G = Square G.
- B = Length B.

#### 71580 Self-tapping thread insert with hexagon socket tool type 6102

S94A

**Material**                    Steel  
**Packaging**                Standard



| For nom. size d1 | ✉ | Art.number                    | For nom. size d1 | ✉ | Art.number                    | For nom. size d1 | ✉ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| M4               | 1 | <a href="#">71580.040.001</a> | M6               | 1 | <a href="#">71580.060.001</a> | M10              | 1 | <a href="#">71580.100.001</a> |
| M5               | 1 | <a href="#">71580.050.001</a> | M8               | 1 | <a href="#">71580.080.001</a> | M12              | 1 | <a href="#">71580.120.001</a> |

- Hand/machine tool 6102 is exclusively for use with self-tapping thread inserts with hexagon socket, types 302 2 and 308 2.
- Advantages of the self-tapping thread inserts with hexagon socket:
- Thread insert does not have to be screwed onto device: saves up to 50% of fitting time.
- Simple insertion tool type 6102: use with tommy bar or optionally by machine.
- Insertion device only needs to turn clockwise.
- Thread inserts are simple to unscrew (when recycling workpiece).

## FABORY Self-cutting threaded inserts

### Fitting tip

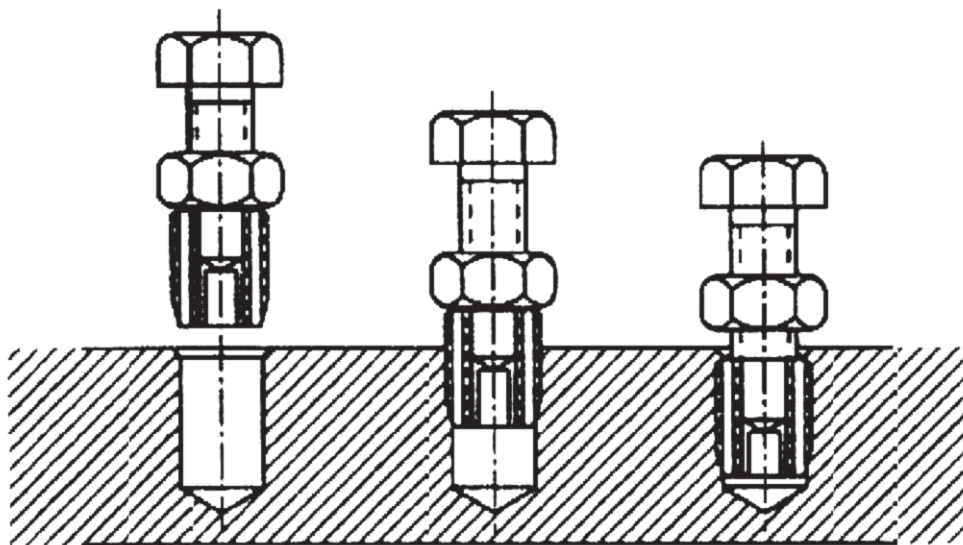
For fitting the *FABORY* self-tapping thread inserts, the three handy tools mentioned earlier are available, namely:

- *FABORY* self-tapping thread inserts with hexagon socket **types 302 2** and **308 2** can be fitted with hand/machine tool **type 6102**
- hand tool **type 610**
- hand/machine tool **type 620**

Both suitable for the *FABORY* self-tapping thread inserts WITHOUT hexagon socket: types 302, 307 and 308.



















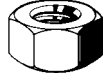
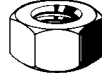


For emergency or rapid fitting of only a few of these types of *FABORY* self-tapping thread inserts, it is also possible to use a nut and bolt of correct size.

*FABORY* self-tapping thread inserts of type 302 are also available in a selection case (S572). 420 items in total, in sizes from M3 up to M16, in materials steel, zinc plated yellow passivated and some sizes in C4 stainless steel (art. no. 41010.000.572).

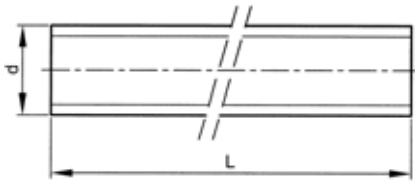




## Threaded rods/stud bolts 4

|  |  |  |   |   |
|--|--|--|---|---|
|  <p>Page 4-2<br/>DIN 976-1A<br/>NEN 2369</p> <p><b>Metric</b></p> |  <p>Page 4-13<br/>DIN 976-1A<br/>NEN 2369</p> <p><b>Metric fine</b></p>             |  <p>Page 4-15</p> <p><b>UNC</b></p>   |  <p>Page 4-16</p> <p><b>UNF</b></p>                                   |  <p>Page 4-17</p> <p><b>BSW</b></p>                                    |
|  <p>Page 4-18</p> <p><b>PERMAGLAS Metric</b></p>                  |  <p>Page 4-19</p> <p><b>PERMAGLAS Metric</b></p>                                    |  <p>Page 4-20</p> <p><b>PERMAGLAS</b></p>   |  <p>Page 4-21</p> <p><b>Tr</b></p>                                    |  <p>Page 4-23</p> <p><b>Tr</b></p>                                     |
|  <p>Page 4-24</p> <p><b>Tr Bronze</b></p>                         |  <p>Page 4-25<br/>DIN 939<br/>NEN 2332</p> <p><b>≈ 1,25xd Metric</b></p>            |  <p>Page 4-29<br/>DIN ≈939 (1955)<br/>NEN ≈2346 (1962)</p> <p><b>≈ 1,25xd BSW</b></p> |  <p>Page 4-30<br/>DIN 938<br/>NEN 2331</p> <p><b>≈ 1xd Metric</b></p> |  <p>Page 4-33</p> <p><b>ASTM metric</b></p>                            |
|  <p>Page 4-34</p> <p><b>ASTM UNC</b></p>                         |  <p>Page 4-35<br/>BS ≈4882</p> <p><b>Metric</b></p>                                |  <p>Page 4-36<br/>ANSI B16.5<br/>BS 4882</p> <p><b>UNC</b></p>                       |  <p>Page 4-41</p> <p><b>ASTM Metric</b></p>                          |  <p>Page 4-42<br/>ANSI B18.2.2<br/>BS 1769</p> <p><b>ASTM UNC</b></p> |
|  <p>Page 4-46<br/>DIN 2510 L/NF</p> <p><b>Metric</b></p>        |  <p>Page 4-48<br/>DIN 2510 NF</p> <p><b>For double ended studs<br/>Metric</b></p> |  |   |   |

## Threaded rod



DIN 976-1A  
 NEN 2369  
 NF E25-136



### Technical data

|           |          |          |          |            |          |
|-----------|----------|----------|----------|------------|----------|
| <b>d</b>  | <b>P</b> | <b>d</b> | <b>P</b> | <b>d</b>   | <b>P</b> |
| M2        | 0,4      | M16      | 2        | M45        | 4,5      |
| M2,5      | 0,45     | M18      | 2,5      | M48        | 5        |
| M3        | 0,5      | M20      | 2,5      | M52        | 5        |
| M4        | 0,7      | M22      | 2,5      | M56 (#DIN) | 5,5      |
| M5        | 0,8      | M24      | 3        | M60 (#DIN) | 5,5      |
| M6        | 1        | M27      | 3        | M64 (#DIN) | 6        |
| M7 (#DIN) | 1        | M30      | 3,5      | M68 (#DIN) | 6        |
| M8        | 1,25     | M33      | 3,5      | M72 (#DIN) | 6        |
| M10       | 1,5      | M36      | 4        | M76 (#DIN) | 6        |
| M12       | 1,75     | M39      | 4        | M80 (#DIN) | 6        |
| M14       | 2        | M42      | 4,5      |            |          |

The end of the threaded rod is painted to improve the recognisability of the quality.

| Colour code threaded rods |  |              |
|---------------------------|--|--------------|
| Property class            | Material                                       | Colour       |
| 4.8                       | Plain steel and zinc plated                    | selfcolour   |
| 4.8                       | ISO metric hot dip galvanised                  | light blue   |
| 4.8                       | Oversized metric hot dip galvanised            | orange       |
| 5.6                       | Plain steel                                    | brown        |
| 5.8                       | Plain steel                                    | gentian blue |
| 8.8                       | Plain steel, zinc plated and yellow passivated | yellow       |
| 8.8                       | ISO metric hot dip galvanised                  | steel grey   |
| 8.8                       | Oversized metric hot dip galvanised            | purple       |
| 10.9                      | Plain steel                                    | white        |
| 12.9                      | Plain steel                                    | black        |
| ASTM-B7                   | Plain steel (UNC & 8UN)                        | selfcolour   |
| ASTM-B7                   | Plain steel (metric)                           | selfcolour   |
| RVS-A2                    | Stainless steel A2 metric                      | green        |
| RVS-A4                    | Stainless steel A4 metric                      | red          |

### Article groups

| Thread | Material  | Class | Surface treatment | Colour            | Packaging | Code  | Page |
|--------|-----------|-------|-------------------|-------------------|-----------|-------|------|
| M      | St        | ≥4.8  | Zipl yell.p.      |                   | Standard  | 20108 | 4-3  |
| M      | St.St. A2 | 70    |                   |                   | Standard  | 51068 | 4-3  |
| M      | St.St. A4 | 70    |                   |                   | Standard  | 55068 | 4-4  |
| M      | St        | ≥4.8  |                   | 1 meter           | Standard  | 20200 | 4-4  |
| M      | St        | ≥4.8  |                   | 1 meter           | Large     | 20210 | 4-4  |
| M      | St        | ≥4.8  | Zipl              | 1 meter           | Standard  | 20300 | 4-5  |
| M      | St        | ≥4.8  | Zipl              | 1 meter           | Large     | 20310 | 4-5  |
| M      | St        | ≥4.8  | Zipl              | 1 meter unpacked  | Bundled   | 20312 | 4-5  |
| M      | St        | ≥4.8  | Zipl              | 1 meter left hand | Standard  | 20380 | 4-5  |
| M      | St        | ≥4.8  | Zipl yell.p.      | 1 meter           | Standard  | 20302 | 4-5  |
| M      | St        | ≥4.8  | Hot d.g.          | 1 meter oversized | Standard  | 20140 | 4-6  |
| M      | St        | ≥4.8  | Hot d.g.          | 1 meter iso       | Standard  | 20160 | 4-6  |
| M      | St        | 8.8   |                   | 1 meter           | Standard  | 20220 | 4-6  |
| M      | St        | 8.8   |                   | 1 meter           | Large     | 20180 | 4-6  |
| M      | St        | 8.8   | Zipl              | 1 meter           | Standard  | 20230 | 4-7  |
| M      | St        | 8.8   | Zipl              | 1 meter           | Large     | 20190 | 4-7  |
| M      | St        | 8.8   | Zipl              | 1 meter unpacked  | Bundled   | 20191 | 4-7  |
| M      | St        | 8.8   | Zipl              | 1 meter left hand | Standard  | 20376 | 4-7  |
| M      | St        | 8.8   | Zipl yell.p.      | 1 meter           | Standard  | 20232 | 4-7  |
| M      | St        | 8.8   | Hot d.g.          | 1 meter iso       | Standard  | 20170 | 4-8  |
| M      | St        | 8.8   | Hot d.g.          | 1 meter oversized | Standard  | 20150 | 4-8  |

| Thread | Material      | Class  | Surface treatment | Colour | Packaging         | Code     | Page       |
|--------|---------------|--------|-------------------|--------|-------------------|----------|------------|
| M      | St            | 10.9   |                   |        | 1 meter           | Standard | 20130 4-8  |
| M      | St            | 12.9   |                   |        | 1 meter           | Standard | 20132 4-8  |
| M      | St.St. A2     | 70     |                   |        | 1 meter           | Standard | 51070 4-9  |
| M      | St.St. A2     | 70     |                   |        | 1 meter           | Large    | 51064 4-9  |
| M      | St.St. A2     | 70     |                   |        | 1 meter left hand | Standard | 51074 4-9  |
| M      | St.St. A4     | 70     |                   |        | 1 meter           | Standard | 55070 4-9  |
| M      | Al Sopral P40 |        |                   |        | 1 meter           | Standard | 45070 4-10 |
| M      | Al Sopral P60 |        |                   |        | 1 meter           | Standard | 45270 4-10 |
| M      | Ti ASTM       | Gr.2   |                   |        | 1 meter           | Standard | 45940 4-10 |
| M      | Br Cu2/Cu3    |        |                   |        | 1 meter           | Standard | 46090 4-10 |
| M      | Plastic PA    | PA 6.6 |                   | White  | 1 meter           | Standard | 56170 4-10 |
| M      | St            | ≥4.8   | Zipl              |        | 2 meter           | Standard | 20330 4-10 |
| M      | St            | ≥4.8   | Zipl              |        | 2 meter           | Large    | 20320 4-11 |
| M      | St            | 8.8    | Zipl              |        | 2 meter           | Standard | 20372 4-11 |
| M      | St.St. A2     | 70     |                   |        | 2 meter           | Standard | 51071 4-11 |
| M      | St.St. A4     | 70     |                   |        | 2 meter           | Standard | 55071 4-11 |
| M      | St            | ≥4.8   | Zipl              |        | 3 meter           | Standard | 20410 4-11 |
| M      | St            | ≥4.8   | Zipl              |        | 3 meter           | Large    | 20400 4-12 |
| M      | St            | 8.8    | Zipl              |        | 3 meter           | Standard | 20395 4-12 |
| M      | St.St. A2     | 70     |                   |        | 3 meter           | Standard | 51072 4-12 |
| M      | St.St. A4     | 70     |                   |        | 3 meter           | Standard | 55072 4-12 |

| 20108 Stud bolt          |                               | G05A |
|--------------------------|-------------------------------|------|
| <b>Thread</b>            | Metric thread                 |      |
| <b>Material</b>          | Steel                         |      |
| <b>Class</b>             | ≥4.8                          |      |
| <b>Surface treatment</b> | Zinc plated yellow passivated |      |
| <b>Packaging</b>         | Standard                      |      |

| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X20  | 200 | <a href="#">20108.030.020</a> | M6X20  | 200 | <a href="#">20108.060.020</a> | M10X30  | 100 | <a href="#">20108.100.030</a> |
| M3X30  | 200 | <a href="#">20108.030.030</a> | M6X30  | 200 | <a href="#">20108.060.030</a> | M10X40  | 100 | <a href="#">20108.100.040</a> |
| M3X40  | 200 | <a href="#">20108.030.040</a> | M6X40  | 200 | <a href="#">20108.060.040</a> | M10X50  | 100 | <a href="#">20108.100.050</a> |
| M3X50  | 200 | <a href="#">20108.030.050</a> | M6X50  | 200 | <a href="#">20108.060.050</a> | M10X60  | 100 | <a href="#">20108.100.060</a> |
| M3X60  | 200 | <a href="#">20108.030.060</a> | M6X60  | 200 | <a href="#">20108.060.060</a> | M10X70  | 100 | <a href="#">20108.100.070</a> |
| M3X70  | 200 | <a href="#">20108.030.070</a> | M6X70  | 200 | <a href="#">20108.060.070</a> | M10X80  | 100 | <a href="#">20108.100.080</a> |
| M3X80  | 200 | <a href="#">20108.030.080</a> | M6X80  | 100 | <a href="#">20108.060.080</a> | M10X90  | 100 | <a href="#">20108.100.090</a> |
| M3X90  | 200 | <a href="#">20108.030.090</a> | M6X90  | 100 | <a href="#">20108.060.090</a> | M10X100 | 100 | <a href="#">20108.100.100</a> |
| M3X100 | 200 | <a href="#">20108.030.100</a> | M6X100 | 100 | <a href="#">20108.060.100</a> | M10X120 | 50  | <a href="#">20108.100.120</a> |
| M4X20  | 200 | <a href="#">20108.040.020</a> | M6X120 | 100 | <a href="#">20108.060.120</a> | M10X130 | 50  | <a href="#">20108.100.130</a> |
| M4X30  | 200 | <a href="#">20108.040.030</a> | M6X130 | 100 | <a href="#">20108.060.130</a> | M10X140 | 50  | <a href="#">20108.100.140</a> |
| M4X40  | 200 | <a href="#">20108.040.040</a> | M6X140 | 100 | <a href="#">20108.060.140</a> | M10X150 | 50  | <a href="#">20108.100.150</a> |
| M4X50  | 200 | <a href="#">20108.040.050</a> | M6X150 | 100 | <a href="#">20108.060.150</a> | M10X160 | 50  | <a href="#">20108.100.160</a> |
| M4X60  | 200 | <a href="#">20108.040.060</a> | M6X160 | 100 | <a href="#">20108.060.160</a> |         |     |                               |
| M4X70  | 200 | <a href="#">20108.040.070</a> | M8X30  | 200 | <a href="#">20108.080.030</a> | M12X40  | 100 | <a href="#">20108.120.040</a> |
| M4X80  | 200 | <a href="#">20108.040.080</a> | M8X40  | 200 | <a href="#">20108.080.040</a> | M12X50  | 100 | <a href="#">20108.120.050</a> |
| M4X90  | 100 | <a href="#">20108.040.090</a> | M8X50  | 200 | <a href="#">20108.080.050</a> | M12X60  | 100 | <a href="#">20108.120.060</a> |
| M4X100 | 100 | <a href="#">20108.040.100</a> | M8X60  | 100 | <a href="#">20108.080.060</a> | M12X70  | 50  | <a href="#">20108.120.070</a> |
| M5X20  | 200 | <a href="#">20108.050.020</a> | M8X70  | 100 | <a href="#">20108.080.070</a> | M12X80  | 50  | <a href="#">20108.120.080</a> |
| M5X30  | 200 | <a href="#">20108.050.030</a> | M8X75  | 100 | <a href="#">20108.080.075</a> | M12X90  | 50  | <a href="#">20108.120.090</a> |
| M5X40  | 200 | <a href="#">20108.050.040</a> | M8X80  | 100 | <a href="#">20108.080.080</a> | M12X100 | 50  | <a href="#">20108.120.100</a> |
| M5X50  | 200 | <a href="#">20108.050.050</a> | M8X90  | 100 | <a href="#">20108.080.090</a> | M12X120 | 50  | <a href="#">20108.120.120</a> |
| M5X60  | 200 | <a href="#">20108.050.060</a> | M8X100 | 100 | <a href="#">20108.080.100</a> | M12X130 | 50  | <a href="#">20108.120.130</a> |
| M5X70  | 200 | <a href="#">20108.050.070</a> | M8X120 | 100 | <a href="#">20108.080.120</a> | M12X140 | 50  | <a href="#">20108.120.140</a> |
| M5X80  | 100 | <a href="#">20108.050.080</a> | M8X130 | 100 | <a href="#">20108.080.130</a> | M12X150 | 50  | <a href="#">20108.120.150</a> |
| M5X90  | 100 | <a href="#">20108.050.090</a> | M8X140 | 50  | <a href="#">20108.080.140</a> | M12X160 | 25  | <a href="#">20108.120.160</a> |
| M5X100 | 100 | <a href="#">20108.050.100</a> | M8X150 | 50  | <a href="#">20108.080.150</a> |         |     |                               |
| M5X120 | 100 | <a href="#">20108.050.120</a> | M8X160 | 50  | <a href="#">20108.080.160</a> |         |     |                               |

| 51068 Stud bolt  |                    | R09A |
|------------------|--------------------|------|
| <b>Thread</b>    | Metric thread      |      |
| <b>Material</b>  | Stainless steel A2 |      |
| <b>Class</b>     | 70                 |      |
| <b>Packaging</b> | Standard           |      |

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X20 | 100 | <a href="#">51068.040.020</a> | M5X30 | 100 | <a href="#">51068.050.030</a> | M5X70  | 100 | <a href="#">51068.050.070</a> |
| M4X30 | 100 | <a href="#">51068.040.030</a> | M5X40 | 100 | <a href="#">51068.050.040</a> | M5X80  | 50  | <a href="#">51068.050.080</a> |
| M4X40 | 100 | <a href="#">51068.040.040</a> | M5X50 | 100 | <a href="#">51068.050.050</a> | M5X90  | 50  | <a href="#">51068.050.090</a> |
| M4X50 | 100 | <a href="#">51068.040.050</a> | M5X60 | 100 | <a href="#">51068.050.060</a> | M5X100 | 50  | <a href="#">51068.050.100</a> |
| M4X60 | 100 | <a href="#">51068.040.060</a> |       |     |                               | M5X120 | 50  | <a href="#">51068.050.120</a> |

**51068 Stud bolt** ←

| d x L  | ✉   | Art.number                    | d x L   | ✉  | Art.number                    | d x L   | ✉  | Art.number                    |
|--------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M6X30  | 100 | <a href="#">51068.060.030</a> | M8X70   | 50 | <a href="#">51068.080.070</a> | M10X140 | 25 | <a href="#">51068.100.140</a> |
| M6X40  | 100 | <a href="#">51068.060.040</a> | M8X80   | 50 | <a href="#">51068.080.080</a> | M10X150 | 25 | <a href="#">51068.100.150</a> |
| M6X50  | 100 | <a href="#">51068.060.050</a> | M8X90   | 50 | <a href="#">51068.080.090</a> | M10X160 | 25 | <a href="#">51068.100.160</a> |
| M6X60  | 100 | <a href="#">51068.060.060</a> | M8X100  | 50 | <a href="#">51068.080.100</a> |         |    |                               |
| M6X70  | 100 | <a href="#">51068.060.070</a> | M8X120  | 50 | <a href="#">51068.080.120</a> | M12X40  | 50 | <a href="#">51068.120.040</a> |
| M6X80  | 50  | <a href="#">51068.060.080</a> | M8X130  | 50 | <a href="#">51068.080.130</a> | M12X50  | 50 | <a href="#">51068.120.050</a> |
| M6X90  | 50  | <a href="#">51068.060.090</a> | M8X140  | 25 | <a href="#">51068.080.140</a> | M12X60  | 50 | <a href="#">51068.120.060</a> |
| M6X100 | 50  | <a href="#">51068.060.100</a> | M8X150  | 25 | <a href="#">51068.080.150</a> | M12X70  | 25 | <a href="#">51068.120.070</a> |
| M6X120 | 50  | <a href="#">51068.060.120</a> | M8X160  | 25 | <a href="#">51068.080.160</a> | M12X80  | 25 | <a href="#">51068.120.080</a> |
| M6X130 | 50  | <a href="#">51068.060.130</a> |         |    |                               | M12X90  | 25 | <a href="#">51068.120.090</a> |
| M6X140 | 50  | <a href="#">51068.060.140</a> | M10X40  | 50 | <a href="#">51068.100.040</a> | M12X100 | 25 | <a href="#">51068.120.100</a> |
| M6X150 | 50  | <a href="#">51068.060.150</a> | M10X50  | 50 | <a href="#">51068.100.050</a> | M12X120 | 25 | <a href="#">51068.120.120</a> |
| M6X160 | 50  | <a href="#">51068.060.160</a> | M10X60  | 50 | <a href="#">51068.100.060</a> | M12X130 | 25 | <a href="#">51068.120.130</a> |
|        |     |                               | M10X70  | 50 | <a href="#">51068.100.070</a> | M12X140 | 25 | <a href="#">51068.120.140</a> |
|        |     |                               | M10X80  | 50 | <a href="#">51068.100.080</a> | M12X150 | 25 | <a href="#">51068.120.150</a> |
|        |     |                               | M10X90  | 50 | <a href="#">51068.100.090</a> | M12X160 | 10 | <a href="#">51068.120.160</a> |
|        |     |                               | M10X100 | 50 | <a href="#">51068.100.100</a> |         |    |                               |
|        |     |                               | M10X120 | 25 | <a href="#">51068.100.120</a> |         |    |                               |
|        |     |                               | M10X130 | 25 | <a href="#">51068.100.130</a> |         |    |                               |

4 • Sizes with a diameter > M24 are minimal property class 50.

**55068 Stud bolt** R49A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| d x L  | ✉   | Art.number                    | d x L   | ✉   | Art.number                    | d x L   | ✉  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M4X20  | 100 | <a href="#">55068.040.020</a> | M8X50   | 100 | <a href="#">55068.080.050</a> | M10X120 | 25 | <a href="#">55068.100.120</a> |
| M5X30  | 100 | <a href="#">55068.050.030</a> | M8X60   | 50  | <a href="#">55068.080.060</a> | M10X130 | 25 | <a href="#">55068.100.130</a> |
| M5X40  | 100 | <a href="#">55068.050.040</a> | M8X70   | 50  | <a href="#">55068.080.070</a> | M10X140 | 25 | <a href="#">55068.100.140</a> |
| M5X50  | 100 | <a href="#">55068.050.050</a> | M8X80   | 50  | <a href="#">55068.080.080</a> | M10X150 | 25 | <a href="#">55068.100.150</a> |
| M5X60  | 100 | <a href="#">55068.050.060</a> | M8X100  | 50  | <a href="#">55068.080.100</a> |         |    |                               |
| M5X80  | 50  | <a href="#">55068.050.080</a> | M8X120  | 50  | <a href="#">55068.080.120</a> | M12X40  | 50 | <a href="#">55068.120.040</a> |
|        |     |                               | M8X130  | 50  | <a href="#">55068.080.130</a> | M12X50  | 50 | <a href="#">55068.120.050</a> |
|        |     |                               | M8X160  | 25  | <a href="#">55068.080.160</a> | M12X60  | 50 | <a href="#">55068.120.060</a> |
| M6X30  | 100 | <a href="#">55068.060.030</a> |         |     |                               | M12X70  | 25 | <a href="#">55068.120.070</a> |
| M6X40  | 100 | <a href="#">55068.060.040</a> | M10X40  | 50  | <a href="#">55068.100.040</a> | M12X80  | 25 | <a href="#">55068.120.080</a> |
| M6X50  | 100 | <a href="#">55068.060.050</a> | M10X50  | 50  | <a href="#">55068.100.050</a> | M12X100 | 25 | <a href="#">55068.120.100</a> |
| M6X70  | 100 | <a href="#">55068.060.070</a> | M10X60  | 50  | <a href="#">55068.100.060</a> | M12X120 | 25 | <a href="#">55068.120.120</a> |
| M6X80  | 50  | <a href="#">55068.060.080</a> | M10X70  | 50  | <a href="#">55068.100.070</a> | M12X130 | 25 | <a href="#">55068.120.130</a> |
| M6X100 | 50  | <a href="#">55068.060.100</a> | M10X80  | 50  | <a href="#">55068.100.080</a> | M12X150 | 25 | <a href="#">55068.120.150</a> |
|        |     |                               | M10X90  | 50  | <a href="#">55068.100.090</a> | M12X160 | 10 | <a href="#">55068.120.160</a> |
|        |     |                               | M10X100 | 50  | <a href="#">55068.100.100</a> |         |    |                               |

• Sizes with a diameter > M24 are minimal property class 50.

**20200 Threaded rod length 1 meter** G01A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | ≥4.8          |
| <b>Packaging</b> | Standard      |



| d   | ✉  | Art.number                    | d   | ✉ | Art.number                    | d        | ✉ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|----------|---|-------------------------------|
| M2  | 20 | <a href="#">20200.020.001</a> | M18 | 5 | <a href="#">20200.180.001</a> | M48      | 2 | <a href="#">20200.480.001</a> |
| M3  | 20 | <a href="#">20200.030.001</a> | M20 | 2 | <a href="#">20200.200.001</a> | M52      | 1 | <a href="#">20200.520.001</a> |
| M4  | 20 | <a href="#">20200.040.001</a> | M22 | 2 | <a href="#">20200.220.001</a> | M56      | 1 | <a href="#">20200.560.001</a> |
| M5  | 10 | <a href="#">20200.050.001</a> | M24 | 2 | <a href="#">20200.240.001</a> | M60      | 1 | <a href="#">20200.600.001</a> |
| M6  | 10 | <a href="#">20200.060.001</a> | M27 | 2 | <a href="#">20200.270.001</a> | M64      | 1 | <a href="#">20200.640.001</a> |
| M7  | 10 | <a href="#">20200.070.001</a> | M30 | 2 | <a href="#">20200.300.001</a> | M68      | 1 | <a href="#">20200.680.001</a> |
| M8  | 10 | <a href="#">20200.080.001</a> | M33 | 2 | <a href="#">20200.330.001</a> | M72X6,00 | 1 | <a href="#">20200.720.001</a> |
| M10 | 10 | <a href="#">20200.100.001</a> | M36 | 2 | <a href="#">20200.360.001</a> | M76X6,00 | 1 | <a href="#">20200.760.001</a> |
| M12 | 10 | <a href="#">20200.120.001</a> | M39 | 2 | <a href="#">20200.390.001</a> | M80X6,00 | 1 | <a href="#">20200.800.001</a> |
| M14 | 5  | <a href="#">20200.140.001</a> | M42 | 2 | <a href="#">20200.420.001</a> |          |   |                               |
| M16 | 5  | <a href="#">20200.160.001</a> | M45 | 2 | <a href="#">20200.450.001</a> |          |   |                               |

**20210 Threaded rod length 1 meter** G01A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | ≥4.8          |
| <b>Packaging</b> | Large         |




| d  | ✉   | Art.number                    | d  | ✉   | Art.number                    | d  | ✉   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|-----|-------------------------------|
| M3 | 100 | <a href="#">20210.030.001</a> | M4 | 100 | <a href="#">20210.040.001</a> | M5 | 100 | <a href="#">20210.050.001</a> |

**20210 Threaded rod length 1 meter** ←

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 100 | <a href="#">20210.060.001</a> | M12 | 25 | <a href="#">20210.120.001</a> | M22 | 5 | <a href="#">20210.220.001</a> |
| M8  | 50  | <a href="#">20210.080.001</a> | M16 | 10 | <a href="#">20210.160.001</a> | M24 | 5 | <a href="#">20210.240.001</a> |
| M10 | 25  | <a href="#">20210.100.001</a> | M20 | 10 | <a href="#">20210.200.001</a> | M27 | 5 | <a href="#">20210.270.001</a> |

**20300 Threaded rod length 1 meter** G03A


|                          |               |  |  |  |  |  |  |  |
|--------------------------|---------------|--|--|--|--|--|--|--|
| <b>Thread</b>            | Metric thread |  |  |  |  |  |  |  |
| <b>Material</b>          | Steel         |  |  |  |  |  |  |  |
| <b>Class</b>             | ≥4.8          |  |  |  |  |  |  |  |
| <b>Surface treatment</b> | Zinc plated   |  |  |  |  |  |  |  |
| <b>Packaging</b>         | Standard      |  |  |  |  |  |  |  |



| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M3  | 20 | <a href="#">20300.030.001</a> | M12 | 10 | <a href="#">20300.120.001</a> | M27 | 2 | <a href="#">20300.270.001</a> |
| M4  | 20 | <a href="#">20300.040.001</a> | M14 | 5  | <a href="#">20300.140.001</a> | M30 | 2 | <a href="#">20300.300.001</a> |
| M5  | 10 | <a href="#">20300.050.001</a> | M16 | 5  | <a href="#">20300.160.001</a> | M33 | 2 | <a href="#">20300.330.001</a> |
| M6  | 10 | <a href="#">20300.060.001</a> | M18 | 5  | <a href="#">20300.180.001</a> | M36 | 2 | <a href="#">20300.360.001</a> |
| M7  | 10 | <a href="#">20300.070.001</a> | M20 | 2  | <a href="#">20300.200.001</a> | M39 | 2 | <a href="#">20300.390.001</a> |
| M8  | 10 | <a href="#">20300.080.001</a> | M22 | 2  | <a href="#">20300.220.001</a> |     |   |                               |
| M10 | 10 | <a href="#">20300.100.001</a> | M24 | 2  | <a href="#">20300.240.001</a> |     |   |                               |

**20310 Threaded rod length 1 meter** G03A


|                          |               |  |  |  |  |  |  |  |
|--------------------------|---------------|--|--|--|--|--|--|--|
| <b>Thread</b>            | Metric thread |  |  |  |  |  |  |  |
| <b>Material</b>          | Steel         |  |  |  |  |  |  |  |
| <b>Class</b>             | ≥4.8          |  |  |  |  |  |  |  |
| <b>Surface treatment</b> | Zinc plated   |  |  |  |  |  |  |  |
| <b>Packaging</b>         | Large         |  |  |  |  |  |  |  |



| d  | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M3 | 100 | <a href="#">20310.030.001</a> | M7  | 100 | <a href="#">20310.070.001</a> | M16 | 10 | <a href="#">20310.160.001</a> |
| M4 | 100 | <a href="#">20310.040.001</a> | M8  | 50  | <a href="#">20310.080.001</a> | M20 | 10 | <a href="#">20310.200.001</a> |
| M5 | 100 | <a href="#">20310.050.001</a> | M10 | 25  | <a href="#">20310.100.001</a> | M24 | 5  | <a href="#">20310.240.001</a> |
| M6 | 100 | <a href="#">20310.060.001</a> | M12 | 25  | <a href="#">20310.120.001</a> | M27 | 5  | <a href="#">20310.270.001</a> |

**20312 Threaded rod length 1 meter unpacked** G03A


|                          |               |  |  |  |  |  |  |  |
|--------------------------|---------------|--|--|--|--|--|--|--|
| <b>Thread</b>            | Metric thread |  |  |  |  |  |  |  |
| <b>Material</b>          | Steel         |  |  |  |  |  |  |  |
| <b>Class</b>             | ≥4.8          |  |  |  |  |  |  |  |
| <b>Surface treatment</b> | Zinc plated   |  |  |  |  |  |  |  |
| <b>Packaging</b>         | Bundled       |  |  |  |  |  |  |  |



| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6 | 100 | <a href="#">20312.060.001</a> | M10 | 25 | <a href="#">20312.100.001</a> | M16 | 10 | <a href="#">20312.160.001</a> |
| M8 | 50  | <a href="#">20312.080.001</a> | M12 | 25 | <a href="#">20312.120.001</a> |     |    |                               |

**20380 Threaded rod length 1 meter left-hand thread** G05A


|                          |               |  |  |  |  |  |  |  |
|--------------------------|---------------|--|--|--|--|--|--|--|
| <b>Thread</b>            | Metric thread |  |  |  |  |  |  |  |
| <b>Material</b>          | Steel         |  |  |  |  |  |  |  |
| <b>Class</b>             | ≥4.8          |  |  |  |  |  |  |  |
| <b>Surface treatment</b> | Zinc plated   |  |  |  |  |  |  |  |
| <b>Packaging</b>         | Standard      |  |  |  |  |  |  |  |



| d  | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M3 | 10 | <a href="#">20380.030.001</a> | M10 | 2 | <a href="#">20380.100.001</a> | M20 | 1 | <a href="#">20380.200.001</a> |
| M4 | 10 | <a href="#">20380.040.001</a> | M12 | 2 | <a href="#">20380.120.001</a> | M22 | 1 | <a href="#">20380.220.001</a> |
| M5 | 5  | <a href="#">20380.050.001</a> | M14 | 1 | <a href="#">20380.140.001</a> | M24 | 1 | <a href="#">20380.240.001</a> |
| M6 | 2  | <a href="#">20380.060.001</a> | M16 | 1 | <a href="#">20380.160.001</a> | M27 | 1 | <a href="#">20380.270.001</a> |
| M8 | 2  | <a href="#">20380.080.001</a> | M18 | 1 | <a href="#">20380.180.001</a> | M30 | 1 | <a href="#">20380.300.001</a> |

**20302 Threaded rod length 1 meter** G03A

|                          |                               |  |  |  |  |  |  |  |
|--------------------------|-------------------------------|--|--|--|--|--|--|--|
| <b>Thread</b>            | Metric thread                 |  |  |  |  |  |  |  |
| <b>Material</b>          | Steel                         |  |  |  |  |  |  |  |
| <b>Class</b>             | ≥4.8                          |  |  |  |  |  |  |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |  |  |  |  |  |  |  |
| <b>Packaging</b>         | Standard                      |  |  |  |  |  |  |  |



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M5 | 10 | <a href="#">20302.050.001</a> | M10 | 10 | <a href="#">20302.100.001</a> | M20 | 2 | <a href="#">20302.200.001</a> |
| M6 | 10 | <a href="#">20302.060.001</a> | M12 | 10 | <a href="#">20302.120.001</a> | M24 | 2 | <a href="#">20302.240.001</a> |
| M8 | 10 | <a href="#">20302.080.001</a> | M16 | 5  | <a href="#">20302.160.001</a> |     |   |                               |

| 20140 Threaded rod length 1 meter oversized thread |                    | G06C |
|--|--------------------|------|
| <b>Thread</b>                                      | Metric thread      |      |
| <b>Material</b>                                    | Steel              |      |
| <b>Class</b>                                       | ≥4.8               |      |
| <b>Surface treatment</b>                           | Hot dip galvanized |      |
| <b>Packaging</b>                                   | Standard           |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M10 | 5 | <a href="#">20140.100.001</a> | M20 | 3 | <a href="#">20140.200.001</a> | M30 | 2 | <a href="#">20140.300.001</a> |
| M12 | 5 | <a href="#">20140.120.001</a> | M24 | 3 | <a href="#">20140.240.001</a> | M33 | 2 | <a href="#">20140.330.001</a> |
| M16 | 5 | <a href="#">20140.160.001</a> | M27 | 2 | <a href="#">20140.270.001</a> | M36 | 2 | <a href="#">20140.360.001</a> |

- For hot dip galvanized threaded rods with OVERSIZED thread the zinc layer is applied ON the normal thread, so AFTER galvanizing these threaded rods are no longer ISO-metric mating, but thicker: so called OVERSIZED.
- They do not mate the usual fit of screwthread and cannot be used in e.g. normal threaded holes.
- The corresponding OVERSIZED nuts have been tapped about 0,3 mm larger AFTER galvanizing running perfectly onto these threaded rods.

4

| 20160 Threaded rod length 1 meter iso-metric fitting thread |                    | G06C |
|---|--------------------|------|
| <b>Thread</b>   | Metric thread      |      |
| <b>Material</b>   | Steel              |      |
| <b>Class</b>  | ≥4.8               |      |
| <b>Surface treatment</b>                                    | Hot dip galvanized |      |
| <b>Packaging</b>  | Standard           |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M10 | 5 | <a href="#">20160.100.001</a> | M20 | 3 | <a href="#">20160.200.001</a> | M30 | 2 | <a href="#">20160.300.001</a> |
| M12 | 5 | <a href="#">20160.120.001</a> | M24 | 3 | <a href="#">20160.240.001</a> | M36 | 2 | <a href="#">20160.360.001</a> |
| M16 | 5 | <a href="#">20160.160.001</a> | M27 | 2 | <a href="#">20160.270.001</a> |     |   |                               |

- For hot dip galvanized threaded rods with ISO-METRIC FITTING thread, the thread is rolled undersize so that it will meet the go-gauge with tolerance class h AFTER galvanizing.
- The advantage of this way of manufacturing is that the threaded rods can be used in any threaded hole without any problem.
- The corresponding ISO-METRIC FITTING nuts have been threaded according to the tolerance class 6H AFTER galvanizing so that they perfectly fit onto the threaded rods.

| 20220 Threaded rod length 1 meter |               | G04A |
|-----------------------------------|---------------|------|
| <b>Thread</b>                     | Metric thread |      |
| <b>Material</b>                   | Steel         |      |
| <b>Class</b>                      | 8.8           |      |
| <b>Packaging</b>                  | Standard      |      |
|                                   |               |      |

| d   | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M5  | 10 | <a href="#">20220.050.001</a> | M20 | 3 | <a href="#">20220.200.001</a> | M42 | 1 | <a href="#">20220.420.001</a> |
| M6  | 10 | <a href="#">20220.060.001</a> | M22 | 3 | <a href="#">20220.220.001</a> | M45 | 1 | <a href="#">20220.450.001</a> |
| M8  | 10 | <a href="#">20220.080.001</a> | M24 | 3 | <a href="#">20220.240.001</a> | M48 | 1 | <a href="#">20220.480.001</a> |
| M10 | 10 | <a href="#">20220.100.001</a> | M27 | 2 | <a href="#">20220.270.001</a> | M52 | 1 | <a href="#">20220.520.001</a> |
| M12 | 5  | <a href="#">20220.120.001</a> | M30 | 2 | <a href="#">20220.300.001</a> | M56 | 1 | <a href="#">20220.560.001</a> |
| M14 | 5  | <a href="#">20220.140.001</a> | M33 | 2 | <a href="#">20220.330.001</a> | M60 | 1 | <a href="#">20220.600.001</a> |
| M16 | 5  | <a href="#">20220.160.001</a> | M36 | 2 | <a href="#">20220.360.001</a> | M64 | 1 | <a href="#">20220.640.001</a> |
| M18 | 3  | <a href="#">20220.180.001</a> | M39 | 1 | <a href="#">20220.390.001</a> |     |   |                               |

| 20180 Threaded rod length 1 meter |               | G04A |
|-----------------------------------|---------------|------|
| <b>Thread</b>                     | Metric thread |      |
| <b>Material</b>                   | Steel         |      |
| <b>Class</b>                      | 8.8           |      |
| <b>Packaging</b>                  | Large         |      |
|                                   |               |      |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 50 | <a href="#">20180.060.001</a> | M12 | 25 | <a href="#">20180.120.001</a> | M24 | 5 | <a href="#">20180.240.001</a> |
| M8  | 50 | <a href="#">20180.080.001</a> | M16 | 10 | <a href="#">20180.160.001</a> |     |   |                               |
| M10 | 25 | <a href="#">20180.100.001</a> | M20 | 10 | <a href="#">20180.200.001</a> |     |   |                               |

| 20230 Threaded rod length 1 meter |               | G04A |
|-----------------------------------|---------------|------|
| <b>Thread</b>                     | Metric thread |      |
| <b>Material</b>                   | Steel         |      |
| <b>Class</b>                      | 8.8           |      |
| <b>Surface treatment</b>          | Zinc plated   |      |
| <b>Packaging</b>                  | Standard      |      |

| d   | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M5  | 10 | <a href="#">20230.050.001</a> | M20 | 3 | <a href="#">20230.200.001</a> | M42 | 1 | <a href="#">20230.420.001</a> |
| M6  | 10 | <a href="#">20230.060.001</a> | M22 | 3 | <a href="#">20230.220.001</a> | M45 | 1 | <a href="#">20230.450.001</a> |
| M8  | 10 | <a href="#">20230.080.001</a> | M24 | 3 | <a href="#">20230.240.001</a> | M48 | 1 | <a href="#">20230.480.001</a> |
| M10 | 10 | <a href="#">20230.100.001</a> | M27 | 2 | <a href="#">20230.270.001</a> | M52 | 1 | <a href="#">20230.520.001</a> |
| M12 | 5  | <a href="#">20230.120.001</a> | M30 | 2 | <a href="#">20230.300.001</a> | M56 | 1 | <a href="#">20230.560.001</a> |
| M14 | 5  | <a href="#">20230.140.001</a> | M33 | 2 | <a href="#">20230.330.001</a> | M60 | 1 | <a href="#">20230.600.001</a> |
| M16 | 5  | <a href="#">20230.160.001</a> | M36 | 2 | <a href="#">20230.360.001</a> | M64 | 1 | <a href="#">20230.640.001</a> |
| M18 | 3  | <a href="#">20230.180.001</a> | M39 | 1 | <a href="#">20230.390.001</a> |     |   |                               |

| 20190 Threaded rod length 1 meter |               | G04A |
|-----------------------------------|---------------|------|
| <b>Thread</b>                     | Metric thread |      |
| <b>Material</b>                   | Steel         |      |
| <b>Class</b>                      | 8.8           |      |
| <b>Surface treatment</b>          | Zinc plated   |      |
| <b>Packaging</b>                  | Large         |      |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 50 | <a href="#">20190.060.001</a> | M12 | 25 | <a href="#">20190.120.001</a> | M24 | 5 | <a href="#">20190.240.001</a> |
| M8  | 50 | <a href="#">20190.080.001</a> | M16 | 10 | <a href="#">20190.160.001</a> |     |   |                               |
| M10 | 25 | <a href="#">20190.100.001</a> | M20 | 10 | <a href="#">20190.200.001</a> |     |   |                               |

| 20191 Threaded rod length 1 meter unpacked |               | G04A |
|--|---------------|------|
| <b>Thread</b>                              | Metric thread |      |
| <b>Material</b>                            | Steel         |      |
| <b>Class</b>                               | 8.8           |      |
| <b>Surface treatment</b>                   | Zinc plated   |      |
| <b>Packaging</b>                           | Bundled       |      |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6 | 100 | <a href="#">20191.060.001</a> | M10 | 25 | <a href="#">20191.100.001</a> | M16 | 10 | <a href="#">20191.160.001</a> |
| M8 | 50  | <a href="#">20191.080.001</a> | M12 | 25 | <a href="#">20191.120.001</a> |     |    |                               |

| 20376 Threaded rod length 1 meter left-hand thread |               | G05A |
|--|---------------|------|
| <b>Thread</b>                                      | Metric thread |      |
| <b>Material</b>                                    | Steel         |      |
| <b>Class</b>                                       | 8.8           |      |
| <b>Surface treatment</b>                           | Zinc plated   |      |
| <b>Packaging</b>                                   | Standard      |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 2 | <a href="#">20376.060.001</a> | M12 | 2 | <a href="#">20376.120.001</a> | M24 | 1 | <a href="#">20376.240.001</a> |
| M8  | 2 | <a href="#">20376.080.001</a> | M16 | 1 | <a href="#">20376.160.001</a> | M30 | 1 | <a href="#">20376.300.001</a> |
| M10 | 2 | <a href="#">20376.100.001</a> | M20 | 1 | <a href="#">20376.200.001</a> |     |   |                               |

| 20232 Threaded rod length 1 meter |                               | G06A |
|-----------------------------------|-------------------------------|------|
| <b>Thread</b>                     | Metric thread                 |      |
| <b>Material</b>                   | Steel                         |      |
| <b>Class</b>                      | 8.8                           |      |
| <b>Surface treatment</b>          | Zinc plated yellow passivated |      |
| <b>Packaging</b>                  | Standard                      |      |

| d   | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">20232.060.001</a> | M14 | 5 | <a href="#">20232.140.001</a> | M22 | 3 | <a href="#">20232.220.001</a> |
| M8  | 10 | <a href="#">20232.080.001</a> | M16 | 5 | <a href="#">20232.160.001</a> | M24 | 3 | <a href="#">20232.240.001</a> |
| M10 | 10 | <a href="#">20232.100.001</a> | M18 | 3 | <a href="#">20232.180.001</a> |     |   |                               |
| M12 | 5  | <a href="#">20232.120.001</a> | M20 | 3 | <a href="#">20232.200.001</a> |     |   |                               |

| 20170 Threaded rod length 1 meter iso-metric fitting thread |                    | G06C |
|---|--------------------|------|
| <b>Thread</b>   | Metric thread      |      |
| <b>Material</b>   | Steel              |      |
| <b>Class</b>  | 8.8                |      |
| <b>Surface treatment</b>                                    | Hot dip galvanized |      |
| <b>Packaging</b>  | Standard           |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M10 | 5 | <a href="#">20170.100.001</a> | M24 | 3 | <a href="#">20170.240.001</a> | M39 | 1 | <a href="#">20170.390.001</a> |
| M12 | 5 | <a href="#">20170.120.001</a> | M27 | 2 | <a href="#">20170.270.001</a> | M42 | 1 | <a href="#">20170.420.001</a> |
| M16 | 5 | <a href="#">20170.160.001</a> | M30 | 2 | <a href="#">20170.300.001</a> |     |   |                               |
| M20 | 3 | <a href="#">20170.200.001</a> | M36 | 2 | <a href="#">20170.360.001</a> |     |   |                               |

- For hot dip galvanized threaded rods with ISO-METRIC FITTING thread, the thread is rolled undersize so that it will meet the go-gauge with tolerance class h AFTER galvanizing.
- The advantage of this way of manufacturing is that the threaded rods can be used in any threaded hole without any problem.
- The corresponding ISO-METRIC FITTING nuts have been threaded according to the tolerance class 6H AFTER galvanizing so that they perfectly fit onto the threaded rods.

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| 20150 Threaded rod length 1 meter oversized thread |                    | G06C |
|--|--------------------|------|
| <b>Thread</b>                                      | Metric thread      |      |
| <b>Material</b>                                    | Steel              |      |
| <b>Class</b>                                       | 8.8                |      |
| <b>Surface treatment</b>                           | Hot dip galvanized |      |
| <b>Packaging</b>                                   | Standard           |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M10 | 5 | <a href="#">20150.100.001</a> | M20 | 3 | <a href="#">20150.200.001</a> | M30 | 2 | <a href="#">20150.300.001</a> |
| M12 | 5 | <a href="#">20150.120.001</a> | M24 | 3 | <a href="#">20150.240.001</a> | M33 | 2 | <a href="#">20150.330.001</a> |
| M16 | 5 | <a href="#">20150.160.001</a> | M27 | 2 | <a href="#">20150.270.001</a> | M36 | 2 | <a href="#">20150.360.001</a> |

- For hot dip galvanized threaded rods with OVERSIZED thread the zinc layer is applied ON the normal thread, so AFTER galvanizing these threaded rods are no longer ISO-metric mating, but thicker: so called OVERSIZED.
- They do not mate the usual fit of screwthread and cannot be used in e.g. normal threaded holes.
- The corresponding OVERSIZED nuts have been tapped about 0,3 mm larger AFTER galvanizing running perfectly onto these threaded rods.

| 20130 Threaded rod length 1 meter |               | G04A |
|-----------------------------------|---------------|------|
| <b>Thread</b>                     | Metric thread |      |
| <b>Material</b>                   | Steel         |      |
| <b>Class</b>                      | 10.9          |      |
| <b>Packaging</b>                  | Standard      |      |
|                                   |               |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M5  | 5 | <a href="#">20130.050.001</a> | M16 | 3 | <a href="#">20130.160.001</a> | M30 | 2 | <a href="#">20130.300.001</a> |
| M6  | 5 | <a href="#">20130.060.001</a> | M18 | 3 | <a href="#">20130.180.001</a> | M33 | 2 | <a href="#">20130.330.001</a> |
| M8  | 5 | <a href="#">20130.080.001</a> | M20 | 3 | <a href="#">20130.200.001</a> | M36 | 2 | <a href="#">20130.360.001</a> |
| M10 | 5 | <a href="#">20130.100.001</a> | M22 | 3 | <a href="#">20130.220.001</a> | M39 | 2 | <a href="#">20130.390.001</a> |
| M12 | 5 | <a href="#">20130.120.001</a> | M24 | 3 | <a href="#">20130.240.001</a> | M42 | 1 | <a href="#">20130.420.001</a> |
| M14 | 5 | <a href="#">20130.140.001</a> | M27 | 2 | <a href="#">20130.270.001</a> | M45 | 1 | <a href="#">20130.450.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 20132 Threaded rod length 1 meter |               | G04A |
|-----------------------------------|---------------|------|
| <b>Thread</b>                     | Metric thread |      |
| <b>Material</b>                   | Steel         |      |
| <b>Class</b>                      | 12.9          |      |
| <b>Packaging</b>                  | Standard      |      |
|                                   |               |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M8  | 5 | <a href="#">20132.080.001</a> | M16 | 3 | <a href="#">20132.160.001</a> | M27 | 2 | <a href="#">20132.270.001</a> |
| M10 | 5 | <a href="#">20132.100.001</a> | M20 | 3 | <a href="#">20132.200.001</a> | M30 | 2 | <a href="#">20132.300.001</a> |
| M12 | 5 | <a href="#">20132.120.001</a> | M24 | 3 | <a href="#">20132.240.001</a> |     |   |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



| 51070 Threaded rod length 1 meter |                    | Q03A |
|-----------------------------------|--------------------|------|
| <b>Thread</b>                     | Metric thread      |      |
| <b>Material</b>                   | Stainless steel A2 |      |
| <b>Class</b>                      | 70                 |      |
| <b>Packaging</b>                  | Standard           |      |



| d   | ☒  | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| M3  | 10 | <a href="#">51070.030.001</a> | M14 | 5 | <a href="#">51070.140.001</a> | M30   | 1 | <a href="#">51070.300.001</a> |
| M4  | 10 | <a href="#">51070.040.001</a> | M16 | 5 | <a href="#">51070.160.001</a> | M33   | 1 | <a href="#">51070.330.001</a> |
| M5  | 10 | <a href="#">51070.050.001</a> | M18 | 3 | <a href="#">51070.180.001</a> | M36   | 1 | <a href="#">51070.360.001</a> |
| M6  | 10 | <a href="#">51070.060.001</a> | M20 | 3 | <a href="#">51070.200.001</a> | M42 * | 5 | <a href="#">51070.420.001</a> |
| M8  | 10 | <a href="#">51070.080.001</a> | M22 | 2 | <a href="#">51070.220.001</a> | M45 * | 5 | <a href="#">51070.450.001</a> |
| M10 | 10 | <a href="#">51070.100.001</a> | M24 | 2 | <a href="#">51070.240.001</a> | M48 * | 5 | <a href="#">51070.480.001</a> |
| M12 | 5  | <a href="#">51070.120.001</a> | M27 | 1 | <a href="#">51070.270.001</a> | M52 * | 1 | <a href="#">51070.520.001</a> |

• Sizes with a diameter > M24 are minimal property class 50.

| 51064 Threaded rod length 1 meter |                    | Q03A |
|-----------------------------------|--------------------|------|
| <b>Thread</b>                     | Metric thread      |      |
| <b>Material</b>                   | Stainless steel A2 |      |
| <b>Class</b>                      | 70                 |      |
| <b>Packaging</b>                  | Large              |      |



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6 | 50 | <a href="#">51064.060.001</a> | M10 | 25 | <a href="#">51064.100.001</a> | M16 | 15 | <a href="#">51064.160.001</a> |
| M8 | 25 | <a href="#">51064.080.001</a> | M12 | 25 | <a href="#">51064.120.001</a> |     |    |                               |

• Sizes with a diameter > M24 are minimal property class 50.

| 51074 Threaded rod length 1 meter left-hand thread |                    | R09A |
|--|--------------------|------|
| <b>Thread</b>                                      | Metric thread      |      |
| <b>Material</b>                                    | Stainless steel A2 |      |
| <b>Class</b>                                       | 70                 |      |
| <b>Packaging</b>                                   | Standard           |      |



| d    | ☒   | Art.number                    | d     | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-----|---|-------------------------------|
| M5 * | 100 | <a href="#">51074.050.001</a> | M12   | 2  | <a href="#">51074.120.001</a> | M20 | 1 | <a href="#">51074.200.001</a> |
| M6   | 2   | <a href="#">51074.060.001</a> | M14 * | 10 | <a href="#">51074.140.001</a> | M24 | 1 | <a href="#">51074.240.001</a> |
| M8   | 2   | <a href="#">51074.080.001</a> | M16   | 1  | <a href="#">51074.160.001</a> |     |   |                               |
| M10  | 2   | <a href="#">51074.100.001</a> | M18 * | 10 | <a href="#">51074.180.001</a> |     |   |                               |

• Sizes with a diameter > M24 are minimal property class 50.

| 55070 Threaded rod length 1 meter |                    | Q43A |
|-----------------------------------|--------------------|------|
| <b>Thread</b>                     | Metric thread      |      |
| <b>Material</b>                   | Stainless steel A4 |      |
| <b>Class</b>                      | 70                 |      |
| <b>Packaging</b>                  | Standard           |      |



| d    | ☒  | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|----|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| M2   | 10 | <a href="#">55070.020.001</a> | M12 | 5 | <a href="#">55070.120.001</a> | M30   | 1 | <a href="#">55070.300.001</a> |
| M2,5 | 10 | <a href="#">55070.025.001</a> | M14 | 5 | <a href="#">55070.140.001</a> | M33   | 1 | <a href="#">55070.330.001</a> |
| M3   | 10 | <a href="#">55070.030.001</a> | M16 | 5 | <a href="#">55070.160.001</a> | M36   | 1 | <a href="#">55070.360.001</a> |
| M4   | 10 | <a href="#">55070.040.001</a> | M18 | 3 | <a href="#">55070.180.001</a> | M42 * | 5 | <a href="#">55070.420.001</a> |
| M5   | 10 | <a href="#">55070.050.001</a> | M20 | 3 | <a href="#">55070.200.001</a> | M45 * | 5 | <a href="#">55070.450.001</a> |
| M6   | 10 | <a href="#">55070.060.001</a> | M22 | 2 | <a href="#">55070.220.001</a> | M52 * | 1 | <a href="#">55070.520.001</a> |
| M8   | 10 | <a href="#">55070.080.001</a> | M24 | 2 | <a href="#">55070.240.001</a> |       |   |                               |
| M10  | 10 | <a href="#">55070.100.001</a> | M27 | 1 | <a href="#">55070.270.001</a> |       |   |                               |

• Sizes with a diameter > M24 are minimal property class 50.


4

| 45070 Threaded rod length 1 meter |                      | W01A |  |
|-----------------------------------|----------------------|------|--|
| <b>Thread</b>                     | Metric thread        |      |  |
| <b>Material</b>                   | Aluminium Sopral P40 |      |  |
| <b>Packaging</b>                  | Standard             |      |  |



| d  | ☒  | Art.number                    | d  | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|-----|---|-------------------------------|
| M4 | 1  | <a href="#">45070.040.001</a> | M6 | 10 | <a href="#">45070.060.001</a> | M10 | 5 | <a href="#">45070.100.001</a> |
| M5 | 10 | <a href="#">45070.050.001</a> | M8 | 5  | <a href="#">45070.080.001</a> |     |   |                               |

| 45270 Threaded rod length 1 meter |                      | W01A |  |
|-----------------------------------|----------------------|------|--|
| <b>Thread</b>                     | Metric thread        |      |  |
| <b>Material</b>                   | Aluminium Sopral P60 |      |  |
| <b>Packaging</b>                  | Standard             |      |  |



| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M8 | 5 | <a href="#">45270.080.001</a> | M10 | 5 | <a href="#">45270.100.001</a> | M12 | 5 | <a href="#">45270.120.001</a> |

| 45940 Threaded rod length 1 meter |               | W01A |  |
|-----------------------------------|---------------|------|--|
| <b>Thread</b>                     | Metric thread |      |  |
| <b>Material</b>                   | Titanium ASTM |      |  |
| <b>Class</b>                      | Gr.2          |      |  |
| <b>Packaging</b>                  | Standard      |      |  |



| d  | ☒ | Art.number                    | d  | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 1 | <a href="#">45940.060.001</a> | M8 | 1 | <a href="#">45940.080.001</a> | M10 | 1 | <a href="#">45940.100.001</a> |

| 46090 Threaded rod length 1 meter |               | M01A |  |
|-----------------------------------|---------------|------|--|
| <b>Thread</b>                     | Metric thread |      |  |
| <b>Material</b>                   | Brass Cu2/Cu3 |      |  |
| <b>Packaging</b>                  | Standard      |      |  |




| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M3 | 10 | <a href="#">46090.030.001</a> | M8  | 10 | <a href="#">46090.080.001</a> | M16 | 2 | <a href="#">46090.160.001</a> |
| M4 | 10 | <a href="#">46090.040.001</a> | M10 | 5  | <a href="#">46090.100.001</a> | M18 | 2 | <a href="#">46090.180.001</a> |
| M5 | 10 | <a href="#">46090.050.001</a> | M12 | 5  | <a href="#">46090.120.001</a> | M20 | 2 | <a href="#">46090.200.001</a> |
| M6 | 10 | <a href="#">46090.060.001</a> | M14 | 2  | <a href="#">46090.140.001</a> | M22 | 2 | <a href="#">46090.220.001</a> |

| 56170 Threaded rod length 1 meter plastic |                           | W02A |  |
|---|---------------------------|------|--|
| <b>Thread</b>                             | Metric thread             |      |  |
| <b>Material</b>                           | Plastic Polyamide (nylon) |      |  |
| <b>Class</b>                              | PA 6.6                    |      |  |
| <b>Colour</b>                             | White                     |      |  |
| <b>Packaging</b>                          | Standard                  |      |  |



| d  | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M3 | 10 | <a href="#">56170.030.001</a> | M8  | 5 | <a href="#">56170.080.001</a> | M16 | 2 | <a href="#">56170.160.001</a> |
| M4 | 10 | <a href="#">56170.040.001</a> | M10 | 5 | <a href="#">56170.100.001</a> | M20 | 1 | <a href="#">56170.200.001</a> |
| M5 | 5  | <a href="#">56170.050.001</a> | M12 | 2 | <a href="#">56170.120.001</a> |     |   |                               |
| M6 | 5  | <a href="#">56170.060.001</a> | M14 | 2 | <a href="#">56170.140.001</a> |     |   |                               |

| 20330 Threaded rod length 2 meter |               | G06A |  |
|-----------------------------------|---------------|------|--|
| <b>Thread</b>                     | Metric thread |      |  |
| <b>Material</b>                   | Steel         |      |  |
| <b>Class</b>                      | ≥4.8          |      |  |
| <b>Surface treatment</b>          | Zinc plated   |      |  |
| <b>Packaging</b>                  | Standard      |      |  |



| d  | ☒  | Art.number                    | d  | ☒  | Art.number                    | d  | ☒  | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|----|----|-------------------------------|
| M5 | 10 | <a href="#">20330.050.001</a> | M6 | 10 | <a href="#">20330.060.001</a> | M8 | 10 | <a href="#">20330.080.001</a> |

| 20330 Threaded rod length 2 meter |    |                               |     |   |                               |     |   |                               |
|-----------------------------------|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| d                                 | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
| M10                               | 10 | <a href="#">20330.100.001</a> | M16 | 5 | <a href="#">20330.160.001</a> | M24 | 2 | <a href="#">20330.240.001</a> |
| M12                               | 10 | <a href="#">20330.120.001</a> | M20 | 2 | <a href="#">20330.200.001</a> |     |   |                               |

| 20320 Threaded rod length 2 meter |               |  |  |  |  |  |  | G06A |
|-----------------------------------|---------------|--|--|--|--|--|--|------|
| <b>Thread</b>                     | Metric thread |  |  |  |  |  |  |      |
| <b>Material</b>                   | Steel         |  |  |  |  |  |  |      |
| <b>Class</b>                      | ≥4.8          |  |  |  |  |  |  |      |
| <b>Surface treatment</b>          | Zinc plated   |  |  |  |  |  |  |      |
| <b>Packaging</b>                  | Large         |  |  |  |  |  |  |      |

| d  | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M5 | 100 | <a href="#">20320.050.001</a> | M10 | 25 | <a href="#">20320.100.001</a> | M16 | 10 | <a href="#">20320.160.001</a> |
| M6 | 50  | <a href="#">20320.060.001</a> | M12 | 20 | <a href="#">20320.120.001</a> | M20 | 5  | <a href="#">20320.200.001</a> |
| M8 | 25  | <a href="#">20320.080.001</a> | M14 | 10 | <a href="#">20320.140.001</a> | M24 | 5  | <a href="#">20320.240.001</a> |

| 20372 Threaded rod length 2 meter |               |  |  |  |  |  |  | G05A |
|-----------------------------------|---------------|--|--|--|--|--|--|------|
| <b>Thread</b>                     | Metric thread |  |  |  |  |  |  |      |
| <b>Material</b>                   | Steel         |  |  |  |  |  |  |      |
| <b>Class</b>                      | 8.8           |  |  |  |  |  |  |      |
| <b>Surface treatment</b>          | Zinc plated   |  |  |  |  |  |  |      |
| <b>Packaging</b>                  | Standard      |  |  |  |  |  |  |      |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M5  | 10 | <a href="#">20372.050.001</a> | M12 | 10 | <a href="#">20372.120.001</a> | M24 | 2 | <a href="#">20372.240.001</a> |
| M6  | 10 | <a href="#">20372.060.001</a> | M16 | 5  | <a href="#">20372.160.001</a> | M30 | 1 | <a href="#">20372.300.001</a> |
| M8  | 10 | <a href="#">20372.080.001</a> | M20 | 2  | <a href="#">20372.200.001</a> |     |   |                               |
| M10 | 10 | <a href="#">20372.100.001</a> | M22 | 2  | <a href="#">20372.220.001</a> |     |   |                               |

| 51071 Threaded rod length 2 meter |                    |  |  |  |  |  |  | R09A |
|-----------------------------------|--------------------|--|--|--|--|--|--|------|
| <b>Thread</b>                     | Metric thread      |  |  |  |  |  |  |      |
| <b>Material</b>                   | Stainless steel A2 |  |  |  |  |  |  |      |
| <b>Class</b>                      | 70                 |  |  |  |  |  |  |      |
| <b>Packaging</b>                  | Standard           |  |  |  |  |  |  |      |
|                                   |                    |  |  |  |  |  |  |      |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 5 | <a href="#">51071.060.001</a> | M12 | 2 | <a href="#">51071.120.001</a> | M24 | 1 | <a href="#">51071.240.001</a> |
| M8  | 5 | <a href="#">51071.080.001</a> | M16 | 2 | <a href="#">51071.160.001</a> |     |   |                               |
| M10 | 2 | <a href="#">51071.100.001</a> | M20 | 1 | <a href="#">51071.200.001</a> |     |   |                               |

- Sizes with a diameter > M24 are minimal property class 50.

| 55071 Threaded rod length 2 meter |                    |  |  |  |  |  |  | R49A |
|-----------------------------------|--------------------|--|--|--|--|--|--|------|
| <b>Thread</b>                     | Metric thread      |  |  |  |  |  |  |      |
| <b>Material</b>                   | Stainless steel A4 |  |  |  |  |  |  |      |
| <b>Class</b>                      | 70                 |  |  |  |  |  |  |      |
| <b>Packaging</b>                  | Standard           |  |  |  |  |  |  |      |
|                                   |                    |  |  |  |  |  |  |      |

| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 5 | <a href="#">55071.060.001</a> | M10 | 2 | <a href="#">55071.100.001</a> | M16 | 2 | <a href="#">55071.160.001</a> |
| M8 | 5 | <a href="#">55071.080.001</a> | M12 | 2 | <a href="#">55071.120.001</a> | M20 | 1 | <a href="#">55071.200.001</a> |

- Sizes with a diameter > M24 are minimal property class 50.

| 20410 Threaded rod length 3 meter |               |  |  |  |  |  |  | G05A |
|-----------------------------------|---------------|--|--|--|--|--|--|------|
| <b>Thread</b>                     | Metric thread |  |  |  |  |  |  |      |
| <b>Material</b>                   | Steel         |  |  |  |  |  |  |      |
| <b>Class</b>                      | ≥4.8          |  |  |  |  |  |  |      |
| <b>Surface treatment</b>          | Zinc plated   |  |  |  |  |  |  |      |
| <b>Packaging</b>                  | Standard      |  |  |  |  |  |  |      |

| d   | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">20410.060.001</a> | M12 | 5 | <a href="#">20410.120.001</a> | M24 | 2 | <a href="#">20410.240.001</a> |
| M8  | 10 | <a href="#">20410.080.001</a> | M16 | 2 | <a href="#">20410.160.001</a> |     |   |                               |
| M10 | 5  | <a href="#">20410.100.001</a> | M20 | 2 | <a href="#">20410.200.001</a> |     |   |                               |

4

| 20400 Threaded rod length 3 meter |               | G05A |  |
|-----------------------------------|---------------|------|--|
| <b>Thread</b>                     | Metric thread |      |  |
| <b>Material</b>                   | Steel         |      |  |
| <b>Class</b>                      | ≥4.8          |      |  |
| <b>Surface treatment</b>          | Zinc plated   |      |  |
| <b>Packaging</b>                  | Large         |      |  |



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6 | 25 | <a href="#">20400.060.001</a> | M10 | 10 | <a href="#">20400.100.001</a> | M16 | 5 | <a href="#">20400.160.001</a> |
| M8 | 25 | <a href="#">20400.080.001</a> | M12 | 10 | <a href="#">20400.120.001</a> |     |   |                               |

| 20395 Threaded rod length 3 meter |               | G05A |  |
|-----------------------------------|---------------|------|--|
| <b>Thread</b>                     | Metric thread |      |  |
| <b>Material</b>                   | Steel         |      |  |
| <b>Class</b>                      | 8.8           |      |  |
| <b>Surface treatment</b>          | Zinc plated   |      |  |
| <b>Packaging</b>                  | Standard      |      |  |



| d  | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 10 | <a href="#">20395.060.001</a> | M10 | 5 | <a href="#">20395.100.001</a> | M16 | 2 | <a href="#">20395.160.001</a> |
| M8 | 10 | <a href="#">20395.080.001</a> | M12 | 5 | <a href="#">20395.120.001</a> |     |   |                               |

| 51072 Threaded rod length 3 meter |                    | R09A |  |
|-----------------------------------|--------------------|------|--|
| <b>Thread</b>                     | Metric thread      |      |  |
| <b>Material</b>                   | Stainless steel A2 |      |  |
| <b>Class</b>                      | 70                 |      |  |
| <b>Packaging</b>                  | Standard           |      |  |



| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 5 | <a href="#">51072.060.001</a> | M10 | 2 | <a href="#">51072.100.001</a> | M16 | 2 | <a href="#">51072.160.001</a> |
| M8 | 5 | <a href="#">51072.080.001</a> | M12 | 2 | <a href="#">51072.120.001</a> |     |   |                               |

- Sizes with a diameter > M24 are minimal property class 50.

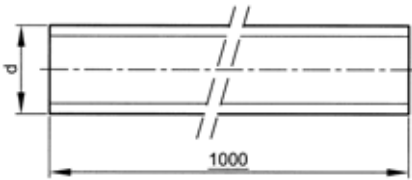
| 55072 Threaded rod length 3 meter |                    | R49A |  |
|-----------------------------------|--------------------|------|--|
| <b>Thread</b>                     | Metric thread      |      |  |
| <b>Material</b>                   | Stainless steel A4 |      |  |
| <b>Class</b>                      | 70                 |      |  |
| <b>Packaging</b>                  | Standard           |      |  |



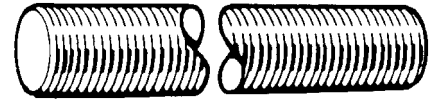
| d  | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 5 | <a href="#">55072.060.001</a> | M10 | 2 | <a href="#">55072.100.001</a> | M16 | 2 | <a href="#">55072.160.001</a> |
| M8 | 5 | <a href="#">55072.080.001</a> | M12 | 2 | <a href="#">55072.120.001</a> |     |   |                               |

- Sizes with a diameter > M24 are minimal property class 50.

## Threaded rod MF



DIN 976-1A  
 NEN 2369  
 NF E25-136



The end of the threaded rod is painted to improve the recognisability of the quality.

| Colour code threaded rods |  |              |
|---------------------------|--|--------------|
| Property class            | Material                                       | Colour       |
| 4.8                       | Plain steel and zinc plated                    | selfcolour   |
| 4.8                       | ISO metric hot dip galvanised                  | light blue   |
| 4.8                       | Oversized metric hot dip galvanised            | orange       |
| 5.6                       | Plain steel                                    | brown        |
| 5.8                       | Plain steel                                    | gentian blue |
| 8.8                       | Plain steel, zinc plated and yellow passivated | yellow       |
| 8.8                       | ISO metric hot dip galvanised                  | steel grey   |
| 8.8                       | Oversized metric hot dip galvanised            | purple       |
| 10.9                      | Plain steel                                    | white        |
| 12.9                      | Plain steel                                    | black        |
| ASTM-B7                   | Plain steel (UNC & 8UN)                        | selfcolour   |
| ASTM-B7                   | Plain steel (metric)                           | selfcolour   |
| RVS-A2                    | Stainless steel A2 metric                      | green        |
| RVS-A4                    | Stainless steel A4 metric                      | red          |

4

## Article groups

| Thread | Material  | Class | Surface treatment |         | Packaging | Code  | Page |
|--------|-----------|-------|-------------------|---------|-----------|-------|------|
| MF     | St        | ≥4.8  | Zipl              | 1 meter | Standard  | 20360 | 4-13 |
| MF     | St        | 8.8   | Zipl              | 1 meter | Standard  | 20235 | 4-13 |
| MF     | St.St. A4 | 70    |                   | 1 meter | Standard  | 55067 | 4-14 |

### 20360 Threaded rod length 1 meter

G05A

**Thread** Metric fine thread  
**Material** Steel  
**Class** ≥4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x P    | ☒ | Art.number                    | d x P           | ☒ | Art.number                    | d x P           | ☒ | Art.number                    |
|----------|---|-------------------------------|-----------------|---|-------------------------------|-----------------|---|-------------------------------|
| M8X1,00  | 2 | <a href="#">20360.080.100</a> | M14X1,50        | 1 | <a href="#">20360.140.150</a> | M27X1,50 (#DIN) | 1 | <a href="#">20360.270.150</a> |
| M10X1,00 | 2 | <a href="#">20360.100.100</a> | M16X1,50        | 1 | <a href="#">20360.160.150</a> | M27X2,00        | 1 | <a href="#">20360.270.200</a> |
| M10X1,25 | 2 | <a href="#">20360.100.125</a> | M18X1,50        | 1 | <a href="#">20360.180.150</a> |                 |   |                               |
|          |   |                               | M20X1,50        | 1 | <a href="#">20360.200.150</a> |                 |   |                               |
| M12X1,25 | 2 | <a href="#">20360.120.125</a> | M22X1,50        | 1 | <a href="#">20360.220.150</a> | M30X1,50 (#DIN) | 1 | <a href="#">20360.300.150</a> |
| M12X1,50 | 2 | <a href="#">20360.120.150</a> | M24X1,50 (#DIN) | 1 | <a href="#">20360.240.150</a> | M30X2,00        | 1 | <a href="#">20360.300.200</a> |
|          |   |                               | M24X2,00        | 1 | <a href="#">20360.240.200</a> |                 |   |                               |

### 20235 Threaded rod length 1 meter

G05A

**Thread** Metric fine thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x P    | ☒ | Art.number                    | d x P    | ☒ | Art.number                    | d x P    | ☒ | Art.number                    |
|----------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| M8X1,00  | 2 | <a href="#">20235.080.100</a> | M14X1,50 | 1 | <a href="#">20235.140.150</a> | M27X1,50 | 1 | <a href="#">20235.270.150</a> |
| M10X1,00 | 2 | <a href="#">20235.100.100</a> | M16X1,50 | 1 | <a href="#">20235.160.150</a> | M27X2,00 | 1 | <a href="#">20235.270.200</a> |
| M10X1,25 | 2 | <a href="#">20235.100.125</a> | M18X1,50 | 1 | <a href="#">20235.180.150</a> |          |   |                               |
|          |   |                               | M20X1,50 | 1 | <a href="#">20235.200.150</a> |          |   |                               |
| M12X1,25 | 2 | <a href="#">20235.120.125</a> | M22X1,50 | 1 | <a href="#">20235.220.150</a> | M30X1,50 | 1 | <a href="#">20235.300.150</a> |
| M12X1,50 | 2 | <a href="#">20235.120.150</a> | M24X1,50 | 1 | <a href="#">20235.240.150</a> |          |   |                               |
|          |   |                               | M24X2,00 | 1 | <a href="#">20235.240.200</a> |          |   |                               |

**20235 Threaded rod length 1 meter** ←

| d x P    | ✉ | Art.number | d x P                         | ✉ | Art.number | d x P | ✉ | Art.number |
|----------|---|------------|-------------------------------|---|------------|-------|---|------------|
| M30X2,00 |   | 1          | <a href="#">20235.300.200</a> |   |            |       |   |            |

**55067 Threaded rod length 1 meter** R49A

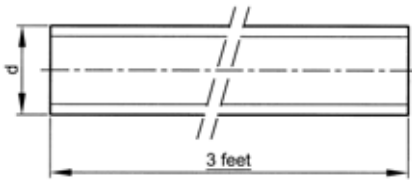
|                  |                    |  |  |  |  |  |  |  |
|------------------|--------------------|--|--|--|--|--|--|--|
| <b>Thread</b>    | Metric fine thread |  |  |  |  |  |  |  |
| <b>Material</b>  | Stainless steel A4 |  |  |  |  |  |  |  |
| <b>Class</b>     | 70                 |  |  |  |  |  |  |  |
| <b>Packaging</b> | Standard           |  |  |  |  |  |  |  |

| d x P    | ✉ | Art.number | d x P                         | ✉ | Art.number | d x P | ✉                             | Art.number      |   |                               |
|----------|---|------------|-------------------------------|---|------------|-------|-------------------------------|-----------------|---|-------------------------------|
| M8X1,00  |   | 2          | <a href="#">55067.080.100</a> |   | M12X1,50   | 2     | <a href="#">55067.120.150</a> | M22X1,50        | 1 | <a href="#">55067.220.150</a> |
| M10X1,00 |   | 2          | <a href="#">55067.100.100</a> |   |            |       |                               | M24X1,50 (#DIN) | 1 | <a href="#">55067.240.150</a> |
| M10X1,25 |   | 2          | <a href="#">55067.100.125</a> |   | M14X1,50   | 1     | <a href="#">55067.140.150</a> | M24X2,00        | 1 | <a href="#">55067.240.200</a> |
|          |   |            |                               |   | M16X1,50   | 1     | <a href="#">55067.160.150</a> |                 |   |                               |
| M12X1,25 |   | 2          | <a href="#">55067.120.125</a> |   | M20X1,50   | 1     | <a href="#">55067.200.150</a> |                 |   |                               |

4

- Sizes with a diameter > M24 are minimal property class 50.

## Threaded rod UNC



### Technical data

| d     | Threads per inch |
|-------|------------------|
| 1/4   | 20               |
| 5/16  | 18               |
| 3/8   | 16               |
| 1/2   | 13               |
| 5/8   | 11               |
| 3/4   | 10               |
| 7/8   | 9                |
| 1.IN. | 8                |

### Article groups

| Thread | Material  | Class | Packaging | Code  | Page |
|--------|-----------|-------|-----------|-------|------|
| UNC    | St        | ≥4.8  | 3 feet    | 20280 | 4-15 |
| UNC    | St.St. A4 |       | 3 feet    | 55073 | 4-15 |

#### 20280 Threaded rod length 3 feet

X09A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Steel                   |
| <b>Class</b>     | ≥4.8                    |
| <b>Packaging</b> | Standard                |



| d    | ☒  | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|----|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 5/16 | 10 | <a href="#">20280.079.001</a> | 5/8 | 5 | <a href="#">20280.158.001</a> | 1.IN. | 2 | <a href="#">20280.254.001</a> |
| 3/8  | 10 | <a href="#">20280.096.001</a> | 3/4 | 2 | <a href="#">20280.191.001</a> |       |   |                               |
| 1/2  | 10 | <a href="#">20280.127.001</a> | 7/8 | 2 | <a href="#">20280.222.001</a> |       |   |                               |

#### 55073 Threaded rod length 3 feet

X15A

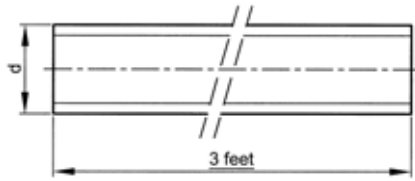
|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Stainless steel A4      |
| <b>Packaging</b> | Standard                |



| d    | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 1/4  | 5 | <a href="#">55073.063.001</a> | 1/2 | 3 | <a href="#">55073.127.001</a> | 7/8   | 1 | <a href="#">55073.222.001</a> |
| 5/16 | 5 | <a href="#">55073.079.001</a> | 5/8 | 3 | <a href="#">55073.158.001</a> | 1.IN. | 1 | <a href="#">55073.254.001</a> |
| 3/8  | 3 | <a href="#">55073.096.001</a> | 3/4 | 1 | <a href="#">55073.191.001</a> |       |   |                               |

- Depending on availability the austenitic steel type is comparable to AISI 316 with mechanical properties acc. to ASTM F593.

## Threaded rod UNF



### Technical data

| d    | Threads per inch | d    | Threads per inch | d         | Threads per inch |
|------|------------------|------|------------------|-----------|------------------|
| 1/4  | 28               | 1/2  | 20               | 7/8       | 14               |
| 5/16 | 24               | 9/16 | 18               | 1.IN.-12G | 12               |
| 3/8  | 24               | 5/8  | 18               | 1.IN.-14G | 14               |
| 7/16 | 20               | 3/4  | 16               | 1.1/8     | 12               |

4

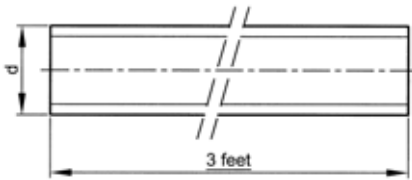
- If when ordering, UNF 1 inch-12 is not stated, then we supply the type with 14 threads per inch (UNS).

| 20290 Threaded rod length 3 feet |                       | X09A  |
|----------------------------------|-----------------------|---|
| <b>Thread</b>                    | Unified National Fine |  |
| <b>Material</b>                  | Steel                 |   |
| <b>Class</b>                     | ≥4.8                  |   |
| <b>Surface treatment</b>         | Zinc plated           |   |
| <b>Packaging</b>                 | Standard              |   |

| d    | ☒ | Art.number                    | d    | ☒ | Art.number                    | d         | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|-----------|---|-------------------------------|
| 1/4  | 3 | <a href="#">20290.063.001</a> | 1/2  | 2 | <a href="#">20290.127.001</a> | 7/8       | 1 | <a href="#">20290.222.001</a> |
| 5/16 | 2 | <a href="#">20290.079.001</a> | 9/16 | 1 | <a href="#">20290.142.001</a> | 1.IN.-12G | 1 | <a href="#">20290.255.001</a> |
| 3/8  | 2 | <a href="#">20290.096.001</a> | 5/8  | 1 | <a href="#">20290.158.001</a> | 1.IN.-14G | 1 | <a href="#">20290.256.001</a> |
| 7/16 | 2 | <a href="#">20290.111.001</a> | 3/4  | 1 | <a href="#">20290.191.001</a> | 1.1/8     | 1 | <a href="#">20290.285.001</a> |



## Threaded rod BSW



### Technical data

| d    | Threads per inch |
|------|------------------|
| 1/8  | 40               |
| 5/32 | 32               |
| 3/16 | 24               |
| 1/4  | 20               |
| 5/16 | 18               |

| d    | Threads per inch |
|------|------------------|
| 3/8  | 16               |
| 7/16 | 14               |
| 1/2  | 12               |
| 5/8  | 11               |
| 3/4  | 10               |

| d     | Threads per inch |
|-------|------------------|
| 7/8   | 9                |
| 1.IN. | 8                |
| 1.1/8 | 7                |
| 1.1/4 | 7                |
| 1.1/2 | 6                |

- Whitworth thread (BSW/BSF) is not internationally recommended.
- It is advised to use metric (M/MF) or unified threads (UNC/UNF).

### Article groups

| Thread | Material   | Class | Surface treatment | Packaging | Code     | Page       |
|--------|------------|-------|-------------------|-----------|----------|------------|
| BSW    | St         | ≥4.8  |                   | 1 meter   | Standard | 20240 4-17 |
| BSW    | St         | ≥4.8  | Zipl              | 1 meter   | Standard | 20252 4-17 |
| BSW    | Br Cu2/Cu3 |       |                   | 1 meter   | Standard | 46290 4-17 |

#### 20240 Threaded rod BSW

X08A

|                  |                            |
|------------------|----------------------------|
| <b>Thread</b>    | British Standard Whitworth |
| <b>Material</b>  | Steel                      |
| <b>Class</b>     | ≥4.8                       |
| <b>Packaging</b> | Standard                   |



| d    | ☒  | Art.number                    | d    | ☒  | Art.number                    | d     | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|-------|---|-------------------------------|
| 1/8  | 20 | <a href="#">20240.031.001</a> | 3/8  | 10 | <a href="#">20240.096.001</a> | 7/8   | 2 | <a href="#">20240.222.001</a> |
| 5/32 | 20 | <a href="#">20240.039.001</a> | 7/16 | 10 | <a href="#">20240.111.001</a> | 1.IN. | 2 | <a href="#">20240.254.001</a> |
| 3/16 | 10 | <a href="#">20240.047.001</a> | 1/2  | 10 | <a href="#">20240.127.001</a> | 1.1/8 | 2 | <a href="#">20240.285.001</a> |
| 1/4  | 10 | <a href="#">20240.063.001</a> | 5/8  | 5  | <a href="#">20240.158.001</a> | 1.1/4 | 2 | <a href="#">20240.317.001</a> |
| 5/16 | 10 | <a href="#">20240.079.001</a> | 3/4  | 2  | <a href="#">20240.191.001</a> | 1.1/2 | 1 | <a href="#">20240.381.001</a> |

#### 20252 Threaded rod BSW

X08A

|                          |                            |
|--------------------------|----------------------------|
| <b>Thread</b>            | British Standard Whitworth |
| <b>Material</b>          | Steel                      |
| <b>Class</b>             | ≥4.8                       |
| <b>Surface treatment</b> | Zinc plated                |
| <b>Packaging</b>         | Standard                   |



| d    | ☒  | Art.number                    | d   | ☒  | Art.number                    | d     | ☒ | Art.number                    |
|------|----|-------------------------------|-----|----|-------------------------------|-------|---|-------------------------------|
| 1/4  | 10 | <a href="#">20252.063.001</a> | 1/2 | 10 | <a href="#">20252.127.001</a> | 7/8   | 2 | <a href="#">20252.222.001</a> |
| 5/16 | 10 | <a href="#">20252.079.001</a> | 5/8 | 5  | <a href="#">20252.158.001</a> | 1.IN. | 2 | <a href="#">20252.254.001</a> |
| 3/8  | 10 | <a href="#">20252.096.001</a> | 3/4 | 2  | <a href="#">20252.191.001</a> |       |   |                               |

#### 46290 Threaded rod BSW

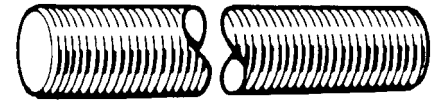
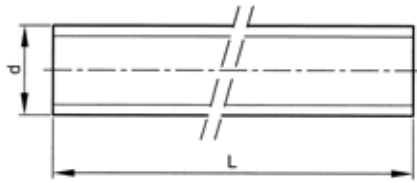
X08A

|                  |                            |
|------------------|----------------------------|
| <b>Thread</b>    | British Standard Whitworth |
| <b>Material</b>  | Brass Cu2/Cu3              |
| <b>Packaging</b> | Standard                   |



| d    | ☒  | Art.number                    | d    | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|-----|---|-------------------------------|
| 5/32 | 10 | <a href="#">46290.039.001</a> | 5/16 | 10 | <a href="#">46290.079.001</a> | 5/8 | 2 | <a href="#">46290.158.001</a> |
| 3/16 | 10 | <a href="#">46290.047.001</a> | 3/8  | 5  | <a href="#">46290.096.001</a> | 3/4 | 1 | <a href="#">46290.191.001</a> |
| 1/4  | 10 | <a href="#">46290.063.001</a> | 1/2  | 2  | <a href="#">46290.127.001</a> | 7/8 | 1 | <a href="#">46290.222.001</a> |

## Threaded rod Permaglas



### Technical data

| d   | P    |
|-----|------|
| M8  | 1,25 |
| M10 | 1,5  |
| M12 | 1,75 |
| M16 | 2    |
| M20 | 2,5  |
| M24 | 3    |

4

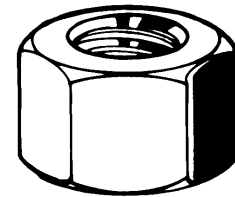
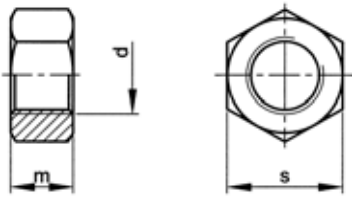
- Special features PERMAGLAS:
- Glass-fiber reinforced epoxy
- Temperature resistant  $-270^{\circ}\text{C}$  up to  $+155^{\circ}\text{C}$
- Light weight (gravity 1,8)
- Corrosion resistant
- Resistant to aggressive chemicals and gases
- Electrical- and thermal insulated
- Non-magnetic
- Higher mechanical properties as f.i. Polyamid

| 56050 Threaded rod Permaglas |   | W05G |
|------------------------------|---|------|
| <b>Thread</b>                | Metric thread                                   |      |
| <b>Material</b>              | Glass-fibre reinforced plastic Permaglas ME 771 |      |
| <b>Colour</b>                | Red   |      |
| <b>Packaging</b>             | Standard  |      |



| d x L   | ☒ | Art.number                    | d x L    | ☒ | Art.number                    | d x L    | ☒ | Art.number                    |
|---------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| M8X950  | 1 | <a href="#">56050.080.950</a> | M12X1900 | 1 | <a href="#">56050.121.900</a> | M20X1900 | 1 | <a href="#">56050.201.900</a> |
| M10X950 | 1 | <a href="#">56050.100.950</a> | M16X1900 | 1 | <a href="#">56050.161.900</a> | M24X1900 | 1 | <a href="#">56050.241.900</a> |

## Hexagon nut Permaglas



### Technical data

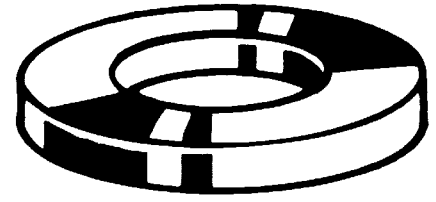
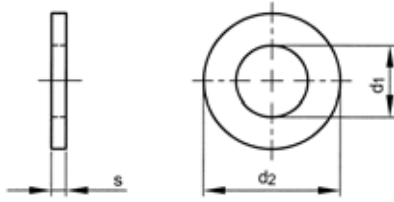
| d   | P    | m  | s  |
|-----|------|----|----|
| M8  | 1,25 | 8  | 13 |
| M10 | 1,5  | 10 | 17 |
| M12 | 1,75 | 12 | 19 |
| M16 | 2    | 16 | 24 |
| M20 | 2,5  | 20 | 30 |
| M24 | 3    | 24 | 36 |

- Special features PERMAGLAS:
- Glass-fiber reinforced epoxy
- Temperature resistant -270°C up to +155°C
- Light weight (gravity 1,8)
- Corrosion resistant
- Resistant to aggressive chemicals and gases
- Electrical- and thermal insulated
- Non-magnetic
- Higher mechanical properties as f.i. Polyamid

| 56052 Hexagon nut Permaglas |   | W05G |
|-----------------------------|---|------|
| <b>Thread</b>               | Metric thread                                   |      |
| <b>Material</b>             | Glass-fibre reinforced plastic Permaglas ME 730 |      |
| <b>Colour</b>               | Beige   |      |
| <b>Packaging</b>            | Standard  |      |

| d   | ✉ | Art.number                    | d   | ✉ | Art.number                    | d   | ✉ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M8  | 8 | <a href="#">56052.080.001</a> | M12 | 8 | <a href="#">56052.120.001</a> | M20 | 4 | <a href="#">56052.200.001</a> |
| M10 | 8 | <a href="#">56052.100.001</a> | M16 | 4 | <a href="#">56052.160.001</a> | M24 | 4 | <a href="#">56052.240.001</a> |

## Plain washer without chamfer Permaglas



### Technical data

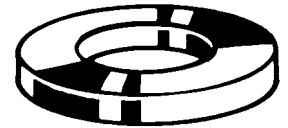
| d   | d <sub>1</sub> | d <sub>2</sub> | s   |
|-----|----------------|----------------|-----|
| M8  | 9              | 18             | 1,5 |
| M10 | 11             | 22             | 2   |
| M12 | 14             | 27             | 2,5 |
| M16 | 18             | 32             | 3   |
| M20 | 22             | 40             | 3   |
| M24 | 27             | 50             | 4   |

- Special features PERMAGLAS:
- Glass-fiber reinforced epoxy.
- Temperature resistant -270°C up to +155°C.
- Light weight (gravity 1,8).
- Corrosion resistant.
- Resistant to aggressive chemicals and gases.
- Electrical- and thermal insulated.
- Non-magnetic.
- Higher mechanical properties as f.i. Polyamid.

### 56054 Plain washer without chamfer Permaglas

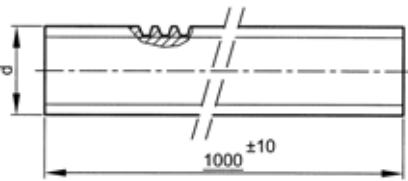
W05G

**Material** Glass-fibre reinforced plastic Permaglas ME 730  
**Colour** Beige  
**Packaging** Standard



| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M8  | 8 | <a href="#">56054.080.001</a> | M12 | 8 | <a href="#">56054.120.001</a> | M20 | 4 | <a href="#">56054.200.001</a> |
| M10 | 8 | <a href="#">56054.100.001</a> | M16 | 4 | <a href="#">56054.160.001</a> | M24 | 4 | <a href="#">56054.240.001</a> |

## Threaded rod Tr



- Trapezoidal thread according to DIN 103, straightness of threaded rods according to DIN 7168-2, tolerance class U.

### Article groups

| Thread | Material  | Class |                   | Packaging | Code  | Page |
|--------|-----------|-------|-------------------|-----------|-------|------|
| Tr     | St        | 5.8   | 1 meter           | Standard  | 20460 | 4-21 |
| Tr     | St        | 5.8   | 3 meter           | Standard  | 20464 | 4-21 |
| Tr     | St        | 5.8   | 1 meter left hand | Standard  | 20466 | 4-21 |
| Tr     | St.St. A2 |       | 1 meter           | Standard  | 51076 | 4-22 |
| Tr     | St.St. A2 |       | 3 meter           | Standard  | 51077 | 4-22 |


4

| 20460 Threaded rod length 1 meter |                    | G05A |  |
|-----------------------------------|--------------------|------|--|
| <b>Thread</b>                     | Trapezoidal thread |      |  |
| <b>Material</b>                   | Steel              |      |  |
| <b>Class</b>                      | 5.8                |      |  |
| <b>Packaging</b>                  | Standard           |      |  |




| d x P  | ☒ | Art.number                    | d x P  | ☒ | Art.number                    | d x P  | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr10X3 | 5 | <a href="#">20460.100.003</a> | Tr22X5 | 2 | <a href="#">20460.220.005</a> | Tr36X6 | 1 | <a href="#">20460.360.006</a> |
| Tr12X3 | 5 | <a href="#">20460.120.003</a> | Tr24X5 | 2 | <a href="#">20460.240.005</a> | Tr40X7 | 1 | <a href="#">20460.400.007</a> |
| Tr14X4 | 3 | <a href="#">20460.140.004</a> | Tr26X5 | 1 | <a href="#">20460.260.005</a> | Tr44X7 | 1 | <a href="#">20460.440.007</a> |
| Tr16X4 | 3 | <a href="#">20460.160.004</a> | Tr28X5 | 1 | <a href="#">20460.280.005</a> | Tr50X8 | 1 | <a href="#">20460.500.008</a> |
| Tr18X4 | 2 | <a href="#">20460.180.004</a> | Tr30X6 | 1 | <a href="#">20460.300.006</a> | Tr60X9 | 1 | <a href="#">20460.600.009</a> |
| Tr20X4 | 2 | <a href="#">20460.200.004</a> | Tr32X6 | 1 | <a href="#">20460.320.006</a> |        |   |                               |

| 20464 Threaded rod length 3 meter |                    | G05A |  |
|-----------------------------------|--------------------|------|--|
| <b>Thread</b>                     | Trapezoidal thread |      |  |
| <b>Material</b>                   | Steel              |      |  |
| <b>Class</b>                      | 5.8                |      |  |
| <b>Packaging</b>                  | Standard           |      |  |



| d x P  | ☒ | Art.number                    | d x P  | ☒ | Art.number                    | d x P  | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr10X3 | 1 | <a href="#">20464.100.003</a> | Tr20X4 | 1 | <a href="#">20464.200.004</a> | Tr36X6 | 1 | <a href="#">20464.360.006</a> |
| Tr12X3 | 1 | <a href="#">20464.120.003</a> | Tr24X5 | 1 | <a href="#">20464.240.005</a> | Tr40X7 | 1 | <a href="#">20464.400.007</a> |
| Tr16X4 | 1 | <a href="#">20464.160.004</a> | Tr30X6 | 1 | <a href="#">20464.300.006</a> |        |   |                               |

| 20466 Threaded rod length 1 meter left hand thread |                    | G05A |  |
|--|--------------------|------|--|
| <b>Thread</b>                                      | Trapezoidal thread |      |  |
| <b>Material</b>                                    | Steel              |      |  |
| <b>Class</b>                                       | 5.8                |      |  |
| <b>Packaging</b>                                   | Standard           |      |  |



| d x P  | ☒ | Art.number                    | d x P  | ☒ | Art.number                    | d x P  | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr12X3 | 3 | <a href="#">20466.120.003</a> | Tr24X5 | 1 | <a href="#">20466.240.005</a> | Tr40X7 | 1 | <a href="#">20466.400.007</a> |
| Tr16X4 | 2 | <a href="#">20466.160.004</a> | Tr30X6 | 1 | <a href="#">20466.300.006</a> |        |   |                               |
| Tr20X4 | 1 | <a href="#">20466.200.004</a> | Tr36X6 | 1 | <a href="#">20466.360.006</a> |        |   |                               |

| 51076 Threaded rod length 1 meter |                    | R09A  |
|-----------------------------------|--------------------|---|
| <b>Thread</b>                     | Trapezoidal thread |  |
| <b>Material</b>                   | Stainless steel A2 |   |
| <b>Packaging</b>                  | Standard           |   |

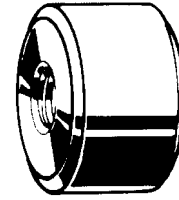
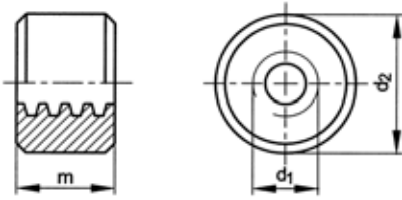
| d x P  | ✉ | Art.number                    | d x P  | ✉ | Art.number                    | d x P  | ✉ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr12X3 | 1 | <a href="#">51076.120.003</a> | Tr20X4 | 1 | <a href="#">51076.200.004</a> | Tr30X6 | 1 | <a href="#">51076.300.006</a> |
| Tr16X4 | 1 | <a href="#">51076.160.004</a> | Tr24X5 | 1 | <a href="#">51076.240.005</a> |        |   |                               |

| 51077 Threaded rod length 3 meter |                    | R09A  |
|-----------------------------------|--------------------|---|
| <b>Thread</b>                     | Trapezoidal thread |  |
| <b>Material</b>                   | Stainless steel A2 |   |
| <b>Packaging</b>                  | Standard           |   |

| d x P  | ✉ | Art.number                    | d x P  | ✉ | Art.number                    | d x P  | ✉ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr12X3 | 1 | <a href="#">51077.120.003</a> | Tr20X4 | 1 | <a href="#">51077.200.004</a> | Tr30X6 | 1 | <a href="#">51077.300.006</a> |
| Tr16X4 | 1 | <a href="#">51077.160.004</a> | Tr24X5 | 1 | <a href="#">51077.240.005</a> |        |   |                               |

4

## Round nut Tr



### Technical data

| d1          | d2 | m  | d1   | d2 | m  | d1   | d2  | m  |
|-------------|----|----|------|----|----|------|-----|----|
| Tr10 (#DIN) | 22 | 15 | Tr22 | 45 | 33 | Tr36 | 75  | 54 |
| Tr12        | 26 | 18 | Tr24 | 50 | 36 | Tr40 | 80  | 60 |
| Tr14 (#DIN) | 30 | 21 | Tr26 | 50 | 39 | Tr44 | 80  | 66 |
| Tr16        | 36 | 24 | Tr28 | 60 | 42 | Tr50 | 90  | 75 |
| Tr18        | 40 | 27 | Tr30 | 60 | 45 | Tr60 | 100 | 90 |
| Tr20        | 45 | 30 | Tr32 | 60 | 48 |      |     |    |

- Trapezoidal thread acc. to DIN 103.

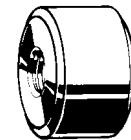
### Article groups

| Thread | Material           | Packaging | Code  | Page |
|--------|--------------------|-----------|-------|------|
| Tr     | Free-cutting steel | Standard  | 20470 | 4-23 |
| Tr     | Free-cutting steel | left hand | 20476 | 4-23 |
| Tr     | St.St. A1          | Standard  | 51170 | 4-23 |

#### 20470 Round nut Tr

**G05A**

**Thread** Trapezoidal thread  
**Material** Free-cutting steel  
**Packaging** Standard

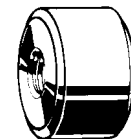


| d1 x P | ☒  | Art.number                    | d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    |
|--------|----|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr10X3 | 10 | <a href="#">20470.100.003</a> | Tr22X5 | 4 | <a href="#">20470.220.005</a> | Tr36X6 | 2 | <a href="#">20470.360.006</a> |
| Tr12X3 | 10 | <a href="#">20470.120.003</a> | Tr24X5 | 4 | <a href="#">20470.240.005</a> | Tr40X7 | 2 | <a href="#">20470.400.007</a> |
| Tr14X4 | 6  | <a href="#">20470.140.004</a> | Tr26X5 | 2 | <a href="#">20470.260.005</a> | Tr44X7 | 2 | <a href="#">20470.440.007</a> |
| Tr16X4 | 6  | <a href="#">20470.160.004</a> | Tr28X5 | 2 | <a href="#">20470.280.005</a> | Tr50X8 | 2 | <a href="#">20470.500.008</a> |
| Tr18X4 | 4  | <a href="#">20470.180.004</a> | Tr30X6 | 2 | <a href="#">20470.300.006</a> | Tr60X9 | 2 | <a href="#">20470.600.009</a> |
| Tr20X4 | 4  | <a href="#">20470.200.004</a> | Tr32X6 | 2 | <a href="#">20470.320.006</a> |        |   |                               |

#### 20476 Round nut left hand thread

**G05A**

**Thread** Trapezoidal thread  
**Material** Free-cutting steel  
**Packaging** Standard

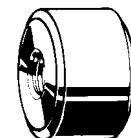


| d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr12X3 | 6 | <a href="#">20476.120.003</a> | Tr24X5 | 2 | <a href="#">20476.240.005</a> | Tr36X6 | 2 | <a href="#">20476.360.006</a> |
| Tr16X4 | 4 | <a href="#">20476.160.004</a> | Tr30X6 | 2 | <a href="#">20476.300.006</a> | Tr40X7 | 2 | <a href="#">20476.400.007</a> |
| Tr20X4 | 2 | <a href="#">20476.200.004</a> | Tr32X6 | 2 | <a href="#">20476.320.006</a> |        |   |                               |

#### 51170 Round nut Tr

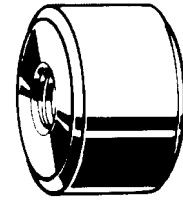
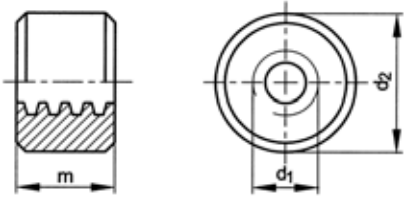
**R09A**

**Thread** Trapezoidal thread  
**Material** Stainless steel A1  
**Packaging** Standard



| d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr12X3 | 1 | <a href="#">51170.120.003</a> | Tr20X4 | 1 | <a href="#">51170.200.004</a> | Tr30X6 | 1 | <a href="#">51170.300.006</a> |
| Tr16X4 | 1 | <a href="#">51170.160.004</a> | Tr24X5 | 1 | <a href="#">51170.240.005</a> |        |   |                               |

## Round nut



### Technical data

| d1   | d2 | m  |
|------|----|----|
| Tr12 | 27 | 18 |
| Tr16 | 36 | 32 |
| Tr20 | 47 | 40 |
| Tr24 | 52 | 48 |
| Tr30 | 62 | 45 |
| Tr36 | 75 | 54 |
| Tr40 | 80 | 80 |

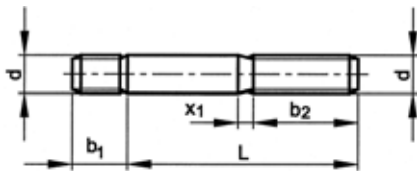
- Trapezoidal thread acc. to DIN 103.

| 20474 Round nut  |                    | G05A   |
|------------------|--------------------|--|
| <b>Thread</b>    | Trapezoidal thread |  |
| <b>Material</b>  | Bronze Cu4         |  |
| <b>Packaging</b> | Standard           |  |

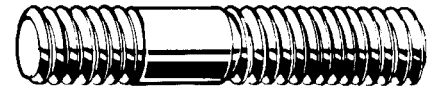
| d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    | d1 x P | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| Tr12X3 | 6 | <a href="#">20474.120.003</a> | Tr24X5 | 2 | <a href="#">20474.240.005</a> | Tr40X7 | 1 | <a href="#">20474.400.007</a> |
| Tr16X4 | 4 | <a href="#">20474.160.004</a> | Tr30X6 | 1 | <a href="#">20474.300.006</a> |        |   |                               |
| Tr20X4 | 2 | <a href="#">20474.200.004</a> | Tr36X6 | 1 | <a href="#">20474.360.006</a> |        |   |                               |



## Stud metal end $\approx 1,25d$



DIN 939  
NEN 2332  
NF E25-135



### Technical data

| d   | P    | $b_1 \approx 1,25d$ | $b_2: L \leq 125\text{mm}$ | $b_2: 125\text{mm} < L \leq 200\text{mm}$ | $x_1$ | $b_2 = L - (x_1 + 3) \text{ t/m } L \leq$ |
|-----|------|---------------------|----------------------------|---|-------|---|
| M6  | 1    | 7,5                 | 18                         | 24  | 2,5   | 20  |
| M8  | 1,25 | 10                  | 22                         | 28  | 3,2   | 25  |
| M10 | 1,5  | 12                  | 26                         | 32  | 3,8   | 30  |
| M12 | 1,75 | 15                  | 30                         | 36  | 4,3   | 35  |
| M14 | 2    | 18                  | 34                         | 40  | 5     | 40  |
| M16 | 2    | 20                  | 38                         | 44  | 5     | 45  |
| M18 | 2,5  | 22                  | 42                         | 48  | 6,3   | 50  |
| M20 | 2,5  | 25                  | 46                         | 52  | 6,3   | 55  |
| M22 | 2,5  | 28                  | 50                         | 56  | 6,3   | 60  |
| M24 | 3    | 30                  | 54                         | 60  | 7,5   | 65  |
| M27 | 3    | 35                  | 60                         | 66  | 7,5   | 70  |

- ATTENTION: when ordering studs acc. to DIN the diameter  $d$  x the effective length  $L$  has to be stated e.g. stud M10 x 65 - DIN 939, where  $L = 65$  mm is the working length and  $b_1 = 12$  mm the metal end. The total length is  $65 + 12 = 77$  mm. The threadlength on the outside  $b_2 = 26$  mm.
- The screw-in threaded end has been made with tolerance Sk6, acc. to DIN 13-51, meaning "heavy fit", and prevents loosening of studs during disassembly.
- Studs acc. to DIN 939 (5.6/5.8/8.8) with a metal end  $\approx 1,25d$  have many applications, among others in cast-iron.

### Article groups

| Thread | Material  | Class   | Surface treatment | Packaging | Code  | Page |
|--------|-----------|---------|-------------------|-----------|-------|------|
| M      | St        | 5.6/5.8 |                   | Standard  | 21500 | 4-25 |
| M      | St        | 5.6/5.8 | Zipl              | Standard  | 21510 | 4-26 |
| M      | St        | 5.6/5.8 | Zipl yell.p.      | Standard  | 21515 | 4-26 |
| M      | St        | 8.8     |                   | Standard  | 21520 | 4-26 |
| M      | St.St. A2 |         |                   | Standard  | 51270 | 4-27 |
| M      | St.St. A4 |         |                   | Standard  | 55270 | 4-27 |

### 21500 Stud metal end $\approx 1,25d$

G07A

**Thread** Metric thread  
**Material** Steel  
**Class** 5.6/5.8  
**Packaging** Standard



| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M6X20  | 200 | <a href="#">21500.060.020</a> | M10X55  | 100 | <a href="#">21500.100.055</a> | M16X50  | 50 | <a href="#">21500.160.050</a> |
| M6X25  | 200 | <a href="#">21500.060.025</a> | M10X60  | 100 | <a href="#">21500.100.060</a> | M16X55  | 50 | <a href="#">21500.160.055</a> |
| M6X30  | 200 | <a href="#">21500.060.030</a> | M10X65  | 100 | <a href="#">21500.100.065</a> | M16X60  | 50 | <a href="#">21500.160.060</a> |
| M6X35  | 200 | <a href="#">21500.060.035</a> | M10X70  | 100 | <a href="#">21500.100.070</a> | M16X65  | 25 | <a href="#">21500.160.065</a> |
| M6X40  | 200 | <a href="#">21500.060.040</a> |         |     |                               | M16X70  | 25 | <a href="#">21500.160.070</a> |
| M6X45  | 200 | <a href="#">21500.060.045</a> | M12X25  | 100 | <a href="#">21500.120.025</a> | M16X75  | 25 | <a href="#">21500.160.075</a> |
| M6X50  | 200 | <a href="#">21500.060.050</a> | M12X30  | 100 | <a href="#">21500.120.030</a> | M16X80  | 25 | <a href="#">21500.160.080</a> |
| M6X55  | 200 | <a href="#">21500.060.055</a> | M12X35  | 100 | <a href="#">21500.120.035</a> | M16X90  | 25 | <a href="#">21500.160.090</a> |
|        |     |                               | M12X40  | 100 | <a href="#">21500.120.040</a> | M16X100 | 25 | <a href="#">21500.160.100</a> |
|        |     |                               | M12X45  | 100 | <a href="#">21500.120.045</a> |         |    |                               |
| M8X20  | 100 | <a href="#">21500.080.020</a> | M12X50  | 50  | <a href="#">21500.120.050</a> | M20X40  | 25 | <a href="#">21500.200.040</a> |
| M8X25  | 100 | <a href="#">21500.080.025</a> | M12X55  | 50  | <a href="#">21500.120.055</a> | M20X45  | 25 | <a href="#">21500.200.045</a> |
| M8X30  | 100 | <a href="#">21500.080.030</a> | M12X60  | 50  | <a href="#">21500.120.060</a> | M20X50  | 25 | <a href="#">21500.200.050</a> |
| M8X35  | 100 | <a href="#">21500.080.035</a> | M12X65  | 50  | <a href="#">21500.120.065</a> | M20X55  | 25 | <a href="#">21500.200.055</a> |
| M8X40  | 100 | <a href="#">21500.080.040</a> | M12X70  | 50  | <a href="#">21500.120.070</a> | M20X60  | 25 | <a href="#">21500.200.060</a> |
| M8X45  | 100 | <a href="#">21500.080.045</a> | M12X75  | 50  | <a href="#">21500.120.075</a> | M20X65  | 25 | <a href="#">21500.200.065</a> |
| M8X50  | 100 | <a href="#">21500.080.050</a> | M12X80  | 50  | <a href="#">21500.120.080</a> | M20X70  | 25 | <a href="#">21500.200.070</a> |
| M8X60  | 100 | <a href="#">21500.080.060</a> | M12X90  | 50  | <a href="#">21500.120.090</a> | M20X75  | 25 | <a href="#">21500.200.075</a> |
| M8X65  | 100 | <a href="#">21500.080.065</a> | M12X100 | 50  | <a href="#">21500.120.100</a> | M20X80  | 25 | <a href="#">21500.200.080</a> |
| M8X70  | 100 | <a href="#">21500.080.070</a> |         |     |                               | M20X90  | 10 | <a href="#">21500.200.090</a> |
|        |     |                               | M14X40  | 50  | <a href="#">21500.140.040</a> | M20X100 | 10 | <a href="#">21500.200.100</a> |
| M10X20 | 100 | <a href="#">21500.100.020</a> | M14X50  | 50  | <a href="#">21500.140.050</a> | M20X110 | 10 | <a href="#">21500.200.110</a> |
| M10X25 | 100 | <a href="#">21500.100.025</a> | M14X60  | 50  | <a href="#">21500.140.060</a> | M20X120 | 10 | <a href="#">21500.200.120</a> |
| M10X30 | 100 | <a href="#">21500.100.030</a> |         |     |                               | M20X140 | 10 | <a href="#">21500.200.140</a> |
| M10X35 | 100 | <a href="#">21500.100.035</a> |         |     |                               |         |    |                               |
| M10X40 | 100 | <a href="#">21500.100.040</a> | M16X35  | 50  | <a href="#">21500.160.035</a> |         |    |                               |
| M10X45 | 100 | <a href="#">21500.100.045</a> | M16X40  | 50  | <a href="#">21500.160.040</a> | M22X50  | 10 | <a href="#">21500.220.050</a> |
| M10X50 | 100 | <a href="#">21500.100.050</a> | M16X45  | 50  | <a href="#">21500.160.045</a> | M22X60  | 10 | <a href="#">21500.220.060</a> |

**21500 Stud metal end ≈ 1,25d**

| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M22X70  | 10 | <a href="#">21500.220.070</a> | M22X140 | 10 | <a href="#">21500.220.140</a> | M24X90  | 10 | <a href="#">21500.240.090</a> |
| M22X80  | 10 | <a href="#">21500.220.080</a> |         |    |                               | M24X100 | 10 | <a href="#">21500.240.100</a> |
| M22X90  | 10 | <a href="#">21500.220.090</a> | M24X50  | 10 | <a href="#">21500.240.050</a> | M24X110 | 10 | <a href="#">21500.240.110</a> |
| M22X100 | 10 | <a href="#">21500.220.100</a> | M24X60  | 10 | <a href="#">21500.240.060</a> | M24X120 | 10 | <a href="#">21500.240.120</a> |
| M22X110 | 10 | <a href="#">21500.220.110</a> | M24X70  | 10 | <a href="#">21500.240.070</a> | M24X140 | 10 | <a href="#">21500.240.140</a> |
| M22X120 | 10 | <a href="#">21500.220.120</a> | M24X80  | 10 | <a href="#">21500.240.080</a> |         |    |                               |

**21510 Stud metal end ≈ 1,25d**
G07A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 5.6/5.8       |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X20 | 200 | <a href="#">21510.060.020</a> | M8X50  | 100 | <a href="#">21510.080.050</a> | M12X35 | 100 | <a href="#">21510.120.035</a> |
| M6X25 | 200 | <a href="#">21510.060.025</a> | M8X60  | 100 | <a href="#">21510.080.060</a> | M12X40 | 100 | <a href="#">21510.120.040</a> |
| M6X30 | 200 | <a href="#">21510.060.030</a> |        |     |                               | M12X50 | 50  | <a href="#">21510.120.050</a> |
| M6X35 | 200 | <a href="#">21510.060.035</a> | M10X20 | 100 | <a href="#">21510.100.020</a> | M12X60 | 50  | <a href="#">21510.120.060</a> |
| M6X40 | 200 | <a href="#">21510.060.040</a> | M10X25 | 100 | <a href="#">21510.100.025</a> |        |     |                               |
| M6X45 | 200 | <a href="#">21510.060.045</a> | M10X30 | 100 | <a href="#">21510.100.030</a> | M16X35 | 50  | <a href="#">21510.160.035</a> |
| M6X50 | 200 | <a href="#">21510.060.050</a> | M10X35 | 100 | <a href="#">21510.100.035</a> | M16X40 | 50  | <a href="#">21510.160.040</a> |
|       |     |                               | M10X40 | 100 | <a href="#">21510.100.040</a> | M16X45 | 50  | <a href="#">21510.160.045</a> |
| M8X20 | 100 | <a href="#">21510.080.020</a> | M10X50 | 100 | <a href="#">21510.100.050</a> | M16X50 | 50  | <a href="#">21510.160.050</a> |
| M8X25 | 100 | <a href="#">21510.080.025</a> | M10X60 | 100 | <a href="#">21510.100.060</a> | M16X55 | 50  | <a href="#">21510.160.055</a> |
| M8X30 | 100 | <a href="#">21510.080.030</a> |        |     |                               | M16X60 | 50  | <a href="#">21510.160.060</a> |
| M8X35 | 100 | <a href="#">21510.080.035</a> | M12X25 | 100 | <a href="#">21510.120.025</a> |        |     |                               |
| M8X40 | 100 | <a href="#">21510.080.040</a> | M12X30 | 100 | <a href="#">21510.120.030</a> |        |     |                               |

**21515 Stud metal end ≈ 1,25d**
G07A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 5.6/5.8                       |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X20 | 200 | <a href="#">21515.060.020</a> | M8X50  | 100 | <a href="#">21515.080.050</a> | M12X35 | 100 | <a href="#">21515.120.035</a> |
| M6X25 | 200 | <a href="#">21515.060.025</a> | M8X60  | 100 | <a href="#">21515.080.060</a> | M12X40 | 100 | <a href="#">21515.120.040</a> |
| M6X30 | 200 | <a href="#">21515.060.030</a> |        |     |                               | M12X50 | 50  | <a href="#">21515.120.050</a> |
| M6X35 | 200 | <a href="#">21515.060.035</a> | M10X20 | 100 | <a href="#">21515.100.020</a> | M12X60 | 50  | <a href="#">21515.120.060</a> |
| M6X40 | 200 | <a href="#">21515.060.040</a> | M10X25 | 100 | <a href="#">21515.100.025</a> |        |     |                               |
| M6X45 | 200 | <a href="#">21515.060.045</a> | M10X30 | 100 | <a href="#">21515.100.030</a> | M16X35 | 50  | <a href="#">21515.160.035</a> |
| M6X50 | 200 | <a href="#">21515.060.050</a> | M10X35 | 100 | <a href="#">21515.100.035</a> | M16X40 | 50  | <a href="#">21515.160.040</a> |
|       |     |                               | M10X40 | 100 | <a href="#">21515.100.040</a> | M16X45 | 50  | <a href="#">21515.160.045</a> |
| M8X20 | 100 | <a href="#">21515.080.020</a> | M10X50 | 100 | <a href="#">21515.100.050</a> | M16X50 | 50  | <a href="#">21515.160.050</a> |
| M8X25 | 100 | <a href="#">21515.080.025</a> | M10X60 | 100 | <a href="#">21515.100.060</a> | M16X55 | 50  | <a href="#">21515.160.055</a> |
| M8X30 | 100 | <a href="#">21515.080.030</a> |        |     |                               | M16X60 | 50  | <a href="#">21515.160.060</a> |
| M8X35 | 100 | <a href="#">21515.080.035</a> | M12X25 | 100 | <a href="#">21515.120.025</a> |        |     |                               |
| M8X40 | 100 | <a href="#">21515.080.040</a> | M12X30 | 100 | <a href="#">21515.120.030</a> |        |     |                               |

**21520 Stud metal end ≈ 1,25d**
G07A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 8.8           |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| M6X20 | 200 | <a href="#">21520.060.020</a> |        |     |                               | M12X55  | 50 | <a href="#">21520.120.055</a> |
| M6X25 | 200 | <a href="#">21520.060.025</a> | M10X20 | 100 | <a href="#">21520.100.020</a> | M12X60  | 50 | <a href="#">21520.120.060</a> |
| M6X30 | 200 | <a href="#">21520.060.030</a> | M10X25 | 100 | <a href="#">21520.100.025</a> | M12X65  | 50 | <a href="#">21520.120.065</a> |
| M6X35 | 200 | <a href="#">21520.060.035</a> | M10X30 | 100 | <a href="#">21520.100.030</a> | M12X70  | 50 | <a href="#">21520.120.070</a> |
| M6X40 | 200 | <a href="#">21520.060.040</a> | M10X35 | 100 | <a href="#">21520.100.035</a> | M12X75  | 50 | <a href="#">21520.120.075</a> |
| M6X45 | 200 | <a href="#">21520.060.045</a> | M10X40 | 100 | <a href="#">21520.100.040</a> | M12X80  | 50 | <a href="#">21520.120.080</a> |
| M6X50 | 200 | <a href="#">21520.060.050</a> | M10X45 | 100 | <a href="#">21520.100.045</a> | M12X90  | 50 | <a href="#">21520.120.090</a> |
| M6X55 | 200 | <a href="#">21520.060.055</a> | M10X50 | 100 | <a href="#">21520.100.050</a> | M12X100 | 50 | <a href="#">21520.120.100</a> |
|       |     |                               | M10X55 | 100 | <a href="#">21520.100.055</a> |         |    |                               |
| M8X20 | 100 | <a href="#">21520.080.020</a> | M10X60 | 100 | <a href="#">21520.100.060</a> | M14X30  | 50 | <a href="#">21520.140.030</a> |
| M8X25 | 100 | <a href="#">21520.080.025</a> | M10X65 | 100 | <a href="#">21520.100.065</a> | M14X35  | 50 | <a href="#">21520.140.035</a> |
| M8X30 | 100 | <a href="#">21520.080.030</a> | M10X70 | 100 | <a href="#">21520.100.070</a> | M14X40  | 50 | <a href="#">21520.140.040</a> |
| M8X35 | 100 | <a href="#">21520.080.035</a> |        |     |                               | M14X50  | 50 | <a href="#">21520.140.050</a> |
| M8X40 | 100 | <a href="#">21520.080.040</a> | M12X25 | 100 | <a href="#">21520.120.025</a> | M14X60  | 50 | <a href="#">21520.140.060</a> |
| M8X45 | 100 | <a href="#">21520.080.045</a> | M12X30 | 100 | <a href="#">21520.120.030</a> |         |    |                               |
| M8X50 | 100 | <a href="#">21520.080.050</a> | M12X35 | 100 | <a href="#">21520.120.035</a> | M16X35  | 50 | <a href="#">21520.160.035</a> |
| M8X60 | 100 | <a href="#">21520.080.060</a> | M12X40 | 100 | <a href="#">21520.120.040</a> | M16X40  | 50 | <a href="#">21520.160.040</a> |
| M8X65 | 100 | <a href="#">21520.080.065</a> | M12X45 | 100 | <a href="#">21520.120.045</a> | M16X45  | 50 | <a href="#">21520.160.045</a> |
| M8X70 | 100 | <a href="#">21520.080.070</a> | M12X50 | 50  | <a href="#">21520.120.050</a> | M16X50  | 50 | <a href="#">21520.160.050</a> |

| 21520 Stud metal end ≈ 1,25d |    |                               |         |    |                               |         |    |                               |
|------------------------------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| d x L                        | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
| M16X55                       | 50 | <a href="#">21520.160.055</a> | M20X60  | 25 | <a href="#">21520.200.060</a> | M22X80  | 10 | <a href="#">21520.220.080</a> |
| M16X60                       | 50 | <a href="#">21520.160.060</a> | M20X65  | 25 | <a href="#">21520.200.065</a> |         |    |                               |
| M16X65                       | 25 | <a href="#">21520.160.065</a> | M20X70  | 25 | <a href="#">21520.200.070</a> | M24X50  | 10 | <a href="#">21520.240.050</a> |
| M16X70                       | 25 | <a href="#">21520.160.070</a> | M20X75  | 25 | <a href="#">21520.200.075</a> | M24X60  | 10 | <a href="#">21520.240.060</a> |
| M16X75                       | 25 | <a href="#">21520.160.075</a> | M20X80  | 25 | <a href="#">21520.200.080</a> | M24X70  | 10 | <a href="#">21520.240.070</a> |
| M16X80                       | 25 | <a href="#">21520.160.080</a> | M20X90  | 10 | <a href="#">21520.200.090</a> | M24X75  | 10 | <a href="#">21520.240.075</a> |
| M16X90                       | 25 | <a href="#">21520.160.090</a> | M20X100 | 10 | <a href="#">21520.200.100</a> | M24X80  | 10 | <a href="#">21520.240.080</a> |
| M16X100                      | 25 | <a href="#">21520.160.100</a> | M20X110 | 10 | <a href="#">21520.200.110</a> | M24X90  | 10 | <a href="#">21520.240.090</a> |
|                              |    |                               | M20X120 | 10 | <a href="#">21520.200.120</a> | M24X100 | 10 | <a href="#">21520.240.100</a> |
| M20X40                       | 25 | <a href="#">21520.200.040</a> | M20X140 | 10 | <a href="#">21520.200.140</a> | M24X110 | 10 | <a href="#">21520.240.110</a> |
| M20X45                       | 25 | <a href="#">21520.200.045</a> |         |    |                               | M24X120 | 10 | <a href="#">21520.240.120</a> |
| M20X50                       | 25 | <a href="#">21520.200.050</a> | M22X60  | 10 | <a href="#">21520.220.060</a> |         |    |                               |
| M20X55                       | 25 | <a href="#">21520.200.055</a> | M22X70  | 10 | <a href="#">21520.220.070</a> |         |    |                               |

| 51270 Stud metal end ≈ 1,25d |                    |  |  |  |  | R09A  |  |
|------------------------------|--------------------|--|--|--|--|---|--|
| <b>Thread</b>                | Metric thread      |  |  |  |  |  |  |
| <b>Material</b>              | Stainless steel A2 |  |  |  |  |   |  |
| <b>Packaging</b>             | Standard           |  |  |  |  |   |  |

4

| d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| M6X16 *  | 200 | <a href="#">51270.060.016</a> | M10X40    | 25  | <a href="#">51270.100.040</a> | M16X30    | 10 | <a href="#">51270.160.030</a> |
| M6X20    | 100 | <a href="#">51270.060.020</a> | M10X45    | 25  | <a href="#">51270.100.045</a> | M16X35    | 10 | <a href="#">51270.160.035</a> |
| M6X25    | 100 | <a href="#">51270.060.025</a> | M10X50    | 25  | <a href="#">51270.100.050</a> | M16X40    | 10 | <a href="#">51270.160.040</a> |
| M6X30    | 100 | <a href="#">51270.060.030</a> | M10X55    | 25  | <a href="#">51270.100.055</a> | M16X45    | 10 | <a href="#">51270.160.045</a> |
| M6X35    | 100 | <a href="#">51270.060.035</a> | M10X60    | 25  | <a href="#">51270.100.060</a> | M16X50    | 10 | <a href="#">51270.160.050</a> |
| M6X40    | 100 | <a href="#">51270.060.040</a> | M10X65    | 25  | <a href="#">51270.100.065</a> | M16X55    | 10 | <a href="#">51270.160.055</a> |
| M6X45    | 100 | <a href="#">51270.060.045</a> | M10X70    | 25  | <a href="#">51270.100.070</a> | M16X60    | 10 | <a href="#">51270.160.060</a> |
| M6X50    | 100 | <a href="#">51270.060.050</a> | M10X75    | 25  | <a href="#">51270.100.075</a> | M16X65    | 10 | <a href="#">51270.160.065</a> |
| M6X55 *  | 200 | <a href="#">51270.060.055</a> | M10X80    | 25  | <a href="#">51270.100.080</a> | M16X70    | 10 | <a href="#">51270.160.070</a> |
| M6X60    | 100 | <a href="#">51270.060.060</a> | M10X90    | 10  | <a href="#">51270.100.090</a> | M16X75    | 10 | <a href="#">51270.160.075</a> |
| M6X70    | 100 | <a href="#">51270.060.070</a> | M10X100   | 10  | <a href="#">51270.100.100</a> | M16X80    | 10 | <a href="#">51270.160.080</a> |
| M6X80    | 100 | <a href="#">51270.060.080</a> | M10X120 * | 100 | <a href="#">51270.100.120</a> | M16X90    | 10 | <a href="#">51270.160.090</a> |
| M6X90    | 100 | <a href="#">51270.060.090</a> |           |     |                               | M16X100   | 10 | <a href="#">51270.160.100</a> |
| M6X100   | 100 | <a href="#">51270.060.100</a> | M12X20    | 10  | <a href="#">51270.120.020</a> | M16X110 * | 50 | <a href="#">51270.160.110</a> |
|          |     |                               | M12X25    | 10  | <a href="#">51270.120.025</a> |           |    |                               |
| M8X16 *  | 200 | <a href="#">51270.080.016</a> | M12X30    | 10  | <a href="#">51270.120.030</a> | M20X40    | 5  | <a href="#">51270.200.040</a> |
| M8X20    | 50  | <a href="#">51270.080.020</a> | M12X35    | 10  | <a href="#">51270.120.035</a> | M20X45    | 5  | <a href="#">51270.200.045</a> |
| M8X25    | 50  | <a href="#">51270.080.025</a> | M12X40    | 10  | <a href="#">51270.120.040</a> | M20X50    | 5  | <a href="#">51270.200.050</a> |
| M8X30    | 50  | <a href="#">51270.080.030</a> | M12X45    | 10  | <a href="#">51270.120.045</a> | M20X55    | 5  | <a href="#">51270.200.055</a> |
| M8X35    | 50  | <a href="#">51270.080.035</a> | M12X50    | 10  | <a href="#">51270.120.050</a> | M20X60    | 5  | <a href="#">51270.200.060</a> |
| M8X40    | 50  | <a href="#">51270.080.040</a> | M12X55    | 10  | <a href="#">51270.120.055</a> | M20X65    | 5  | <a href="#">51270.200.065</a> |
| M8X45    | 50  | <a href="#">51270.080.045</a> | M12X60    | 10  | <a href="#">51270.120.060</a> | M20X70    | 5  | <a href="#">51270.200.070</a> |
| M8X50    | 50  | <a href="#">51270.080.050</a> | M12X65    | 10  | <a href="#">51270.120.065</a> | M20X75    | 5  | <a href="#">51270.200.075</a> |
| M8X55 *  | 200 | <a href="#">51270.080.055</a> | M12X70    | 10  | <a href="#">51270.120.070</a> | M20X80    | 5  | <a href="#">51270.200.080</a> |
| M8X60    | 50  | <a href="#">51270.080.060</a> | M12X75    | 10  | <a href="#">51270.120.075</a> | M20X90    | 5  | <a href="#">51270.200.090</a> |
| M8X70    | 50  | <a href="#">51270.080.070</a> | M12X80    | 10  | <a href="#">51270.120.080</a> | M20X100   | 5  | <a href="#">51270.200.100</a> |
| M8X80    | 50  | <a href="#">51270.080.080</a> | M12X90    | 10  | <a href="#">51270.120.090</a> | M20X120   | 5  | <a href="#">51270.200.120</a> |
| M8X90    | 25  | <a href="#">51270.080.090</a> | M12X100   | 10  | <a href="#">51270.120.100</a> |           |    |                               |
| M8X100   | 25  | <a href="#">51270.080.100</a> | M12X110 * | 100 | <a href="#">51270.120.110</a> | M24X65 *  | 50 | <a href="#">51270.240.065</a> |
|          |     |                               | M12X120 * | 100 | <a href="#">51270.120.120</a> | M24X70 *  | 50 | <a href="#">51270.240.070</a> |
| M10X20   | 25  | <a href="#">51270.100.020</a> |           |     |                               | M27X75 *  | 25 | <a href="#">51270.270.075</a> |
| M10X22 * | 100 | <a href="#">51270.100.022</a> | M14X40 *  | 50  | <a href="#">51270.140.040</a> |           |    |                               |
| M10X25   | 25  | <a href="#">51270.100.025</a> | M14X70 *  | 50  | <a href="#">51270.140.070</a> |           |    |                               |
| M10X30   | 25  | <a href="#">51270.100.030</a> |           |     |                               |           |    |                               |
| M10X35   | 25  | <a href="#">51270.100.035</a> | M16X25 *  | 50  | <a href="#">51270.160.025</a> |           |    |                               |

| 55270 Stud metal end ≈ 1,25d |                    |  |  |  |  | R49A  |  |
|------------------------------|--------------------|--|--|--|--|---|--|
| <b>Thread</b>                | Metric thread      |  |  |  |  |  |  |
| <b>Material</b>              | Stainless steel A4 |  |  |  |  |   |  |
| <b>Packaging</b>             | Standard           |  |  |  |  |   |  |

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M6X16 * | 200 | <a href="#">55270.060.016</a> | M8X25   | 50  | <a href="#">55270.080.025</a> | M10X35   | 25  | <a href="#">55270.100.035</a> |
| M6X20   | 100 | <a href="#">55270.060.020</a> | M8X30   | 50  | <a href="#">55270.080.030</a> | M10X40   | 25  | <a href="#">55270.100.040</a> |
| M6X25   | 100 | <a href="#">55270.060.025</a> | M8X35   | 50  | <a href="#">55270.080.035</a> | M10X45   | 25  | <a href="#">55270.100.045</a> |
| M6X30   | 100 | <a href="#">55270.060.030</a> | M8X40   | 50  | <a href="#">55270.080.040</a> | M10X50   | 25  | <a href="#">55270.100.050</a> |
| M6X35   | 100 | <a href="#">55270.060.035</a> | M8X45   | 50  | <a href="#">55270.080.045</a> | M10X55   | 25  | <a href="#">55270.100.055</a> |
| M6X40   | 100 | <a href="#">55270.060.040</a> | M8X50   | 50  | <a href="#">55270.080.050</a> | M10X60   | 25  | <a href="#">55270.100.060</a> |
| M6X45   | 100 | <a href="#">55270.060.045</a> | M8X55 * | 200 | <a href="#">55270.080.055</a> | M10X65   | 25  | <a href="#">55270.100.065</a> |
| M6X50   | 100 | <a href="#">55270.060.050</a> | M8X60   | 50  | <a href="#">55270.080.060</a> | M10X70   | 25  | <a href="#">55270.100.070</a> |
| M6X60   | 100 | <a href="#">55270.060.060</a> | M8X65 * | 200 | <a href="#">55270.080.065</a> | M10X75 * | 100 | <a href="#">55270.100.075</a> |
| M6X65   | 200 | <a href="#">55270.060.065</a> | M8X70   | 50  | <a href="#">55270.080.070</a> | M10X80   | 25  | <a href="#">55270.100.080</a> |
| M6X70   | 100 | <a href="#">55270.060.070</a> | M8X80   | 50  | <a href="#">55270.080.080</a> | M10X90   | 10  | <a href="#">55270.100.090</a> |
| M6X80   | 100 | <a href="#">55270.060.080</a> | M8X100  | 25  | <a href="#">55270.080.100</a> | M10X100  | 10  | <a href="#">55270.100.100</a> |
| M6X100  | 100 | <a href="#">55270.060.100</a> |         |     |                               |          |     |                               |
|         |     |                               | M10X20  | 25  | <a href="#">55270.100.020</a> | M12X20   | 10  | <a href="#">55270.120.020</a> |
| M8X16 * | 200 | <a href="#">55270.080.016</a> | M10X25  | 25  | <a href="#">55270.100.025</a> | M12X25   | 10  | <a href="#">55270.120.025</a> |
| M8X20   | 50  | <a href="#">55270.080.020</a> | M10X30  | 25  | <a href="#">55270.100.030</a> | M12X30   | 10  | <a href="#">55270.120.030</a> |

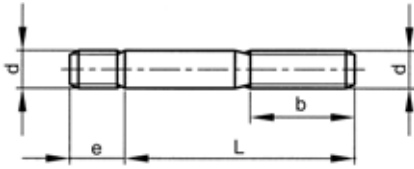
**55270 Stud metal end ≈ 1,25d**

| d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|-----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M12X35    | 10  | <a href="#">55270.120.035</a> | M16X45    | 10 | <a href="#">55270.160.045</a> | M20X65    | 5  | <a href="#">55270.200.065</a> |
| M12X40    | 10  | <a href="#">55270.120.040</a> | M16X50    | 10 | <a href="#">55270.160.050</a> | M20X70    | 5  | <a href="#">55270.200.070</a> |
| M12X45    | 10  | <a href="#">55270.120.045</a> | M16X55    | 10 | <a href="#">55270.160.055</a> | M20X75    | 5  | <a href="#">55270.200.075</a> |
| M12X50    | 10  | <a href="#">55270.120.050</a> | M16X60    | 10 | <a href="#">55270.160.060</a> | M20X80    | 5  | <a href="#">55270.200.080</a> |
| M12X55    | 10  | <a href="#">55270.120.055</a> | M16X65    | 10 | <a href="#">55270.160.065</a> | M20X85    | 50 | <a href="#">55270.200.085</a> |
| M12X65    | 10  | <a href="#">55270.120.065</a> | M16X70    | 10 | <a href="#">55270.160.070</a> | M20X90    | 5  | <a href="#">55270.200.090</a> |
| M12X70    | 10  | <a href="#">55270.120.070</a> | M16X75    | 10 | <a href="#">55270.160.075</a> | M20X100   | 5  | <a href="#">55270.200.100</a> |
| M12X75    | 10  | <a href="#">55270.120.075</a> | M16X80    | 10 | <a href="#">55270.160.080</a> | M20X110 * | 50 | <a href="#">55270.200.110</a> |
| M12X90    | 10  | <a href="#">55270.120.090</a> | M16X100   | 10 | <a href="#">55270.160.100</a> | M20X120   | 5  | <a href="#">55270.200.120</a> |
| M12X100   | 10  | <a href="#">55270.120.100</a> | M16X120 * | 50 | <a href="#">55270.160.120</a> |           |    |                               |
| M12X110 * | 100 | <a href="#">55270.120.110</a> |           |    |                               | M24X60    | 5  | <a href="#">55270.240.060</a> |
| M12X120 * | 100 | <a href="#">55270.120.120</a> | M18X45 *  | 50 | <a href="#">55270.180.045</a> | M24X70    | 5  | <a href="#">55270.240.070</a> |
|           |     |                               | M20X40    | 5  | <a href="#">55270.200.040</a> | M24X80    | 5  | <a href="#">55270.240.080</a> |
| M14X35 *  | 50  | <a href="#">55270.140.035</a> | M20X45    | 5  | <a href="#">55270.200.045</a> | M24X90    | 5  | <a href="#">55270.240.090</a> |
| M16X30    | 10  | <a href="#">55270.160.030</a> | M20X50    | 5  | <a href="#">55270.200.050</a> | M24X100   | 5  | <a href="#">55270.240.100</a> |
| M16X35    | 10  | <a href="#">55270.160.035</a> | M20X55    | 5  | <a href="#">55270.200.055</a> |           |    |                               |
| M16X40    | 10  | <a href="#">55270.160.040</a> | M20X60    | 5  | <a href="#">55270.200.060</a> |           |    |                               |

4

## Stud metal end $\approx 1,25d$ BSW

DIN  $\approx 939$  (1955)  
NEN  $\approx 2346$  (1962)



### Technical data

| d     | Threads per inch | b     | e $\approx 1,25d$ |
|-------|------------------|-------|-------------------|
| 5/16  | 18               | 18    | 10                |
| 3/8   | 16               | 20    | 12                |
| 1/2   | 12               | 25/30 | 16                |
| 5/8   | 11               | 28    | 20                |
| 3/4   | 10               | 32    | 25                |
| 1.IN. | 8                | 40/55 | 35                |

- Whitworth thread (BSW) is not internationally recommended.
- It is advised to use metric (M).
- ATTENTION: when ordering studs according to DIN the diameter  $d \times$  the effective length  $L$  has to be stated e.g. stud 5/16 x 25, where  $L = 25$  mm is the working length and  $e$  10 mm the metal end.
- The total length is  $25 + 10 = 35$  mm.
- The threadlength on the outside  $b = 18$  mm.
- Studs acc. to  $\approx$  DIN 939 (1955) with a metal end  $e \approx 1,25 d$  have many applications, among others in cast-iron.
- The screw-in threaded end has been made with tolerance Sk6, acc. to DIN 13 and 14, Beiblatt 14 (1944), meaning "heavy fit", and prevents loosening of studs during disassembly.

4

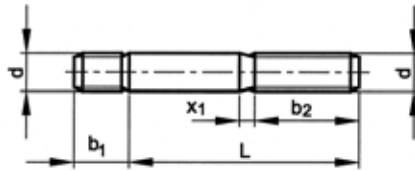
|  |                            |             |
|--|----------------------------|-------------|
| <b>21540 Stud metal end <math>\approx 1,25d</math> BSW</b> |                            | <b>X08A</b> |
| <b>Thread</b>  | British Standard Whitworth |             |
| <b>Material</b>  | Steel                      |             |
| <b>Class</b>   | 5.6/5.8                    |             |
| <b>Packaging</b>   | Standard                   |             |



| d x L     | ☒   | Art.number                    | d x L    | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|-----|-------------------------------|----------|----|-------------------------------|-----------|----|-------------------------------|
| 5/16X25MM | 100 | <a href="#">21540.079.025</a> | 1/2X40MM | 50 | <a href="#">21540.127.040</a> | 3/4X50MM  | 25 | <a href="#">21540.191.050</a> |
| 5/16X30MM | 100 | <a href="#">21540.079.030</a> | 1/2X45MM | 50 | <a href="#">21540.127.045</a> |           | 25 | <a href="#">21540.191.060</a> |
| 5/16X35MM | 100 | <a href="#">21540.079.035</a> | 1/2X50MM | 50 | <a href="#">21540.127.050</a> |           | 25 | <a href="#">21540.191.070</a> |
|           |     |                               | 1/2X60MM | 50 | <a href="#">21540.127.060</a> |           | 10 | <a href="#">21540.191.080</a> |
| 3/8X25MM  | 100 | <a href="#">21540.096.025</a> | 1/2X70MM | 50 | <a href="#">21540.127.070</a> | 1INX50MM  | 10 | <a href="#">21540.254.050</a> |
| 3/8X30MM  | 100 | <a href="#">21540.096.030</a> | 1/2X80MM | 50 | <a href="#">21540.127.080</a> |           | 10 | <a href="#">21540.254.060</a> |
| 3/8X35MM  | 100 | <a href="#">21540.096.035</a> |          |    |                               |           | 10 | <a href="#">21540.254.100</a> |
| 3/8X40MM  | 100 | <a href="#">21540.096.040</a> | 5/8X45MM | 25 | <a href="#">21540.158.045</a> |           |    |                               |
| 3/8X50MM  | 100 | <a href="#">21540.096.050</a> | 5/8X50MM | 25 | <a href="#">21540.158.050</a> | 1INX60MM  | 10 | <a href="#">21540.254.060</a> |
|           |     |                               | 5/8X60MM | 25 | <a href="#">21540.158.060</a> | 1INX100MM | 10 | <a href="#">21540.254.100</a> |
| 1/2X30MM  | 50  | <a href="#">21540.127.030</a> | 5/8X70MM | 25 | <a href="#">21540.158.070</a> |           |    |                               |
| 1/2X35MM  | 50  | <a href="#">21540.127.035</a> | 5/8X80MM | 25 | <a href="#">21540.158.080</a> |           |    |                               |

- Depending on availability class 5.8 can be supplied.

## Stud metal end $\approx 1d$



DIN 938  
 NEN 2331  
 NF E25-135



### Technical data

| d   | P    | $b_1 \approx 1d$ | $b_2$ | $x_1$ | $b_2 = L - (x_1 + 3) \text{ t/m L} \leq$ |
|-----|------|------------------|-------|-------|--|
| M5  | 0,8  | 5                | 16    | 2,0   | 20                                       |
| M6  | 1    | 6                | 18    | 2,5   | 22                                       |
| M8  | 1,25 | 8                | 22    | 3,2   | 28                                       |
| M10 | 1,5  | 10               | 26    | 3,8   | 30                                       |
| M12 | 1,75 | 12               | 30    | 4,3   | 35                                       |
| M14 | 2    | 14               | 34    | 5,0   | 40                                       |
| M16 | 2    | 16               | 38    | 5     | 45                                       |
| M20 | 2,5  | 20               | 46    | 6,3   | 55                                       |
| M24 | 3    | 24               | 54    | 7,5   | 65                                       |
| M30 | 3,5  | 30               | 66    | 9,0   | 80                                       |

- ATTENTION: when ordering studs acc. to DIN the diameter  $d$  x the effective length  $L$  has to be stated e.g. stud M10 x 70 - DIN 938, where  $L = 70$  mm is the working length and  $b_1 = 10$  mm the metal end. The total length is  $70 + 10 = 80$  mm. The thread length on the outside  $b_2 = 26$  mm.
- The screw-in threaded end has been made with tolerance Sk6, acc. to DIN 13-51, meaning "heavy fit", and prevents loosening of studs during disassembly.
- Studs acc. to DIN 938 with a metal end  $\approx 1d$  have many applications, among others in steel.

### Article groups

| Thread | Material  | Class | Packaging | Code  | Page |
|--------|-----------|-------|-----------|-------|------|
| M      | St        | 8.8   | Standard  | 21560 | 4-30 |
| M      | St.St. A2 |       | Standard  | 51280 | 4-31 |

#### 21560 Stud metal end $\approx 1d$

G07A

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Packaging** Standard



| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M6X20  | 200 | <a href="#">21560.060.020</a> | M10X50  | 100 | <a href="#">21560.100.050</a> | M16X60  | 50 | <a href="#">21560.160.060</a> |
| M6X25  | 200 | <a href="#">21560.060.025</a> | M10X55  | 100 | <a href="#">21560.100.055</a> | M16X70  | 25 | <a href="#">21560.160.070</a> |
| M6X30  | 200 | <a href="#">21560.060.030</a> | M10X60  | 100 | <a href="#">21560.100.060</a> | M16X80  | 25 | <a href="#">21560.160.080</a> |
| M6X40  | 200 | <a href="#">21560.060.040</a> | M10X70  | 100 | <a href="#">21560.100.070</a> | M16X90  | 25 | <a href="#">21560.160.090</a> |
| M6X50  | 200 | <a href="#">21560.060.050</a> |         |     |                               | M16X100 | 25 | <a href="#">21560.160.100</a> |
| M8X20  | 100 | <a href="#">21560.080.020</a> | M12X25  | 100 | <a href="#">21560.120.025</a> | M20X40  | 25 | <a href="#">21560.200.040</a> |
| M8X25  | 100 | <a href="#">21560.080.025</a> | M12X30  | 100 | <a href="#">21560.120.030</a> | M20X45  | 25 | <a href="#">21560.200.045</a> |
| M8X30  | 100 | <a href="#">21560.080.030</a> | M12X35  | 100 | <a href="#">21560.120.035</a> | M20X50  | 25 | <a href="#">21560.200.050</a> |
| M8X35  | 100 | <a href="#">21560.080.035</a> | M12X40  | 100 | <a href="#">21560.120.040</a> | M20X55  | 25 | <a href="#">21560.200.055</a> |
| M8X40  | 100 | <a href="#">21560.080.040</a> | M12X45  | 100 | <a href="#">21560.120.045</a> | M20X60  | 25 | <a href="#">21560.200.060</a> |
| M8X50  | 100 | <a href="#">21560.080.050</a> | M12X50  | 50  | <a href="#">21560.120.050</a> | M20X70  | 25 | <a href="#">21560.200.070</a> |
| M8X60  | 100 | <a href="#">21560.080.060</a> | M12X60  | 50  | <a href="#">21560.120.060</a> | M20X80  | 25 | <a href="#">21560.200.080</a> |
| M8X70  | 100 | <a href="#">21560.080.070</a> | M12X70  | 50  | <a href="#">21560.120.070</a> | M20X100 | 10 | <a href="#">21560.200.100</a> |
| M10X20 | 100 | <a href="#">21560.100.020</a> | M12X80  | 50  | <a href="#">21560.120.080</a> | M20X120 | 10 | <a href="#">21560.200.120</a> |
| M10X25 | 100 | <a href="#">21560.100.025</a> | M12X90  | 50  | <a href="#">21560.120.090</a> |         |    |                               |
| M10X30 | 100 | <a href="#">21560.100.030</a> | M12X100 | 50  | <a href="#">21560.120.100</a> | M24X60  | 10 | <a href="#">21560.240.060</a> |
| M10X35 | 100 | <a href="#">21560.100.035</a> | M16X35  | 50  | <a href="#">21560.160.035</a> | M24X70  | 10 | <a href="#">21560.240.070</a> |
| M10X40 | 100 | <a href="#">21560.100.040</a> | M16X40  | 50  | <a href="#">21560.160.040</a> | M24X80  | 10 | <a href="#">21560.240.080</a> |
| M10X45 | 100 | <a href="#">21560.100.045</a> | M16X45  | 50  | <a href="#">21560.160.045</a> |         |    |                               |
|        |     |                               | M16X50  | 50  | <a href="#">21560.160.050</a> |         |    |                               |

|                                  |                    |   |
|----------------------------------|--------------------|---|
| <b>51280 Stud metal end ≈ 1d</b> |                    | <b>R09A</b>   |
| <b>Thread</b>                    | Metric thread      |  |
| <b>Material</b>                  | Stainless steel A2 |   |
| <b>Packaging</b>                 | Standard           |   |

| d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|----|-------------------------------|
| M5X16 *  | 200 | <a href="#">51280.050.016</a> | M10X60    | 25  | <a href="#">51280.100.060</a> | M16X75 *  | 50 | <a href="#">51280.160.075</a> |
| M5X20 *  | 200 | <a href="#">51280.050.020</a> | M10X65 *  | 100 | <a href="#">51280.100.065</a> | M16X80    | 10 | <a href="#">51280.160.080</a> |
|          |     |                               | M10X70    | 25  | <a href="#">51280.100.070</a> | M16X85 *  | 50 | <a href="#">51280.160.085</a> |
| M6X16 *  | 200 | <a href="#">51280.060.016</a> | M10X80 *  | 100 | <a href="#">51280.100.080</a> | M16X90 *  | 50 | <a href="#">51280.160.090</a> |
| M6X20    | 100 | <a href="#">51280.060.020</a> | M10X90 *  | 100 | <a href="#">51280.100.090</a> | M16X100 * | 50 | <a href="#">51280.160.100</a> |
| M6X25    | 100 | <a href="#">51280.060.025</a> | M10X100 * | 100 | <a href="#">51280.100.100</a> | M16X110 * | 50 | <a href="#">51280.160.110</a> |
| M6X30    | 100 | <a href="#">51280.060.030</a> | M10X110 * | 100 | <a href="#">51280.100.110</a> |           |    |                               |
| M6X35    | 100 | <a href="#">51280.060.035</a> |           |     |                               | M20X40    | 5  | <a href="#">51280.200.040</a> |
| M6X40    | 100 | <a href="#">51280.060.040</a> | M12X30    | 10  | <a href="#">51280.120.030</a> | M20X45    | 5  | <a href="#">51280.200.045</a> |
| M6X45 *  | 200 | <a href="#">51280.060.045</a> | M12X35    | 10  | <a href="#">51280.120.035</a> | M20X50    | 5  | <a href="#">51280.200.050</a> |
| M6X50 *  | 200 | <a href="#">51280.060.050</a> | M12X40    | 10  | <a href="#">51280.120.040</a> | M20X55    | 5  | <a href="#">51280.200.055</a> |
|          |     |                               | M12X45    | 10  | <a href="#">51280.120.045</a> | M20X60    | 5  | <a href="#">51280.200.060</a> |
| M8X16 *  | 200 | <a href="#">51280.080.016</a> | M12X50    | 10  | <a href="#">51280.120.050</a> | M20X70    | 5  | <a href="#">51280.200.070</a> |
| M8X20    | 50  | <a href="#">51280.080.020</a> | M12X55    | 10  | <a href="#">51280.120.055</a> | M20X75    | 5  | <a href="#">51280.200.075</a> |
| M8X25    | 50  | <a href="#">51280.080.025</a> | M12X60    | 10  | <a href="#">51280.120.060</a> | M20X80    | 5  | <a href="#">51280.200.080</a> |
| M8X30    | 50  | <a href="#">51280.080.030</a> | M12X70    | 10  | <a href="#">51280.120.070</a> | M20X85 *  | 50 | <a href="#">51280.200.085</a> |
| M8X35    | 50  | <a href="#">51280.080.035</a> | M12X75 *  | 100 | <a href="#">51280.120.075</a> | M20X90 *  | 50 | <a href="#">51280.200.090</a> |
| M8X40    | 50  | <a href="#">51280.080.040</a> | M12X80    | 10  | <a href="#">51280.120.080</a> | M20X100 * | 50 | <a href="#">51280.200.100</a> |
| M8X50    | 50  | <a href="#">51280.080.050</a> | M12X90 *  | 100 | <a href="#">51280.120.090</a> |           |    |                               |
| M8X55 *  | 200 | <a href="#">51280.080.055</a> | M12X100 * | 100 | <a href="#">51280.120.100</a> | M24X50 *  | 50 | <a href="#">51280.240.050</a> |
| M8X60    | 50  | <a href="#">51280.080.060</a> | M12X110 * | 100 | <a href="#">51280.120.110</a> | M24X60 *  | 50 | <a href="#">51280.240.060</a> |
| M8X70    | 50  | <a href="#">51280.080.070</a> |           |     |                               | M24X65 *  | 50 | <a href="#">51280.240.065</a> |
|          |     |                               | M14X30 *  | 50  | <a href="#">51280.140.030</a> | M24X70 *  | 50 | <a href="#">51280.240.070</a> |
| M10X16 * | 100 | <a href="#">51280.100.016</a> | M16X30 *  | 50  | <a href="#">51280.160.030</a> | M24X75 *  | 50 | <a href="#">51280.240.075</a> |
| M10X20   | 25  | <a href="#">51280.100.020</a> | M16X35    | 10  | <a href="#">51280.160.035</a> | M24X80 *  | 50 | <a href="#">51280.240.080</a> |
| M10X25   | 25  | <a href="#">51280.100.025</a> | M16X40    | 10  | <a href="#">51280.160.040</a> |           |    |                               |
| M10X30   | 25  | <a href="#">51280.100.030</a> | M16X45    | 10  | <a href="#">51280.160.045</a> | M30X80 *  | 25 | <a href="#">51280.300.080</a> |
| M10X35   | 25  | <a href="#">51280.100.035</a> | M16X50    | 10  | <a href="#">51280.160.050</a> | M30X90 *  | 25 | <a href="#">51280.300.090</a> |
| M10X40   | 25  | <a href="#">51280.100.040</a> | M16X55    | 10  | <a href="#">51280.160.055</a> |           |    |                               |
| M10X50   | 25  | <a href="#">51280.100.050</a> | M16X60    | 10  | <a href="#">51280.160.060</a> |           |    |                               |
| M10X55   | 25  | <a href="#">51280.100.055</a> | M16X65    | 10  | <a href="#">51280.160.065</a> |           |    |                               |

## Studbolts - threaded rods - heavy hexagon nuts for the petrochemical- and off shore industry

### Grades

For studbolts and threaded rods Grade B7 acc. to ASTM A193 is the most popular Grade. Also ferritic steel Grade B16 acc. to ASTM A193 (for higher temperatures), Grade L7 acc. to ASTM A320 (for lower temperatures) and austenetic stainless steel Grade B8, B8M and B8T acc. to ASTM A193 (applicable for a very wide temperature range), can be supplied. For the matching heavy hex. nuts is Grade 2H acc. to ASTM A194 the most popular Grade. Also ferritic steel Grade 4 and Grade 7 acc. to ASTM A194 and austenetic stainless steel Grade B8, B8M and B8T acc. to ASTM A194 can be supplied ex-stock.

### Mechanical properties

ASTM A193 Grade B8, B8M en B8T comply with Class 1. Class 2 can be supplied on request. The mechanical properties mentioned below of ASTM A193 Grade B7 and B16 as well as ASTM A320 Grade L7, apply to diameters of 2 1/2 inch or 65 mm.

### Temperature range

Recommended max. operating temperature acc. to BS 4882: Grade B7 and L7 = 400°C / Grade B16 = 525°C / Grade B8, B8M and B8T = 575°C.

The cold-resistant steel A320 Grade L7 complies with a min. impact value of 20J at -101°C (average min. 27J).

### Certificates

Occasionally with the delivery of studbolts and heavy hex nuts a 3.1 certificate acc. to EN 10204 (DIN 50049) is required.

### Specials

Studbolts and heavy hex nuts with a corrosion resistant surface treatment such as zinc plated, hot dip galvanised, Xylan 1070 (PTFE coating), zinc flake (f.i. Dacromet 500) etc. can be supplied on request. Even less usual materials such as Duplex ASTM A453 Grade 660, Monel etc. can be supplied on request.

### Studbolts and threaded bolts

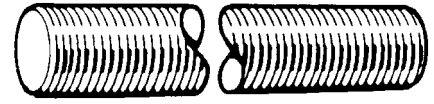
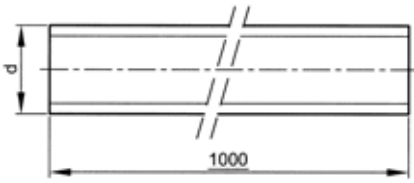
| Most important chemical elements  |       |                                    |           |                                      |           |                   |           |                          | Corresponding materials |             |                |                |
|-----------------------------------|-------|------------------------------------|-----------|--------------------------------------|-----------|-------------------|-----------|--------------------------|-------------------------|-------------|----------------|----------------|
| Standard                          | Grade | C                                  | Mn        | Cr                                   | Ni        | Mo                | V         | Ti                       | AISI                    | AFNOR       | DIN            | BS             |
| <b>Ferittic steel</b>             |       |                                    |           |                                      |           |                   |           |                          |                         |             |                |                |
| ASTM A193                         | B7    | 0,37-0,49                          | 0,65-1,10 | 0,75-1,20                            | -         | 0,15-0,25         | -         | -                        | 4140/4142/4145          | 42CD4       | 42CrMo4        | 1506-621 Gr A  |
| ASTM A193                         | B16   | 0,36-0,47                          | 0,45-0,70 | 0,80-1,15                            | -         | 0,50-0,65         | 0,25-0,35 | -                        | -                       | 40CDV4-06   | 24CrMoV55      | 1506-661       |
| ASTM A320                         | L7    | 0,38-0,48                          | 0,75-1,00 | 0,80-1,10                            | -         | 0,15-0,25         | -         | -                        | 4142/4145               | 42CD4       | 42CrMo4        | 1506-621 Gr A  |
| <b>Austenetic stainless steel</b> |       |                                    |           |                                      |           |                   |           |                          |                         |             |                |                |
| ASTM A193                         | B8    | max. 0,08                          | max. 2,00 | 18,0-20,0                            | 8,0-10,5  | -                 | -         | -                        | 304                     | Z6CN18-09   | X5CrNi18-09    | 1506-801 Gr B  |
| ASTM A193                         | B8M   | max. 0,08                          | max. 2,00 | 16,0-18,0                            | 10,0-14,0 | 2,0-3,0           | -         | -                        | 316                     | Z6CND17-11  | X5CrNiMo18-10  | 1506-845       |
| ASTM A193                         | B8T   | max. 0,08                          | max. 2,00 | 17,0-19,0                            | 9,0-12,0  | -                 | -         | min. 5 x C%              | 321                     | Z6CNT18-11  | X10CrNiTi18-09 | 1506-821 Gr Ti |
| <b>Mechanical properties</b>      |       |                                    |           |                                      |           |                   |           |                          |                         |             |                |                |
| Norm                              | Grade | Tensile strength N/mm <sup>2</sup> |           | 0,2% yieldstrength N/mm <sup>2</sup> |           | Elongation min. % |           | Reduction of area min. % |                         | Hardness HB |                |                |
| <b>Ferittic steel</b>             |       |                                    |           |                                      |           |                   |           |                          |                         |             |                |                |
| ASTM A193                         | B7    | 860                                |           | 720                                  |           | 16                |           | 50                       |                         | max. 321    |                |                |
| ASTM A193                         | B16   | 860                                |           | 725                                  |           | 18                |           | 50                       |                         | max. 321    |                |                |
| ASTM A320                         | L7    | 860                                |           | 725                                  |           | 16                |           | 50                       |                         | -           |                |                |
| <b>Austenetic stainless steel</b> |       |                                    |           |                                      |           |                   |           |                          |                         |             |                |                |
| ASTM A193                         | B8    | 515                                |           | 205                                  |           | 30                |           | 50                       |                         | max. 223    |                |                |
| ASTM A193                         | B8M   | 515                                |           | 205                                  |           | 30                |           | 50                       |                         | max. 223    |                |                |
| ASTM A193                         | B8T   | 515                                |           | 205                                  |           | 30                |           | 50                       |                         | max. 223    |                |                |

### Hexagon nuts

| Most important elements           |       |           |           |           |           |           |          |             | Corresponding materials |            |                |                |
|-----------------------------------|-------|-----------|-----------|-----------|-----------|-----------|----------|-------------|-------------------------|------------|----------------|----------------|
| Standard                          | Grade | C         | Mn        | Cr        | Ni        | Mo        | Ti       | Hardness HB | AISI                    | AFNOR      | DIN            | BS             |
| <b>Ferittic steel</b>             |       |           |           |           |           |           |          |             |                         |            |                |                |
| ASTM A194                         | 2H    | min. 0,40 | max.1,00  | -         | -         | -         | -        | 248-352     | -                       | C45d       | C45            | 1506-162       |
| ASTM A194                         | 4     | 0,40-0,50 | 0,70-0,90 | -         | -         | 0,20-0,30 | -        | 248-352     | -                       | -          | 24CrMo5        | 1506-240       |
| ASTM A194                         | 7     | 0,37-0,49 | 0,65-1,10 | 0,75-1,20 | -         | 0,15-0,25 | -        | 248-352     | 4140/4142/4145          | 42CD4      | 42CrMo4        | 1506-621 Gr A  |
| <b>Austenetic stainless steel</b> |       |           |           |           |           |           |          |             |                         |            |                |                |
| ASTM A194                         | 8     | max. 0,08 | max. 2,00 | 18,0-20,0 | 8,0-10,5  | -         | -        | 126-300     | 304                     | Z6CN18-09  | X5CrNi18-09    | 1506-801 Gr B  |
| ASTM A194                         | 8M    | max. 0,08 | max. 2,00 | 16,0-18,0 | 10,0-14,0 | 2,0-3,0   | -        | max. 223    | 316                     | Z6CND17-11 | X5CrNiMo18-10  | 1506-845       |
| ASTM A194                         | 8T    | max. 0,08 | max. 2,00 | 17,0-19,0 | 9,0-12,0  | -         | min.5xC% | 126-300     | 321                     | Z6CNT18-11 | X10CrNiTi18-09 | 1506-821 Gr Ti |



## Threaded rod ASTM



### Technical data

| d   | P    |
|-----|------|
| M8  | 1,25 |
| M10 | 1,5  |
| M12 | 1,75 |
| M14 | 2    |
| M16 | 2    |
| M18 | 2,5  |

| d   | P   |
|-----|-----|
| M20 | 2,5 |
| M22 | 2,5 |
| M24 | 3   |
| M27 | 3   |
| M30 | 3,5 |
| M33 | 3,5 |

| d   | P   |
|-----|-----|
| M36 | 4   |
| M39 | 4   |
| M42 | 4,5 |
| M45 | 4,5 |
| M48 | 5   |
| M52 | 5   |

4

### 22100 Threaded rod ASTM

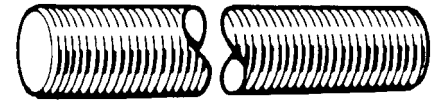
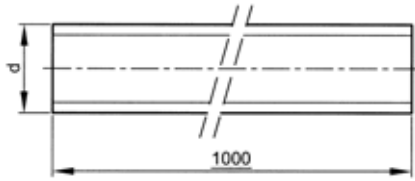
G09A

|                  |                 |
|------------------|-----------------|
| <b>Thread</b>    | Metric thread   |
| <b>Material</b>  | Steel ASTM A193 |
| <b>Class</b>     | Gr.B7           |
| <b>Packaging</b> | Standard        |



| d   | ✉ | Art.number                    | d   | ✉ | Art.number                    | d   | ✉ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M10 | 1 | <a href="#">22100.100.001</a> | M22 | 1 | <a href="#">22100.220.001</a> | M39 | 1 | <a href="#">22100.390.001</a> |
| M12 | 1 | <a href="#">22100.120.001</a> | M24 | 1 | <a href="#">22100.240.001</a> | M42 | 1 | <a href="#">22100.420.001</a> |
| M14 | 1 | <a href="#">22100.140.001</a> | M27 | 1 | <a href="#">22100.270.001</a> | M45 | 1 | <a href="#">22100.450.001</a> |
| M16 | 1 | <a href="#">22100.160.001</a> | M30 | 1 | <a href="#">22100.300.001</a> | M48 | 1 | <a href="#">22100.480.001</a> |
| M18 | 1 | <a href="#">22100.180.001</a> | M33 | 1 | <a href="#">22100.330.001</a> | M52 | 1 | <a href="#">22100.520.001</a> |
| M20 | 1 | <a href="#">22100.200.001</a> | M36 | 1 | <a href="#">22100.360.001</a> |     |   |                               |

## Threaded rod ASTM A193 Grade B7



### Technical data

| d    | Threads per inch | d     | Threads per inch | d     | Threads per inch |
|------|------------------|-------|------------------|-------|------------------|
| 1/4  | 20               | 7/8   | 9                | 1.5/8 | 8                |
| 5/16 | 18               | 1.IN. | 8                | 1.3/4 | 8                |
| 3/8  | 16               | 1.1/8 | 8                | 1.7/8 | 8                |
| 1/2  | 13               | 1.1/4 | 8                | 2.IN. | 8                |
| 5/8  | 11               | 1.3/8 | 8                |       |                  |
| 3/4  | 10               | 1.1/2 | 8                |       |                  |

4

### Article groups

| Thread | Material     | Class |         | Packaging | Code  | Page |
|--------|--------------|-------|---------|-----------|-------|------|
| UNC    | St ASTM A193 | Gr.B7 | 1 meter | Standard  | 22180 | 4-34 |
| 8 UN   | St ASTM A193 | Gr.B7 | 1 meter | Standard  | 22190 | 4-34 |

#### 22180 Threaded rod ASTM A193 Grade B7

G09A

|                  |                         |
|------------------|-------------------------|
| <b>Thread</b>    | Unified National Coarse |
| <b>Material</b>  | Steel ASTM A193         |
| <b>Class</b>     | Gr.B7                   |
| <b>Packaging</b> | Standard                |



| d    | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 1/4  | 1 | <a href="#">22180.063.001</a> | 1/2 | 1 | <a href="#">22180.127.001</a> | 7/8   | 1 | <a href="#">22180.222.001</a> |
| 5/16 | 1 | <a href="#">22180.079.001</a> | 5/8 | 1 | <a href="#">22180.158.001</a> | 1.IN. | 1 | <a href="#">22180.254.001</a> |
| 3/8  | 1 | <a href="#">22180.096.001</a> | 3/4 | 1 | <a href="#">22180.191.001</a> |       |   |                               |

#### 22190 Threaded rod ASTM A193 Grade B7

G09A

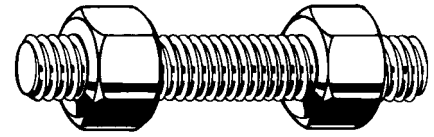
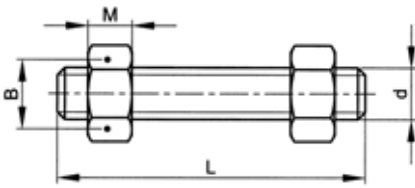
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | 8 Unified National |
| <b>Material</b>  | Steel ASTM A193    |
| <b>Class</b>     | Gr.B7              |
| <b>Packaging</b> | Standard           |



| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 1.1/8 | 1 | <a href="#">22190.285.001</a> | 1.1/2 | 1 | <a href="#">22190.381.001</a> | 1.7/8 | 1 | <a href="#">22190.476.001</a> |
| 1.1/4 | 1 | <a href="#">22190.317.001</a> | 1.5/8 | 1 | <a href="#">22190.412.001</a> | 2.IN. | 1 | <a href="#">22190.508.001</a> |
| 1.3/8 | 1 | <a href="#">22190.349.001</a> | 1.3/4 | 1 | <a href="#">22190.444.001</a> |       |   |                               |

## Studbolt with 2 hexagon nuts

BS 4882



### Technical data

| d   | P    | M  | B  |
|-----|------|----|----|
| M12 | 1,75 | 12 | 19 |
| M14 | 2    | 14 | 22 |
| M16 | 2    | 16 | 24 |
| M18 | 2,5  | 18 | 27 |

| d   | P   | M  | B  |
|-----|-----|----|----|
| M20 | 2,5 | 20 | 30 |
| M22 | 2,5 | 22 | 32 |
| M24 | 3   | 24 | 36 |
| M27 | 3   | 27 | 41 |

| d   | P   | M  | B  |
|-----|-----|----|----|
| M30 | 3,5 | 30 | 46 |
| M33 | 3,5 | 33 | 50 |

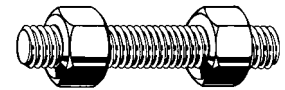
- Nut height 'M' is not acc. to BS 4882.
- L is the nominal length of the studbolt including the chamfered ends.

4

### 22060 Studbolt with 2 hexagon nuts

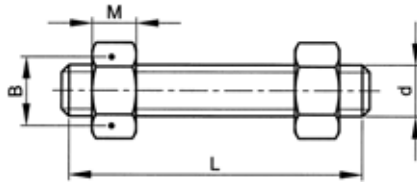
G09A

|                  |                             |
|------------------|-----------------------------|
| <b>Thread</b>    | Metric thread               |
| <b>Material</b>  | Steel ASTM A193 - ASTM A194 |
| <b>Class</b>     | Gr.B7 - Gr.2H               |
| <b>Packaging</b> | Standard                    |

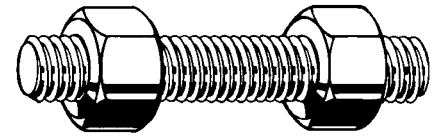


| d x L   | ✉ | Art.number                    | d x L   | ✉ | Art.number                    | d x L   | ✉ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M12X55  | 1 | <a href="#">22060.120.055</a> | M16X95  | 1 | <a href="#">22060.160.095</a> | M20X160 | 1 | <a href="#">22060.200.160</a> |
| M12X60  | 1 | <a href="#">22060.120.060</a> | M16X100 | 1 | <a href="#">22060.160.100</a> | M20X165 | 1 | <a href="#">22060.200.165</a> |
| M12X65  | 1 | <a href="#">22060.120.065</a> | M16X110 | 1 | <a href="#">22060.160.110</a> | M20X170 | 1 | <a href="#">22060.200.170</a> |
| M12X70  | 1 | <a href="#">22060.120.070</a> | M16X120 | 1 | <a href="#">22060.160.120</a> | M20X180 | 1 | <a href="#">22060.200.180</a> |
| M12X75  | 1 | <a href="#">22060.120.075</a> | M16X130 | 1 | <a href="#">22060.160.130</a> | M20X190 | 1 | <a href="#">22060.200.190</a> |
| M12X80  | 1 | <a href="#">22060.120.080</a> | M16X140 | 1 | <a href="#">22060.160.140</a> | M20X200 | 1 | <a href="#">22060.200.200</a> |
| M12X85  | 1 | <a href="#">22060.120.085</a> | M16X150 | 1 | <a href="#">22060.160.150</a> | M20X210 | 1 | <a href="#">22060.200.210</a> |
| M12X90  | 1 | <a href="#">22060.120.090</a> |         |   |                               |         |   |                               |
| M12X95  | 1 | <a href="#">22060.120.095</a> | M20X75  | 1 | <a href="#">22060.200.075</a> | M24X115 | 1 | <a href="#">22060.240.115</a> |
| M12X100 | 1 | <a href="#">22060.120.100</a> | M20X80  | 1 | <a href="#">22060.200.080</a> | M24X120 | 1 | <a href="#">22060.240.120</a> |
|         |   |                               | M20X85  | 1 | <a href="#">22060.200.085</a> | M24X125 | 1 | <a href="#">22060.240.125</a> |
| M14X65  | 1 | <a href="#">22060.140.065</a> | M20X90  | 1 | <a href="#">22060.200.090</a> | M24X130 | 1 | <a href="#">22060.240.130</a> |
| M14X70  | 1 | <a href="#">22060.140.070</a> | M20X95  | 1 | <a href="#">22060.200.095</a> | M24X140 | 1 | <a href="#">22060.240.140</a> |
| M14X75  | 1 | <a href="#">22060.140.075</a> | M20X100 | 1 | <a href="#">22060.200.100</a> | M24X150 | 1 | <a href="#">22060.240.150</a> |
| M14X80  | 1 | <a href="#">22060.140.080</a> | M20X105 | 1 | <a href="#">22060.200.105</a> | M24X160 | 1 | <a href="#">22060.240.160</a> |
| M14X90  | 1 | <a href="#">22060.140.090</a> | M20X110 | 1 | <a href="#">22060.200.110</a> | M24X170 | 1 | <a href="#">22060.240.170</a> |
| M14X100 | 1 | <a href="#">22060.140.100</a> | M20X115 | 1 | <a href="#">22060.200.115</a> | M24X180 | 1 | <a href="#">22060.240.180</a> |
|         |   |                               | M20X120 | 1 | <a href="#">22060.200.120</a> | M24X190 | 1 | <a href="#">22060.240.190</a> |
| M16X65  | 1 | <a href="#">22060.160.065</a> | M20X125 | 1 | <a href="#">22060.200.125</a> | M24X200 | 1 | <a href="#">22060.240.200</a> |
| M16X70  | 1 | <a href="#">22060.160.070</a> | M20X130 | 1 | <a href="#">22060.200.130</a> | M24X220 | 1 | <a href="#">22060.240.220</a> |
| M16X75  | 1 | <a href="#">22060.160.075</a> | M20X135 | 1 | <a href="#">22060.200.135</a> | M24X230 | 1 | <a href="#">22060.240.230</a> |
| M16X80  | 1 | <a href="#">22060.160.080</a> | M20X140 | 1 | <a href="#">22060.200.140</a> | M24X240 | 1 | <a href="#">22060.240.240</a> |
| M16X85  | 1 | <a href="#">22060.160.085</a> | M20X145 | 1 | <a href="#">22060.200.145</a> | M24X250 | 1 | <a href="#">22060.240.250</a> |
| M16X90  | 1 | <a href="#">22060.160.090</a> | M20X150 | 1 | <a href="#">22060.200.150</a> |         |   |                               |

## Studbolt with 2 hexagon nuts



ANSI B16.5  
BS 4882



### Technical data

| d     | Threads per inch | M     | B       |
|-------|------------------|-------|---------|
| 1/2   | 13               | 12,8  | 7/8     |
| 5/8   | 11               | 16,02 | 1.1/16  |
| 3/4   | 10               | 19,25 | 1.1/4   |
| 7/8   | 9                | 22,47 | 1.7/16  |
| 1.IN. | 8                | 25,7  | 1.5/8   |
| 1.1/8 | 8                | 28,93 | 1.13/16 |
| 1.1/4 | 8                | 31,77 | 2.IN.   |
| 1.3/8 | 8                | 35    | 2.3/16  |
| 1.1/2 | 8                | 38,22 | 2.3/8   |
| 1.5/8 | 8                | 41,25 | 2.9/16  |
| 1.3/4 | 8                | 44,47 | 2.3/4   |
| 1.7/8 | 8                | 47,9  | 2.15/16 |
| 2.IN. | 8                | 51,13 | 3.1/8   |

- Tolerances of the total length of the studbolts acc. to ASTM A 193 Par. 11.
- L is the nominal length of the studbolt of the first to the last full thread excluding the chamfered at each end.

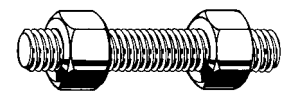
### Article groups

| Thread | Driving features | Material                     | Class             | Surface treatment | Packaging | Code  | Page |
|--------|------------------|------------------------------|-------------------|-------------------|-----------|-------|------|
| UNC    | hexagon          | St ASTM A193 - ASTM A194     | Gr.B7 - Gr.2H     |                   | Standard  | 22080 | 4-36 |
| UNC    | hexagon          | St ASTM A193 - ASTM A194     | Gr.B7 - Gr.2H     | Zipl              | Standard  | 22082 | 4-37 |
| 8 UN   | hexagon          | St ASTM A193 - ASTM A194     | Gr.B7 - Gr.2H     |                   | Standard  | 22090 | 4-37 |
| UNC    | hexagon          | St ASTM A320 - ASTM A194     | Gr.L7 - Gr.4      |                   | Standard  | 22320 | 4-38 |
| 8 UN   | hexagon          | St ASTM A320 - ASTM A194     | Gr.L7 - Gr.4      |                   | Standard  | 22330 | 4-39 |
| UNC    | hexagon          | St.St. ASTM A193 - ASTM A194 | Gr.B8CL1 - Gr.8   |                   | Standard  | 22534 | 4-39 |
| UNC    | hexagon          | St.St. ASTM A193 - ASTM A194 | Gr.B8MCL2 - Gr.8M |                   | Standard  | 22538 | 4-39 |
| UNC    | hexagon          | St ASTM A193 - ASTM A194     | Gr.B16 - Gr.2H    |                   | Standard  | 22551 | 4-40 |
| UNC    | hexagon          | St ASTM A193 - ASTM A194     | Gr.B16 - Gr.4     |                   | Standard  | 22554 | 4-40 |

### 22080 Studbolt with 2 hexagon nuts

G09A

**Thread** Unified National Coarse  
**Material** Steel ASTM A193 - ASTM A194  
**Class** Gr.B7 - Gr.2H  
**Packaging** Standard



| d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| 1/2X50 (2)       | 1 | <a href="#">22080.127.050</a> | 5/8X50 (2)       | 1 | <a href="#">22080.158.050</a> | 5/8X175 (6.7/8)  | 1 | <a href="#">22080.158.175</a> |
| 1/2X55 (2.1/4)   | 1 | <a href="#">22080.127.057</a> | 5/8X55 (2.1/4)   | 1 | <a href="#">22080.158.057</a> | 5/8X180 (7)      | 1 | <a href="#">22080.158.177</a> |
| 1/2X60 (2.3/8)   | 1 | <a href="#">22080.127.060</a> | 5/8X60 (2.3/8)   | 1 | <a href="#">22080.158.060</a> | 5/8X185 (7.1/4)  | 1 | <a href="#">22080.158.184</a> |
| 1/2X65 (2.1/2)   | 1 | <a href="#">22080.127.063</a> | 5/8X65 (2.1/2)   | 1 | <a href="#">22080.158.063</a> | 5/8X190 (7.1/2)  | 1 | <a href="#">22080.158.190</a> |
| 1/2X70 (2.3/4)   | 1 | <a href="#">22080.127.069</a> | 5/8X70 (2.3/4)   | 1 | <a href="#">22080.158.069</a> | 5/8X195 (7.3/4)  | 1 | <a href="#">22080.158.196</a> |
| 1/2X75 (3)       | 1 | <a href="#">22080.127.076</a> | 5/8X75 (3)       | 1 | <a href="#">22080.158.076</a> | 5/8X200 (8)      | 1 | <a href="#">22080.158.203</a> |
| 1/2X80 (3.1/4)   | 1 | <a href="#">22080.127.082</a> | 5/8X80 (3.1/4)   | 1 | <a href="#">22080.158.082</a> | 5/8X205 (8.1/8)  | 1 | <a href="#">22080.158.205</a> |
| 1/2X85 (3.3/8)   | 1 | <a href="#">22080.127.085</a> | 5/8X85 (3.3/8)   | 1 | <a href="#">22080.158.085</a> | 5/8X210 (8.1/4)  | 1 | <a href="#">22080.158.209</a> |
| 1/2X90 (3.1/2)   | 1 | <a href="#">22080.127.088</a> | 5/8X90 (3.1/2)   | 1 | <a href="#">22080.158.088</a> | 5/8X215 (8.1/2)  | 1 | <a href="#">22080.158.215</a> |
| 1/2X95 (3.3/4)   | 1 | <a href="#">22080.127.095</a> | 5/8X95 (3.3/4)   | 1 | <a href="#">22080.158.095</a> | 5/8X220 (8.3/4)  | 1 | <a href="#">22080.158.222</a> |
| 1/2X100 (4)      | 1 | <a href="#">22080.127.101</a> | 5/8X100 (4)      | 1 | <a href="#">22080.158.101</a> | 5/8X230 (9)      | 1 | <a href="#">22080.158.228</a> |
| 1/2X105 (4.1/8)  | 1 | <a href="#">22080.127.105</a> | 5/8X105 (4.1/8)  | 1 | <a href="#">22080.158.105</a> | 5/8X240 (9.1/2)  | 1 | <a href="#">22080.158.241</a> |
| 1/2X110 (4.1/4)  | 1 | <a href="#">22080.127.107</a> | 5/8X110 (4.1/4)  | 1 | <a href="#">22080.158.107</a> | 5/8X250 (9.3/4)  | 1 | <a href="#">22080.158.247</a> |
| 1/2X115 (4.1/2)  | 1 | <a href="#">22080.127.114</a> | 5/8X115 (4.1/2)  | 1 | <a href="#">22080.158.114</a> | 5/8X260 (10.1/4) | 1 | <a href="#">22080.158.260</a> |
| 1/2X120 (4.3/4)  | 1 | <a href="#">22080.127.120</a> | 5/8X120 (4.3/4)  | 1 | <a href="#">22080.158.120</a> |                  |   |                               |
| 1/2X125 (5)      | 1 | <a href="#">22080.127.127</a> | 5/8X125 (5)      | 1 | <a href="#">22080.158.127</a> |                  |   |                               |
| 1/2X130 (5.1/8)  | 1 | <a href="#">22080.127.130</a> | 5/8X130 (5.1/8)  | 1 | <a href="#">22080.158.130</a> | 3/4X55 (2.1/4)   | 1 | <a href="#">22080.191.057</a> |
| 1/2X135 (5.1/4)  | 1 | <a href="#">22080.127.133</a> | 5/8X135 (5.1/4)  | 1 | <a href="#">22080.158.133</a> | 3/4X60 (2.3/8)   | 1 | <a href="#">22080.191.060</a> |
| 1/2X140 (5.1/2)  | 1 | <a href="#">22080.127.139</a> | 5/8X140 (5.1/2)  | 1 | <a href="#">22080.158.139</a> | 3/4X65 (2.1/2)   | 1 | <a href="#">22080.191.063</a> |
| 1/2X145 (5.3/4)  | 1 | <a href="#">22080.127.146</a> | 5/8X145 (5.3/4)  | 1 | <a href="#">22080.158.146</a> | 3/4X70 (2.3/4)   | 1 | <a href="#">22080.191.069</a> |
| 1/2X150 (6)      | 1 | <a href="#">22080.127.152</a> | 5/8X150 (6)      | 1 | <a href="#">22080.158.152</a> | 3/4X75 (3)       | 1 | <a href="#">22080.191.076</a> |
| 1/2X155 (6.1/8)  | 1 | <a href="#">22080.127.155</a> | 5/8X155 (6.1/8)  | 1 | <a href="#">22080.158.155</a> | 3/4X80 (3.1/4)   | 1 | <a href="#">22080.191.082</a> |
| 1/2X160 (6.1/4)  | 1 | <a href="#">22080.127.158</a> | 5/8X160 (6.1/4)  | 1 | <a href="#">22080.158.158</a> | 3/4X85 (3.3/8)   | 1 | <a href="#">22080.191.085</a> |
| 1/2X165 (6.1/2)  | 1 | <a href="#">22080.127.166</a> | 5/8X165 (6.1/2)  | 1 | <a href="#">22080.158.165</a> | 3/4X90 (3.1/2)   | 1 | <a href="#">22080.191.088</a> |
| 5/8X170 (6.3/4)  | 1 | <a href="#">22080.158.171</a> | 5/8X170 (6.3/4)  | 1 | <a href="#">22080.158.171</a> | 3/4X95 (3.3/4)   | 1 | <a href="#">22080.191.095</a> |
|                  |   |                               |                  |   |                               | 3/4X100 (4)      | 1 | <a href="#">22080.191.101</a> |





**22320 Studbolt with 2 hexagon nuts** ←

| d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| 1X165 (6.1/2)    | 1 | <a href="#">22320.254.165</a> | 1X180 (7)        | 1 | <a href="#">22320.254.177</a> | 1X195 (7.3/4)    | 1 | <a href="#">22320.254.196</a> |
| 1X170 (6.3/4)    | 1 | <a href="#">22320.254.171</a> | 1X185 (7.1/4)    | 1 | <a href="#">22320.254.184</a> | 1X200 (8)        | 1 | <a href="#">22320.254.203</a> |
| 1X175 (6.7/8)    | 1 | <a href="#">22320.254.175</a> | 1X190 (7)        | 1 | <a href="#">22320.254.190</a> |                  |   |                               |

**22330 Studbolt with 2 hexagon nuts** G10A

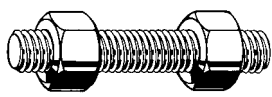
**Thread** 8 Unified National  
**Material** Steel ASTM A320 - ASTM A194  
**Class** Gr.L7 - Gr.4  
**Packaging** Standard



| d x L mm (L IN.)  | ☒ | Art.number                    | d x L mm (L IN.)   | ☒ | Art.number                    | d x L mm (L IN.)  | ☒ | Art.number                    |
|-------------------|---|-------------------------------|--------------------|---|-------------------------------|-------------------|---|-------------------------------|
| 1.1/8X145 (5.3/4) | 1 | <a href="#">22330.285.146</a> | 1.1/8X210 (8.1/4)  | 1 | <a href="#">22330.285.209</a> | 1.1/4X185 (7.1/4) | 1 | <a href="#">22330.317.184</a> |
| 1.1/8X150 (6)     | 1 | <a href="#">22330.285.152</a> | 1.1/8X215 (8.1/2)  | 1 | <a href="#">22330.285.215</a> | 1.1/4X190 (7.1/2) | 1 | <a href="#">22330.317.190</a> |
| 1.1/8X160 (6.1/4) | 1 | <a href="#">22330.285.158</a> | 1.1/8X220 (8.3/4)  | 1 | <a href="#">22330.285.222</a> | 1.1/4X195 (7.3/4) | 1 | <a href="#">22330.317.196</a> |
| 1.1/8X165 (6.1/2) | 1 | <a href="#">22330.285.165</a> | 1.1/8X230 (9)      | 1 | <a href="#">22330.285.228</a> | 1.1/4X200 (8)     | 1 | <a href="#">22330.317.203</a> |
| 1.1/8X170 (6.3/4) | 1 | <a href="#">22330.285.171</a> | 1.1/8X235 (9.1/4)  | 1 | <a href="#">22330.285.234</a> | 1.1/4X210 (8.1/4) | 1 | <a href="#">22330.317.209</a> |
| 1.1/8X180 (7)     | 1 | <a href="#">22330.285.177</a> | 1.1/8X240 (9.1/2)  | 1 | <a href="#">22330.285.241</a> | 1.1/4X215 (8.1/2) | 1 | <a href="#">22330.317.215</a> |
| 1.1/8X185 (7.1/4) | 1 | <a href="#">22330.285.184</a> | 1.1/8X245 (9.5/8)  | 1 | <a href="#">22330.285.245</a> | 1.1/4X220 (8.3/4) | 1 | <a href="#">22330.317.222</a> |
| 1.1/8X190 (7.1/2) | 1 | <a href="#">22330.285.190</a> | 1.1/8X310 (12.1/4) | 1 | <a href="#">22330.285.311</a> | 1.1/4X230 (9)     | 1 | <a href="#">22330.317.228</a> |
| 1.1/8X195 (7.3/4) | 1 | <a href="#">22330.285.196</a> |                    |   |                               |                   |   |                               |
| 1.1/8X200 (8)     | 1 | <a href="#">22330.285.203</a> | 1.1/4X180 (7)      | 1 | <a href="#">22330.317.177</a> |                   |   |                               |

**22534 Studbolt with 2 hexagon nuts** G12A

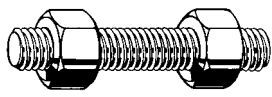
**Thread** Unified National Coarse  
**Material** Stainless steel ASTM A193 - ASTM A194  
**Class** Gr.B8CL1 - Gr.8  
**Packaging** Standard



| d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| 1/2X50 (2)       | 1 | <a href="#">22534.127.050</a> | 5/8X115 (4.1/2)  | 1 | <a href="#">22534.158.114</a> | 7/8X115 (4.1/2)  | 1 | <a href="#">22534.222.114</a> |
| 1/2X55 (2.1/4)   | 1 | <a href="#">22534.127.057</a> | 5/8X120 (4.3/4)  | 1 | <a href="#">22534.158.120</a> | 7/8X120 (4.3/4)  | 1 | <a href="#">22534.222.120</a> |
| 1/2X65 (2.1/2)   | 1 | <a href="#">22534.127.063</a> | 5/8X125 (5)      | 1 | <a href="#">22534.158.127</a> | 7/8X125 (5)      | 1 | <a href="#">22534.222.127</a> |
| 1/2X70 (2.3/4)   | 1 | <a href="#">22534.127.069</a> | 5/8X135 (5.1/4)  | 1 | <a href="#">22534.158.133</a> | 7/8X135 (5.1/4)  | 1 | <a href="#">22534.222.133</a> |
| 1/2X75 (3)       | 1 | <a href="#">22534.127.076</a> | 5/8X140 (5.1/2)  | 1 | <a href="#">22534.158.139</a> | 7/8X140 (5.1/2)  | 1 | <a href="#">22534.222.139</a> |
| 1/2X80 (3.1/4)   | 1 | <a href="#">22534.127.082</a> | 5/8X145 (5.3/4)  | 1 | <a href="#">22534.158.146</a> | 7/8X145 (5.3/4)  | 1 | <a href="#">22534.222.146</a> |
| 1/2X90 (3.1/2)   | 1 | <a href="#">22534.127.088</a> |                  |   |                               | 7/8X150 (6)      | 1 | <a href="#">22534.222.152</a> |
| 1/2X95 (3.3/4)   | 1 | <a href="#">22534.127.095</a> | 3/4X95 (3.3/4)   | 1 | <a href="#">22534.191.095</a> |                  |   |                               |
| 1/2X100 (4)      | 1 | <a href="#">22534.127.101</a> | 3/4X100 (4)      | 1 | <a href="#">22534.191.101</a> | 1X135 (5.1/4)    | 1 | <a href="#">22534.254.133</a> |
|                  |   |                               | 3/4X110 (4.1/4)  | 1 | <a href="#">22534.191.107</a> | 1X140 (5.1/2)    | 1 | <a href="#">22534.254.139</a> |
| 5/8X65 (2.1/2)   | 1 | <a href="#">22534.158.063</a> | 3/4X115 (4.1/2)  | 1 | <a href="#">22534.191.114</a> | 1X145 (5.3/4)    | 1 | <a href="#">22534.254.146</a> |
| 5/8X70 (2.3/4)   | 1 | <a href="#">22534.158.069</a> | 3/4X120 (4.3/4)  | 1 | <a href="#">22534.191.120</a> | 1X150 (6)        | 1 | <a href="#">22534.254.152</a> |
| 5/8X75 (3)       | 1 | <a href="#">22534.158.076</a> | 3/4X125 (5)      | 1 | <a href="#">22534.191.127</a> | 1X160 (6.1/4)    | 1 | <a href="#">22534.254.158</a> |
| 5/8X80 (3.1/4)   | 1 | <a href="#">22534.158.082</a> | 3/4X135 (5.1/4)  | 1 | <a href="#">22534.191.133</a> | 1X165 (6.1/2)    | 1 | <a href="#">22534.254.165</a> |
| 5/8X90 (3.1/2)   | 1 | <a href="#">22534.158.088</a> | 3/4X140 (5.1/2)  | 1 | <a href="#">22534.191.139</a> | 1X170 (6.3/4)    | 1 | <a href="#">22534.254.171</a> |
| 5/8X95 (3.3/4)   | 1 | <a href="#">22534.158.095</a> | 3/4X145 (5.3/4)  | 1 | <a href="#">22534.191.146</a> | 1X180 (7)        | 1 | <a href="#">22534.254.177</a> |
| 5/8X100 (4)      | 1 | <a href="#">22534.158.101</a> | 3/4X150 (6.IN.)  | 1 | <a href="#">22534.191.152</a> |                  |   |                               |
| 5/8X110 (4.1/4)  | 1 | <a href="#">22534.158.107</a> |                  |   |                               |                  |   |                               |

**22538 Studbolt with 2 hexagon nuts** G12A

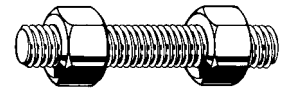
**Thread** Unified National Coarse  
**Material** Malleable iron ASTM A193 - ASTM A194  
**Class** Gr.B8MCL2 - Gr.8M  
**Packaging** Standard



| d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| 1/2X50 (2)       | 1 | <a href="#">22538.127.050</a> | 5/8X100 (4)      | 1 | <a href="#">22538.158.101</a> | 3/4X115 (4.1/2)  | 1 | <a href="#">22538.191.114</a> |
| 1/2X55 (2.1/4)   | 1 | <a href="#">22538.127.057</a> | 5/8X110 (4.1/4)  | 1 | <a href="#">22538.158.107</a> | 3/4X120 (4.3/4)  | 1 | <a href="#">22538.191.120</a> |
| 1/2X65 (2.1/2)   | 1 | <a href="#">22538.127.063</a> | 5/8X115 (4.1/2)  | 1 | <a href="#">22538.158.114</a> | 3/4X125 (5)      | 1 | <a href="#">22538.191.127</a> |
| 1/2X70 (2.3/4)   | 1 | <a href="#">22538.127.069</a> | 5/8X120 (4.3/4)  | 1 | <a href="#">22538.158.120</a> | 3/4X135 (5.1/4)  | 1 | <a href="#">22538.191.133</a> |
| 1/2X75 (3)       | 1 | <a href="#">22538.127.076</a> | 5/8X125 (5)      | 1 | <a href="#">22538.158.127</a> | 3/4X140 (5.1/2)  | 1 | <a href="#">22538.191.139</a> |
| 1/2X80 (3.1/4)   | 1 | <a href="#">22538.127.082</a> | 5/8X135 (5.1/4)  | 1 | <a href="#">22538.158.133</a> | 3/4X145 (5.3/4)  | 1 | <a href="#">22538.191.146</a> |
| 1/2X90 (3.1/2)   | 1 | <a href="#">22538.127.088</a> | 5/8X140 (5.1/2)  | 1 | <a href="#">22538.158.139</a> | 3/4X160 (6.1/4)  | 1 | <a href="#">22538.191.158</a> |
| 1/2X95 (3.3/4)   | 1 | <a href="#">22538.127.095</a> | 5/8X145 (5.3/4)  | 1 | <a href="#">22538.158.146</a> | 3/4X165 (6.1/2)  | 1 | <a href="#">22538.191.165</a> |
| 1/2X100 (4)      | 1 | <a href="#">22538.127.101</a> | 5/8X150 (6)      | 1 | <a href="#">22538.158.152</a> |                  |   |                               |
| 1/2X110 (4.1/4)  | 1 | <a href="#">22538.127.107</a> | 5/8X165 (6.1/2)  | 1 | <a href="#">22538.158.165</a> | 7/8X90 (3.1/2)   | 1 | <a href="#">22538.222.088</a> |
| 1/2X115 (4.1/2)  | 1 | <a href="#">22538.127.114</a> | 5/8X170 (6.3/4)  | 1 | <a href="#">22538.158.171</a> | 7/8X115 (4.1/2)  | 1 | <a href="#">22538.222.114</a> |
|                  |   |                               |                  |   |                               | 7/8X125 (5)      | 1 | <a href="#">22538.222.127</a> |
| 5/8X65 (2.1/2)   | 1 | <a href="#">22538.158.063</a> | 3/4X75 (3)       | 1 | <a href="#">22538.191.076</a> | 7/8X140 (5.1/2)  | 1 | <a href="#">22538.222.139</a> |
| 5/8X70 (2.3/4)   | 1 | <a href="#">22538.158.069</a> | 3/4X80 (3.1/4)   | 1 | <a href="#">22538.191.082</a> | 7/8X145 (5.3/4)  | 1 | <a href="#">22538.222.146</a> |
| 5/8X75 (3)       | 1 | <a href="#">22538.158.076</a> | 3/4X90 (3.1/2)   | 1 | <a href="#">22538.191.088</a> | 7/8X150 (6)      | 1 | <a href="#">22538.222.152</a> |
| 5/8X80 (3.1/4)   | 1 | <a href="#">22538.158.082</a> | 3/4X95 (3.3/4)   | 1 | <a href="#">22538.191.095</a> | 7/8X165 (6.1/2)  | 1 | <a href="#">22538.222.165</a> |
| 5/8X90 (3.1/2)   | 1 | <a href="#">22538.158.088</a> | 3/4X100 (4)      | 1 | <a href="#">22538.191.101</a> |                  |   |                               |
| 5/8X95 (3.3/4)   | 1 | <a href="#">22538.158.095</a> | 3/4X110 (4.1/4)  | 1 | <a href="#">22538.191.107</a> | 1X140 (5.1/2)    | 1 | <a href="#">22538.254.139</a> |

**22551 Studbolt with 2 hexagon nuts**
**G11A**

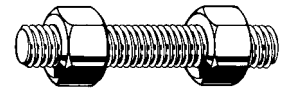
**Thread** Unified National Coarse  
**Material** Steel ASTM A193 - ASTM A194  
**Class** Gr.B16 - Gr.2H  
**Packaging** Standard



| d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| 1/2X65 (2.1/2)   | 1 | <a href="#">22551.127.063</a> | 5/8X90 (3.1/2)   | 1 | <a href="#">22551.158.088</a> | 3/4X120 (4.3/4)  | 1 | <a href="#">22551.191.120</a> |
| 1/2X70 (2.3/4)   | 1 | <a href="#">22551.127.069</a> | 5/8X95 (3.3/4)   | 1 | <a href="#">22551.158.095</a> | 3/4X125 (5)      | 1 | <a href="#">22551.191.127</a> |
| 1/2X75 (3)       | 1 | <a href="#">22551.127.076</a> | 5/8X100 (4)      | 1 | <a href="#">22551.158.101</a> |                  |   |                               |
| 1/2X80 (3.1/4)   | 1 | <a href="#">22551.127.082</a> | 5/8X110 (4.1/4)  | 1 | <a href="#">22551.158.107</a> | 7/8X115 (4.1/2)  | 1 | <a href="#">22551.222.114</a> |
| 1/2X90 (3.1/2)   | 1 | <a href="#">22551.127.088</a> | 5/8X115 (4.1/2)  | 1 | <a href="#">22551.158.114</a> | 7/8X120 (4.3/4)  | 1 | <a href="#">22551.222.120</a> |
| 1/2X95 (3.3/4)   | 1 | <a href="#">22551.127.095</a> | 5/8X120 (4.3/4)  | 1 | <a href="#">22551.158.120</a> | 7/8X125 (5)      | 1 | <a href="#">22551.222.127</a> |
| 1/2X100 (4)      | 1 | <a href="#">22551.127.101</a> | 5/8X125 (5)      | 1 | <a href="#">22551.158.127</a> | 7/8X135 (5.1/4)  | 1 | <a href="#">22551.222.133</a> |
|                  |   |                               |                  |   |                               | 7/8X140 (5.1/2)  | 1 | <a href="#">22551.222.139</a> |
| 5/8X65 (2.1/2)   | 1 | <a href="#">22551.158.063</a> | 3/4X95 (3.3/4)   | 1 | <a href="#">22551.191.095</a> | 7/8X145 (5.3/4)  | 1 | <a href="#">22551.222.146</a> |
| 5/8X70 (2.3/4)   | 1 | <a href="#">22551.158.069</a> | 3/4X100 (4)      | 1 | <a href="#">22551.191.101</a> | 7/8X150 (6)      | 1 | <a href="#">22551.222.152</a> |
| 5/8X75 (3)       | 1 | <a href="#">22551.158.076</a> | 3/4X110 (4.1/4)  | 1 | <a href="#">22551.191.107</a> |                  |   |                               |
| 5/8X80 (3.1/4)   | 1 | <a href="#">22551.158.082</a> | 3/4X115 (4.1/2)  | 1 | <a href="#">22551.191.114</a> |                  |   |                               |

**22554 Studbolt with 2 hexagon nuts**
**G11A**

**Thread** Unified National Coarse  
**Material** Steel ASTM A193 - ASTM A194  
**Class** Gr.B16 - Gr.4  
**Packaging** Standard

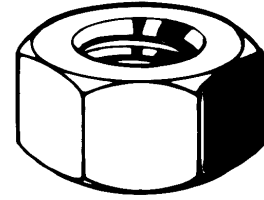
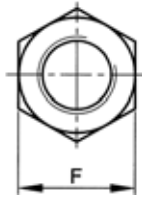
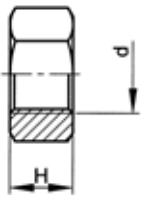


| d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    | d x L mm (L IN.) | ☒ | Art.number                    |
|------------------|---|-------------------------------|------------------|---|-------------------------------|------------------|---|-------------------------------|
| 1/2X50 (2)       | 1 | <a href="#">22554.127.050</a> | 5/8X150 (6)      | 1 | <a href="#">22554.158.152</a> | 7/8X130 (5.1/8)  | 1 | <a href="#">22554.222.130</a> |
| 1/2X55 (2.1/4)   | 1 | <a href="#">22554.127.057</a> |                  |   |                               | 7/8X135 (5.1/4)  | 1 | <a href="#">22554.222.133</a> |
| 1/2X60 (2.3/8)   | 1 | <a href="#">22554.127.060</a> | 3/4X90 (3.1/2)   | 1 | <a href="#">22554.191.088</a> | 7/8X140 (5.1/2)  | 1 | <a href="#">22554.222.139</a> |
| 1/2X65 (2.1/2)   | 1 | <a href="#">22554.127.063</a> | 3/4X95 (3.3/4)   | 1 | <a href="#">22554.191.095</a> | 7/8X145 (5.3/4)  | 1 | <a href="#">22554.222.146</a> |
| 1/2X70 (2.3/4)   | 1 | <a href="#">22554.127.069</a> | 3/4X100 (4)      | 1 | <a href="#">22554.191.101</a> | 7/8X150 (6)      | 1 | <a href="#">22554.222.152</a> |
| 1/2X75 (3)       | 1 | <a href="#">22554.127.076</a> | 3/4X110 (4.1/4)  | 1 | <a href="#">22554.191.107</a> | 7/8X160 (6.1/4)  | 1 | <a href="#">22554.222.158</a> |
| 1/2X80 (3.1/4)   | 1 | <a href="#">22554.127.082</a> | 3/4X115 (4.1/2)  | 1 | <a href="#">22554.191.114</a> | 7/8X165 (6.1/2)  | 1 | <a href="#">22554.222.165</a> |
| 1/2X90 (3.1/2)   | 1 | <a href="#">22554.127.088</a> | 3/4X120 (4.3/4)  | 1 | <a href="#">22554.191.120</a> | 7/8X170 (6.3/4)  | 1 | <a href="#">22554.222.171</a> |
| 1/2X95 (3.3/4)   | 1 | <a href="#">22554.127.095</a> | 3/4X125 (5)      | 1 | <a href="#">22554.191.127</a> |                  |   |                               |
| 1/2X100 (4)      | 1 | <a href="#">22554.127.101</a> | 3/4X130 (5.1/8)  | 1 | <a href="#">22554.191.130</a> | 3/4X180 (7)      | 1 | <a href="#">22554.222.177</a> |
|                  |   |                               | 3/4X135 (5.1/4)  | 1 | <a href="#">22554.191.133</a> | 1X130 (5.1/8)    | 1 | <a href="#">22554.254.130</a> |
| 5/8X70 (2.3/4)   | 1 | <a href="#">22554.158.069</a> | 3/4X140 (5.1/2)  | 1 | <a href="#">22554.191.139</a> | 1X140 (5.1/2)    | 1 | <a href="#">22554.254.139</a> |
| 5/8X75 (3)       | 1 | <a href="#">22554.158.076</a> | 3/4X145 (5.3/4)  | 1 | <a href="#">22554.191.146</a> | 1X145 (5.3/4)    | 1 | <a href="#">22554.254.146</a> |
| 5/8X80 (3.1/4)   | 1 | <a href="#">22554.158.082</a> | 3/4X150 (6)      | 1 | <a href="#">22554.191.152</a> | 1X150 (6)        | 1 | <a href="#">22554.254.152</a> |
| 5/8X90 (3.1/2)   | 1 | <a href="#">22554.158.088</a> | 3/4X160 (6.1/4)  | 1 | <a href="#">22554.191.158</a> | 1X160 (6.1/4)    | 1 | <a href="#">22554.254.158</a> |
| 5/8X95 (3.3/4)   | 1 | <a href="#">22554.158.095</a> | 3/4X165 (6.1/2)  | 1 | <a href="#">22554.191.165</a> | 1X165 (6.1/2)    | 1 | <a href="#">22554.254.165</a> |
| 5/8X100 (4)      | 1 | <a href="#">22554.158.101</a> | 3/4X170 (6.3/4)  | 1 | <a href="#">22554.191.171</a> | 1X170 (6.3/4)    | 1 | <a href="#">22554.254.171</a> |
| 5/8X110 (4.1/4)  | 1 | <a href="#">22554.158.107</a> | 3/4X180 (7)      | 1 | <a href="#">22554.191.177</a> | 1X180 (7)        | 1 | <a href="#">22554.254.177</a> |
| 5/8X115 (4.1/2)  | 1 | <a href="#">22554.158.114</a> | 3/4X185 (7.1/4)  | 1 | <a href="#">22554.191.184</a> | 1X185 (7.1/4)    | 1 | <a href="#">22554.254.184</a> |
| 5/8X120 (4.3/4)  | 1 | <a href="#">22554.158.120</a> | 3/4X190 (7.1/2)  | 1 | <a href="#">22554.191.190</a> | 1X190 (7.1/2)    | 1 | <a href="#">22554.254.190</a> |
| 5/8X125 (5)      | 1 | <a href="#">22554.158.127</a> |                  |   |                               | 1X195 (7.3/4)    | 1 | <a href="#">22554.254.196</a> |
| 5/8X135 (5.1/4)  | 1 | <a href="#">22554.158.133</a> | 7/8X115 (4.1/2)  | 1 | <a href="#">22554.222.114</a> | 1X200 (8)        | 1 | <a href="#">22554.254.203</a> |
| 5/8X140 (5.1/2)  | 1 | <a href="#">22554.158.139</a> | 7/8X120 (4.3/4)  | 1 | <a href="#">22554.222.120</a> |                  |   |                               |
| 5/8X145 (5.3/4)  | 1 | <a href="#">22554.158.146</a> | 7/8X125 (5)      | 1 | <a href="#">22554.222.127</a> |                  |   |                               |

**4**



## Hexagon nut ASTM A194 Grade 2H



### Technical data

| d   | P    | H  | F  |
|-----|------|----|----|
| M10 | 1,5  | 10 | 17 |
| M12 | 1,75 | 12 | 19 |
| M14 | 2    | 14 | 22 |
| M16 | 2    | 16 | 24 |
| M18 | 2,5  | 18 | 27 |
| M20 | 2,5  | 20 | 30 |

| d   | P   | H  | F  |
|-----|-----|----|----|
| M22 | 2,5 | 22 | 32 |
| M24 | 3   | 24 | 36 |
| M27 | 3   | 27 | 41 |
| M30 | 3,5 | 30 | 46 |
| M33 | 3,5 | 33 | 50 |
| M36 | 4   | 36 | 55 |

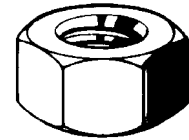
| d   | P   | H  | F  |
|-----|-----|----|----|
| M39 | 4   | 39 | 60 |
| M42 | 4,5 | 42 | 65 |
| M45 | 4,5 | 45 | 70 |
| M48 | 5   | 48 | 75 |
| M52 | 5   | 52 | 80 |

4

### 22200 Hexagon nut ASTM A194 Grade 2H

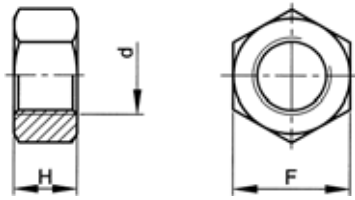
G09A

**Thread** Metric thread  
**Material** Steel ASTM A194  
**Class** Gr.2H  
**Packaging** Standard

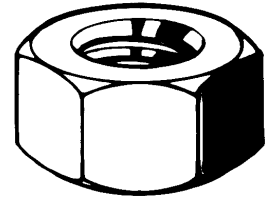


| d   | ✉ | Art.number                    | d   | ✉ | Art.number                    | d   | ✉ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M10 | 1 | <a href="#">22200.100.001</a> | M22 | 1 | <a href="#">22200.220.001</a> | M39 | 1 | <a href="#">22200.390.001</a> |
| M12 | 1 | <a href="#">22200.120.001</a> | M24 | 1 | <a href="#">22200.240.001</a> | M42 | 1 | <a href="#">22200.420.001</a> |
| M14 | 1 | <a href="#">22200.140.001</a> | M27 | 1 | <a href="#">22200.270.001</a> | M45 | 1 | <a href="#">22200.450.001</a> |
| M16 | 1 | <a href="#">22200.160.001</a> | M30 | 1 | <a href="#">22200.300.001</a> | M48 | 1 | <a href="#">22200.480.001</a> |
| M18 | 1 | <a href="#">22200.180.001</a> | M33 | 1 | <a href="#">22200.330.001</a> | M52 | 1 | <a href="#">22200.520.001</a> |
| M20 | 1 | <a href="#">22200.200.001</a> | M36 | 1 | <a href="#">22200.360.001</a> |     |   |                               |

## Hexagon nut ASTM A194



ANSI B18.2.2  
BS 1769



### Technical data

| d     | Threads per inch | H     | F       |
|-------|------------------|-------|---------|
| 3/8   | 16               | 9     | 11/16   |
| 1/2   | 13               | 12,3  | 7/8     |
| 5/8   | 11               | 15,5  | 1.1/16  |
| 3/4   | 10               | 18,65 | 1.1/4   |
| 7/8   | 9                | 21,85 | 1.7/16  |
| 1.IN. | 8                | 25    | 1.5/8   |
| 1.1/8 | 8                | 28,2  | 1.13/16 |
| 1.1/4 | 8                | 30,95 | 2.IN.   |
| 1.3/8 | 8                | 34,15 | 2.3/16  |
| 1.1/2 | 8                | 37,3  | 2.3/8   |
| 1.5/8 | 8                | 40,5  | 2.9/16  |
| 1.3/4 | 8                | 43,65 | 2.3/4   |
| 1.7/8 | 8                | 46,85 | 2.15/16 |
| 2.IN. | 8                | 50    | 3.1/8   |
| 2.1/4 | 8                | 55,95 | 3.1/2   |
| 2.1/2 | 8                | 62,3  | 3.7/8   |
| 2.3/4 | 8                | 68,25 | 4.1/4   |
| 3.IN. | 8                | 75    | 4.5/8   |

### Article groups

| Thread | Driving features | Material         | Class | Packaging | Code  | Page |
|--------|------------------|------------------|-------|-----------|-------|------|
| UNC    | hexagon          | St ASTM A194     | Gr.2H | Standard  | 22280 | 4-42 |
| 8 UN   | hexagon          | St ASTM A194     | Gr.2H | Standard  | 22290 | 4-42 |
| UNC    | hexagon          | St ASTM A194     | Gr.4  | Standard  | 22380 | 4-43 |
| 8 UN   | hexagon          | St ASTM A194     | Gr.4  | Standard  | 22390 | 4-43 |
| UNC    | hexagon          | St ASTM A194     | Gr.7  | Standard  | 22382 | 4-43 |
| UNC    | hexagon          | St.St. ASTM A194 | Gr.8  | Standard  | 22383 | 4-43 |
| 8 UN   | hexagon          | St.St. ASTM A194 | Gr.8  | Standard  | 22393 | 4-43 |
| UNC    | hexagon          | St.St. ASTM A194 | Gr.8M | Standard  | 22384 | 4-43 |
| UNC    | hexagon          | St.St. ASTM A194 | Gr.8T | Standard  | 22386 | 4-44 |

| 22280 Hexagon nut ASTM A194 |                         | G09A  |
|-----------------------------|-------------------------|---|
| <b>Thread</b>               | Unified National Coarse |  |
| <b>Material</b>             | Steel ASTM A194         |   |
| <b>Class</b>                | Gr.2H                   |   |
| <b>Packaging</b>            | Standard                |   |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 1/2 | 1 | <a href="#">22280.127.001</a> | 3/4 | 1 | <a href="#">22280.191.001</a> | 1.IN. | 1 | <a href="#">22280.254.001</a> |
| 5/8 | 1 | <a href="#">22280.158.001</a> | 7/8 | 1 | <a href="#">22280.222.001</a> |       |   |                               |

| 22290 Hexagon nut ASTM A194 |                    | G09A  |
|-----------------------------|--------------------|---|
| <b>Thread</b>               | 8 Unified National |  |
| <b>Material</b>             | Steel ASTM A194    |   |
| <b>Class</b>                | Gr.2H              |   |
| <b>Packaging</b>            | Standard           |   |

| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 1.1/8 | 1 | <a href="#">22290.285.001</a> | 1.5/8 | 1 | <a href="#">22290.412.001</a> | 2.1/4 | 1 | <a href="#">22290.571.001</a> |
| 1.1/4 | 1 | <a href="#">22290.317.001</a> | 1.3/4 | 1 | <a href="#">22290.444.001</a> | 2.1/2 | 1 | <a href="#">22290.635.001</a> |
| 1.3/8 | 1 | <a href="#">22290.349.001</a> | 1.7/8 | 1 | <a href="#">22290.476.001</a> | 2.3/4 | 1 | <a href="#">22290.698.001</a> |
| 1.1/2 | 1 | <a href="#">22290.381.001</a> | 2.IN. | 1 | <a href="#">22290.508.001</a> | 3.IN. | 1 | <a href="#">22290.762.001</a> |

|                  |                              |  |             |  |
|------------------|------------------------------|--|-------------|--|
| <b>22380</b>     | <b>Hexagon nut ASTM A194</b> |  | <b>G10A</b> |  |
| <b>Thread</b>    | Unified National Coarse      |  |             |  |
| <b>Material</b>  | Steel ASTM A194              |  |             |  |
| <b>Class</b>     | Gr.4                         |  |             |  |
| <b>Packaging</b> | Standard                     |  |             |  |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 3/8 | 1 | <a href="#">22380.096.001</a> | 5/8 | 1 | <a href="#">22380.158.001</a> | 7/8   | 1 | <a href="#">22380.222.001</a> |
| 1/2 | 1 | <a href="#">22380.127.001</a> | 3/4 | 1 | <a href="#">22380.191.001</a> | 1.IN. | 1 | <a href="#">22380.254.001</a> |

|                  |                              |  |             |  |
|------------------|------------------------------|--|-------------|--|
| <b>22390</b>     | <b>Hexagon nut ASTM A194</b> |  | <b>G10A</b> |  |
| <b>Thread</b>    | 8 Unified National           |  |             |  |
| <b>Material</b>  | Steel ASTM A194              |  |             |  |
| <b>Class</b>     | Gr.4                         |  |             |  |
| <b>Packaging</b> | Standard                     |  |             |  |

| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 1.1/8 | 1 | <a href="#">22390.285.001</a> | 1.1/2 | 1 | <a href="#">22390.381.001</a> | 1.7/8 | 1 | <a href="#">22390.476.001</a> |
| 1.1/4 | 1 | <a href="#">22390.317.001</a> | 1.5/8 | 1 | <a href="#">22390.412.001</a> | 2.IN. | 1 | <a href="#">22390.508.001</a> |
| 1.3/8 | 1 | <a href="#">22390.349.001</a> | 1.3/4 | 1 | <a href="#">22390.444.001</a> |       |   |                               |

|                  |                              |  |             |  |
|------------------|------------------------------|--|-------------|--|
| <b>22382</b>     | <b>Hexagon nut ASTM A194</b> |  | <b>G10A</b> |  |
| <b>Thread</b>    | Unified National Coarse      |  |             |  |
| <b>Material</b>  | Steel ASTM A194              |  |             |  |
| <b>Class</b>     | Gr.7                         |  |             |  |
| <b>Packaging</b> | Standard                     |  |             |  |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 1/2 | 1 | <a href="#">22382.127.001</a> | 3/4 | 1 | <a href="#">22382.191.001</a> | 1.IN. | 1 | <a href="#">22382.254.001</a> |
| 5/8 | 1 | <a href="#">22382.158.001</a> | 7/8 | 1 | <a href="#">22382.222.001</a> |       |   |                               |

|                  |                              |  |             |  |
|------------------|------------------------------|--|-------------|--|
| <b>22383</b>     | <b>Hexagon nut ASTM A194</b> |  | <b>G12A</b> |  |
| <b>Thread</b>    | Unified National Coarse      |  |             |  |
| <b>Material</b>  | Stainless steel ASTM A194    |  |             |  |
| <b>Class</b>     | Gr.8                         |  |             |  |
| <b>Packaging</b> | Standard                     |  |             |  |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 1/2 | 1 | <a href="#">22383.127.001</a> | 3/4 | 1 | <a href="#">22383.191.001</a> | 1.IN. | 1 | <a href="#">22383.254.001</a> |
| 5/8 | 1 | <a href="#">22383.158.001</a> | 7/8 | 1 | <a href="#">22383.222.001</a> |       |   |                               |

|                  |                              |  |             |  |
|------------------|------------------------------|--|-------------|--|
| <b>22393</b>     | <b>Hexagon nut ASTM A194</b> |  | <b>G12A</b> |  |
| <b>Thread</b>    | 8 Unified National           |  |             |  |
| <b>Material</b>  | Stainless steel ASTM A194    |  |             |  |
| <b>Class</b>     | Gr.8                         |  |             |  |
| <b>Packaging</b> | Standard                     |  |             |  |

| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d | ☒ | Art.number |
|-------|---|-------------------------------|-------|---|-------------------------------|---|---|------------|
| 1.1/8 | 1 | <a href="#">22393.285.001</a> | 1.3/8 | 1 | <a href="#">22393.349.001</a> |   |   |            |
| 1.1/4 | 1 | <a href="#">22393.317.001</a> | 1.1/2 | 1 | <a href="#">22393.381.001</a> |   |   |            |

|                  |                              |  |             |  |
|------------------|------------------------------|--|-------------|--|
| <b>22384</b>     | <b>Hexagon nut ASTM A194</b> |  | <b>G12A</b> |  |
| <b>Thread</b>    | Unified National Coarse      |  |             |  |
| <b>Material</b>  | Stainless steel ASTM A194    |  |             |  |
| <b>Class</b>     | Gr.8M                        |  |             |  |
| <b>Packaging</b> | Standard                     |  |             |  |

| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-------|---|-------------------------------|
| 1/2 | 1 | <a href="#">22384.127.001</a> | 3/4 | 1 | <a href="#">22384.191.001</a> | 1.IN. | 1 | <a href="#">22384.254.001</a> |
| 5/8 | 1 | <a href="#">22384.158.001</a> | 7/8 | 1 | <a href="#">22384.222.001</a> |       |   |                               |

|                  |                              |  |  |  |  |  |   |
|------------------|------------------------------|--|--|--|--|--|---|
| <b>22386</b>     | <b>Hexagon nut ASTM A194</b> |  |  |  |  |  | <b>G12A</b>   |
| <b>Thread</b>    | Unified National Coarse      |  |  |  |  |  |  |
| <b>Material</b>  | Stainless steel ASTM A194    |  |  |  |  |  |   |
| <b>Class</b>     | Gr.8T                        |  |  |  |  |  |   |
| <b>Packaging</b> | Standard                     |  |  |  |  |  |   |

| <b>d</b> | ✉ | <b>Art.number</b>             | <b>d</b> | ✉ | <b>Art.number</b>             | <b>d</b> | ✉ | <b>Art.number</b>             |
|----------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 3/8      | 1 | <a href="#">22386.096.001</a> | 5/8      | 1 | <a href="#">22386.158.001</a> | 7/8      | 1 | <a href="#">22386.222.001</a> |
| 1/2      | 1 | <a href="#">22386.127.001</a> | 3/4      | 1 | <a href="#">22386.191.001</a> | 1.IN.    | 1 | <a href="#">22386.254.001</a> |

4

## Double end studs

### with reduced shank with 2 hexagon nuts

#### Material quality

Low temperature resistant, high temperature resistant, high-pressure hydrogenation, corrosion resistant and non magnetizable (permeability 1,05G/Oe).

#### High requirements

By means of annealed, normalized, carbide-solution, quenched and tempered, warm-cold formed and precipitation hardened.

#### Quality

Double end studs are manufactured by approval of TÜV and also acc. to AD regulation WO and TRD sheet 100. When ordering double end studs please mention always the material code (see markingsigns tabel below), the associated hexagon nuts are supplied seperately. The packaging and packinglist are only mentioned by the materialnumber of the bolts. For applications and calculations of double end studs at pressure vessels see AD-Merkblatt B7 from "Arbeitsgemeinschaft Druckbehälter".

#### Application

Double end studs are generally applied in the stringent construction sectors like nuclear reactors and -technology, turbines, boilers, high-pressure tanks, high-capacity chemical vessels, chemical apparatus, shipbuilding, oil industry, petrochemistry, refrigeration plants, pipelines, instruments, motor construction and offshore technics.

#### Certificates

Upon special request the inspection certificates 3.1 and 3.2 can be delivered acc. to EN 10204 (DIN 50049).

#### Operating temperature ranges and bolt/nut combinations

| SPECIFICATIONS                         | STANDARD VALUES | MATERIALNUMBERS AND MARKINGSIGNS |        |        |    |
|--|-----------------|----------------------------------|--------|--------|----|
|  |                 | BOLTS                            |        | NUTS   |    |
| DIN 267-13/AD MERKBLATT W7/DIN 17240   | + 700°C         | 2.4952                           | SB     | 2.4952 | SB |
|  | + 650°C         | 1.4986                           | S      | 1.4986 | S  |
|  |                 | 1.4980                           | SD     | 1.4980 | SD |
|  | + 580°C         | 1.4923                           | V      | 1.4923 | V  |
|  | + 540°C         | 1.4913                           | VW     | 1.4923 | V  |
|  |                 | 1.7709                           | GA     | 1.7709 | GA |
|  | + 500°C         | 1.7709                           | GA     | 1.7258 | G  |
|  |                 | 1.7711                           | GB     | 1.7709 | GA |
|  | + 400°C         | 1.7258                           | G      | 1.7258 | G  |
|  | + 350°C         | 1.7258                           | G      | 1.1181 | YK |
|  | 1.1181          | YK                               | 1.1181 | YK     |    |
|  |                 | 1.1181                           | YK     | 1.0501 | Y  |
| DIN 267-13/ISO 898-1                   | + 300°C         | 8.8                              |        |        |    |
|  |                 | 5.6                              |        |        |    |
|  | - 10°C          | 4.6-2                            |        |        |    |
| DIN 267-13/AD MERKBLATT W 10/DIN 17280 | - 60°C          | 1.7219                           | KA     | 1.7219 | KA |
|  | - 120°C         | 1.5680                           | KB     | 1.5680 | KB |
|  | - 196°C         | 1.6906                           | -      | 1.6906 | -  |

#### Material properties <sup>1</sup>

| Marking designs | Designation  | Important elements |             |             |             | Max. continu temperature | Tensile N/mm <sup>2</sup> | Yield min. N/mm <sup>2</sup> | Elongation % min. | Notched bar process joule |
|-----------------|--------------|--------------------|-------------|-------------|-------------|--------------------------|---------------------------|------------------------------|-------------------|---------------------------|
|                 |              | C                  | Cr          | Mo          | V           |                          |                           |                              |                   |                           |
| YK              | CK 35        | 0,32 - 0,39        | -           | -           | -           | +350°C <sup>2</sup>      | 500-650                   | 280                          | 22                | 55                        |
| G               | 24 CrMo 5    | 0,20 - 0,28        | 0,90 - 1,20 | 0,20 - 0,35 | -           | +400°C <sup>3</sup>      | 660-750                   | 440                          | 18                | 103                       |
| GA              | 21 CrMo V 57 | 0,17 - 0,25        | 1,20 - 1,50 | 0,65 - 0,80 | 0,25 - 0,35 | +540°C                   | 700-850                   | 550                          | 16                | 69                        |

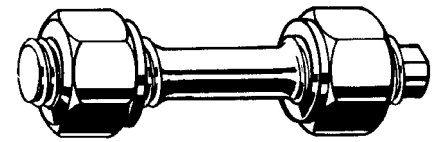
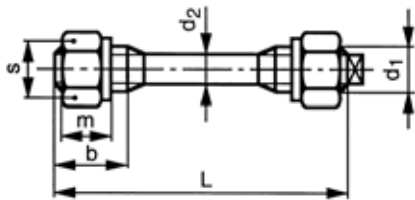
<sup>1</sup> Material properties of double end studs with reduced shank and nuts acc. to DIN 267-13 and DIN 17240.

<sup>2</sup> For hexagon nuts the usual limit of the temperature used in continous operation can be 50C higher.

<sup>3</sup> Deviating from DIN 17240, higher temperatures are admissible for piping acc. to DIN 2507.

## Double end stud with reduced shank with 2 hexagon nuts

DIN 2510 L/NF



### Technical data

| d1  | P    | d <sub>2</sub> | b  | m  | s  |
|-----|------|----------------|----|----|----|
| M12 | 1,75 | 8,5            | 20 | 12 | 22 |
| M16 | 2    | 12             | 23 | 16 | 27 |
| M20 | 2,5  | 15             | 28 | 20 | 32 |
| M24 | 3    | 18             | 32 | 24 | 36 |
| M27 | 3    | 20,5           | 35 | 27 | 41 |
| M30 | 3,5  | 23             | 39 | 30 | 46 |

- For technical data, material properties and an explanation of the markingsigns, see INFO page.
- External thread acc. to DIN 2510-2.

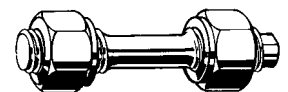
### Article groups

| Thread | Material | Class | Packaging | Code  | Page |
|--------|----------|-------|-----------|-------|------|
| M      | St       | G/YK  | Standard  | 23510 | 4-46 |
| M      | St       | GA/G  | Standard  | 23530 | 4-46 |
| M      | St       | YK/YK | Standard  | 23550 | 4-47 |

#### 23510 Double end stud with reduced shank with 2 hexagon nuts

G90A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | G/YK          |
| <b>Packaging</b> | Standard      |

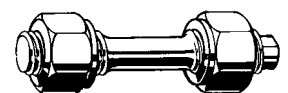


| d1 x L | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    | d1 x L  | ☒ | Art.number                    |
|--------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M12X65 | 10 | <a href="#">23510.120.065</a> | M16X95  | 10 | <a href="#">23510.160.095</a> | M24X115 | 5 | <a href="#">23510.240.115</a> |
| M12X75 | 10 | <a href="#">23510.120.075</a> | M16X110 | 10 | <a href="#">23510.160.110</a> | M24X120 | 5 | <a href="#">23510.240.120</a> |
| M12X80 | 10 | <a href="#">23510.120.080</a> |         |    |                               | M24X130 | 5 | <a href="#">23510.240.130</a> |
|        |    |                               | M20X100 | 5  | <a href="#">23510.200.100</a> | M24X150 | 5 | <a href="#">23510.240.150</a> |
| M16X75 | 10 | <a href="#">23510.160.075</a> | M20X105 | 5  | <a href="#">23510.200.105</a> |         |   |                               |
| M16X80 | 10 | <a href="#">23510.160.080</a> | M20X110 | 5  | <a href="#">23510.200.110</a> | M27X140 | 2 | <a href="#">23510.270.140</a> |
| M16X85 | 10 | <a href="#">23510.160.085</a> |         |    |                               |         |   |                               |
| M16X90 | 10 | <a href="#">23510.160.090</a> | M24X110 | 5  | <a href="#">23510.240.110</a> |         |   |                               |

#### 23530 Double end stud with reduced shank with 2 hexagon nuts

G90A

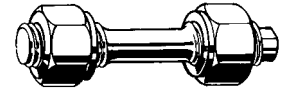
|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | GA/G          |
| <b>Packaging</b> | Standard      |



| d1 x L  | ☒  | Art.number                    | d1 x L  | ☒ | Art.number                    | d1 x L  | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M12X65  | 10 | <a href="#">23530.120.065</a> | M20X110 | 5 | <a href="#">23530.200.110</a> | M24X150 | 5 | <a href="#">23530.240.150</a> |
| M12X75  | 10 | <a href="#">23530.120.075</a> | M20X120 | 5 | <a href="#">23530.200.120</a> |         |   |                               |
|         |    |                               | M20X140 | 5 | <a href="#">23530.200.140</a> | M27X130 | 2 | <a href="#">23530.270.130</a> |
| M16X75  | 10 | <a href="#">23530.160.075</a> |         |   |                               | M27X140 | 2 | <a href="#">23530.270.140</a> |
| M16X85  | 10 | <a href="#">23530.160.085</a> | M24X110 | 5 | <a href="#">23530.240.110</a> |         |   |                               |
| M16X90  | 10 | <a href="#">23530.160.090</a> | M24X120 | 5 | <a href="#">23530.240.120</a> |         |   |                               |
| M16X100 | 10 | <a href="#">23530.160.100</a> | M24X125 | 5 | <a href="#">23530.240.125</a> | M30X160 | 2 | <a href="#">23530.300.160</a> |
|         |    |                               | M24X130 | 5 | <a href="#">23530.240.130</a> | M30X180 | 2 | <a href="#">23530.300.180</a> |
| M20X100 | 5  | <a href="#">23530.200.100</a> | M24X140 | 5 | <a href="#">23530.240.140</a> |         |   |                               |

**23550 Double end stud with reduced shank with 2 hexagon nuts G90A**

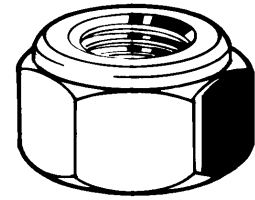
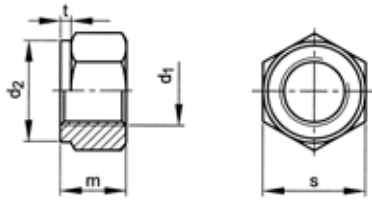
**Thread** Metric thread  
**Material** Steel  
**Class** YK/YK  
**Packaging** Standard



| d1 x L | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    | d1 x L  | ☒ | Art.number                    |
|--------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M12X65 | 10 | <a href="#">23550.120.065</a> | M16X100 | 10 | <a href="#">23550.160.100</a> | M24X110 | 5 | <a href="#">23550.240.110</a> |
| M12X70 | 10 | <a href="#">23550.120.070</a> | M16X105 | 10 | <a href="#">23550.160.105</a> | M24X115 | 5 | <a href="#">23550.240.115</a> |
| M12X75 | 10 | <a href="#">23550.120.075</a> |         |    |                               | M24X125 | 5 | <a href="#">23550.240.125</a> |
| M12X80 | 10 | <a href="#">23550.120.080</a> | M20X95  | 5  | <a href="#">23550.200.095</a> | M24X130 | 5 | <a href="#">23550.240.130</a> |
|        |    |                               | M20X100 | 5  | <a href="#">23550.200.100</a> | M24X140 | 5 | <a href="#">23550.240.140</a> |
| M16X75 | 10 | <a href="#">23550.160.075</a> | M20X105 | 5  | <a href="#">23550.200.105</a> | M24X150 | 5 | <a href="#">23550.240.150</a> |
| M16X80 | 10 | <a href="#">23550.160.080</a> | M20X110 | 5  | <a href="#">23550.200.110</a> |         |   |                               |
| M16X85 | 10 | <a href="#">23550.160.085</a> | M20X120 | 5  | <a href="#">23550.200.120</a> | M30X140 | 2 | <a href="#">23550.300.140</a> |
| M16X90 | 10 | <a href="#">23550.160.090</a> |         |    |                               |         |   |                               |

## Hexagon nut for double end stud

DIN 2510 NF



### Technical data

| d1  | P    | m  | s  | d2   | t |
|-----|------|----|----|------|---|
| M12 | 1,75 | 12 | 22 | 21   | 2 |
| M16 | 2    | 16 | 27 | 26   | 2 |
| M20 | 2,5  | 20 | 32 | 31   | 2 |
| M24 | 3    | 24 | 36 | 35   | 3 |
| M27 | 3    | 27 | 41 | 40   | 3 |
| M30 | 3,5  | 30 | 46 | 45   | 3 |
| M33 | 3,5  | 33 | 50 | 49   | 3 |
| M36 | 4    | 36 | 55 | 53,5 | 3 |

- For technical data, material properties and an explanation of the markings, see INFO page. External thread acc. to DIN 2510-2.

### Article groups

| Thread | Driving features | Material   | Class | Packaging | Code  | Page |
|--------|------------------|------------|-------|-----------|-------|------|
| M      | hexagon          | St 25CrMo4 | KG    | Standard  | 23620 | 4-48 |
| M      | hexagon          | St         | YK    | Standard  | 23660 | 4-48 |

| 23620 Hexagon nut for double end stud |               | G90A  |
|---------------------------------------|---------------|---|
| <b>Thread</b>                         | Metric thread |  |
| <b>Material</b>                       | Steel 25CrMo4 |   |
| <b>Class</b>                          | KG            |   |
| <b>Packaging</b>                      | Standard      |   |













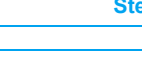

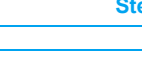








| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M12 | 50 | <a href="#">23620.120.001</a> | M24 | 25 | <a href="#">23620.240.001</a> | M33 | 5 | <a href="#">23620.330.001</a> |
| M16 | 50 | <a href="#">23620.160.001</a> | M27 | 10 | <a href="#">23620.270.001</a> | M36 | 5 | <a href="#">23620.360.001</a> |
| M20 | 25 | <a href="#">23620.200.001</a> | M30 | 10 | <a href="#">23620.300.001</a> |     |   |                               |

| 23660 Hexagon nut for double end stud |               | G90A  |
|---------------------------------------|---------------|---|
| <b>Thread</b>                         | Metric thread |  |
| <b>Material</b>                       | Steel         |   |
| <b>Class</b>                          | YK            |   |
| <b>Packaging</b>                      | Standard      |   |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 50 | <a href="#">23660.120.001</a> | M20 | 25 | <a href="#">23660.200.001</a> | M27 | 10 | <a href="#">23660.270.001</a> |
| M16 | 50 | <a href="#">23660.160.001</a> | M24 | 25 | <a href="#">23660.240.001</a> | M30 | 10 | <a href="#">23660.300.001</a> |

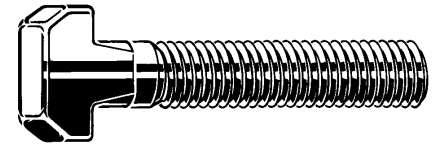
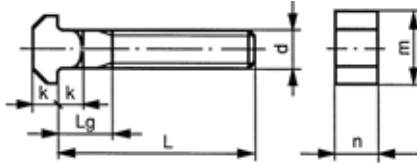


## Hook/eye products<sup>5</sup>

|  |  |   |   |   |
|--|--|---|---|---|
|  <p>Page 5-2<br/>DIN 186 B<br/>NEN 2309</p> <p><b>Metric</b></p>    |  <p>Page 5-4<br/>DIN 444 B<br/>NEN 2310 B</p> <p><b>Metric</b></p>                  |  <p>Page 5-6<br/>DIN 444 LB<br/>NEN 2310 B</p> <p><b>Fully threaded Metric</b></p>     |  <p>Page 5-7<br/>ISO 3266<br/>DIN 580</p> <p><b>Metric CE</b></p>   |  <p>Page 5-9<br/>DIN ≈580 (1957)<br/>NEN ≈2347 (1960)</p> <p><b>BSW</b></p>        |
|  <p>Page 5-10<br/>DIN 582<br/>NEN 1928</p> <p><b>Metric CE</b></p>  |  <p>Page 5-12<br/>DIN ≈582 (1957)<br/>NEN ≈2348 (1960)</p> <p><b>BSW</b></p>        |  <p>Page 5-13<br/>DIN 1478</p> <p><b>Made from tubes Metric</b></p>                    |  <p>Page 5-14<br/>DIN ≈1479</p> <p><b>Hexagon Metric</b></p>        |  <p>Page 5-15<br/>DIN 1480</p> <p><b>With two welding ends Metric</b></p>          |
|  <p>Page 5-16<br/>DIN 1480</p> <p><b>Metric</b></p>                 |  <p>Page 5-17<br/>DIN ≈1480</p> <p><b>With hook and eye Metric</b></p>              |  <p>Page 5-18<br/>DIN ≈1480</p> <p><b>With hook and eye Stainless steel Metric</b></p> |  <p>Page 5-19<br/>DIN ≈1480</p> <p><b>With two eyes Metric</b></p>  |  <p>Page 5-20<br/>DIN ≈1480</p> <p><b>With two eyes stainless steel Metric</b></p> |
|  <p>Page 5-21<br/>DIN ≈1480</p> <p><b>With two hooks Metric</b></p> |  <p>Page 5-22<br/>DIN ≈1480</p> <p><b>With two hooks stainless steel Metric</b></p> |  <p>Page 5-23<br/>DIN ≈1480</p> <p><b>With two flat eyes Metric</b></p>                |  <p>Page 5-24<br/>DIN ≈82101 A<br/>NEN ≈964</p> <p><b>Steel</b></p> |  <p>Page 5-25</p> <p><b>Stainless steel</b></p>                                    |
|  <p>Page 5-26</p> <p><b>Commercial type</b></p>                   |  <p>Page 5-27</p> <p><b>Steel</b></p>   |  <p>Page 5-28</p> <p><b>Stainless steel</b></p>                                      |  <p>Page 5-29<br/>DIN 741/555 (1987)</p> <p><b>Steel</b></p>      |  <p>Page 5-30</p> <p><b>Stainless steel</b></p>                                  |
|  <p>Page 5-31</p> <p><b>Steel/Stainless steel</b></p>             |  <p>Page 5-32</p> <p><b>Steel</b></p>   |  <p>Page 5-33</p> <p><b>Metric</b></p>   |  <p>Page 5-34</p> <p><b>Metric</b></p>                            |  <p>Page 5-35</p> <p><b>Metric</b></p>   |
|  <p>Page 5-35</p> <p><b>Metric</b></p>                            |  <p>Page 5-36</p> <p><b>Non Metric</b></p>  |  <p>Page 5-38</p> <p><b>Heavy model Non Metric</b></p>                               |  <p>Page 5-38</p> <p><b>Long model non Metric</b></p>             |  <p>Page 5-39</p> <p><b>Non Metric</b></p>                                       |
|  <p>Page 5-40</p> <p><b>Small hook no Metric</b></p>              |  <p>Page 5-41</p> <p><b>Non Metric</b></p>  |  <p>Page 5-42</p> <p><b>Heavy model with cross non Metric</b></p>                    |  <p>Page 5-42</p> <p><b>With point</b></p>                        |  <p>Page 5-43</p> <p><b>Metric</b></p>   |
|  <p>Page 5-45</p> <p><b>Metric</b></p>                            |  <p>Page 5-46</p> <p><b>Non Metric</b></p>  |  <p>Page 5-47</p> <p><b>Metric</b></p>   |  <p>Page 5-47</p> <p><b>For swing hooks</b></p>                   |  <p>Page 5-48</p> <p><b>Non Metric</b></p>                                       |
|  <p>Page 5-48</p> <p><b>Steel</b></p>                             |  |   |   |   |

## T-Head bolt with square neck

DIN 186 B  
 NEN 2309



### Technical data

| d          | P    | Lg (max.) | k    | n  | m  |
|------------|------|-----------|------|----|----|
| M8         | 1,25 | 13        | 5,5  | 8  | 18 |
| M10        | 1,5  | 16        | 7    | 10 | 21 |
| M12        | 1,75 | 19        | 8    | 12 | 26 |
| M16        | 2    | 25        | 10,5 | 16 | 30 |
| M20        | 2,5  | 31        | 13   | 20 | 36 |
| M24        | 3    | 37        | 15   | 24 | 43 |
| M27 (#DIN) | 3    | 40        | 18   | 27 | 48 |
| M30        | 3,5  | 43        | 19   | 30 | 54 |

- For sizes of T-slots, see DIN 649.

## 5

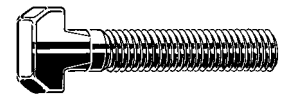
### Article groups

| Thread | Material  | Class | Packaging | Code  | Page |
|--------|-----------|-------|-----------|-------|------|
| M      | St        | ≥3.6  | Standard  | 16190 | 5-2  |
| M      | St.St. A4 |       | Standard  | 55782 | 5-2  |

#### 16190 T-Head bolt with square neck

F11D

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | ≥3.6          |
| <b>Packaging</b> | Standard      |

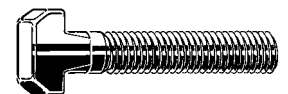


| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M8X30   | 25 | <a href="#">16190.080.030</a> | M16X50  | 10 | <a href="#">16190.160.050</a> | M20X200 | 5 | <a href="#">16190.200.200</a> |
| M8X40   | 25 | <a href="#">16190.080.040</a> | M16X60  | 10 | <a href="#">16190.160.060</a> | M24X60  | 5 | <a href="#">16190.240.060</a> |
| M8X50   | 25 | <a href="#">16190.080.050</a> | M16X70  | 10 | <a href="#">16190.160.070</a> | M24X70  | 5 | <a href="#">16190.240.070</a> |
| M8X60   | 25 | <a href="#">16190.080.060</a> | M16X80  | 10 | <a href="#">16190.160.080</a> | M24X80  | 5 | <a href="#">16190.240.080</a> |
| M10X30  | 25 | <a href="#">16190.100.030</a> | M16X90  | 10 | <a href="#">16190.160.090</a> | M24X90  | 5 | <a href="#">16190.240.090</a> |
| M10X40  | 25 | <a href="#">16190.100.040</a> | M16X100 | 10 | <a href="#">16190.160.100</a> | M24X100 | 5 | <a href="#">16190.240.100</a> |
| M10X50  | 25 | <a href="#">16190.100.050</a> | M16X110 | 10 | <a href="#">16190.160.110</a> | M24X110 | 5 | <a href="#">16190.240.110</a> |
| M10X60  | 25 | <a href="#">16190.100.060</a> | M16X120 | 10 | <a href="#">16190.160.120</a> | M24X120 | 5 | <a href="#">16190.240.120</a> |
| M10X70  | 25 | <a href="#">16190.100.070</a> | M16X140 | 10 | <a href="#">16190.160.140</a> | M24X140 | 5 | <a href="#">16190.240.140</a> |
| M12X40  | 10 | <a href="#">16190.120.040</a> | M16X160 | 10 | <a href="#">16190.160.160</a> | M24X160 | 5 | <a href="#">16190.240.160</a> |
| M12X50  | 10 | <a href="#">16190.120.050</a> | M16X180 | 10 | <a href="#">16190.160.180</a> | M24X180 | 5 | <a href="#">16190.240.180</a> |
| M12X60  | 10 | <a href="#">16190.120.060</a> | M16X200 | 10 | <a href="#">16190.160.200</a> | M24X200 | 5 | <a href="#">16190.240.200</a> |
| M12X70  | 10 | <a href="#">16190.120.070</a> | M20X50  | 5  | <a href="#">16190.200.050</a> | M30X90  | 3 | <a href="#">16190.300.090</a> |
| M12X80  | 10 | <a href="#">16190.120.080</a> | M20X60  | 5  | <a href="#">16190.200.060</a> | M30X100 | 3 | <a href="#">16190.300.100</a> |
| M12X90  | 10 | <a href="#">16190.120.090</a> | M20X70  | 5  | <a href="#">16190.200.070</a> | M30X110 | 3 | <a href="#">16190.300.110</a> |
| M12X100 | 10 | <a href="#">16190.120.100</a> | M20X80  | 5  | <a href="#">16190.200.080</a> | M30X120 | 3 | <a href="#">16190.300.120</a> |
| M12X110 | 10 | <a href="#">16190.120.110</a> | M20X90  | 5  | <a href="#">16190.200.090</a> | M30X130 | 3 | <a href="#">16190.300.130</a> |
| M12X120 | 10 | <a href="#">16190.120.120</a> | M20X100 | 5  | <a href="#">16190.200.100</a> | M30X140 | 3 | <a href="#">16190.300.140</a> |
| M12X140 | 10 | <a href="#">16190.120.140</a> | M20X110 | 5  | <a href="#">16190.200.110</a> | M30X160 | 3 | <a href="#">16190.300.160</a> |
| M12X160 | 10 | <a href="#">16190.120.160</a> | M20X120 | 5  | <a href="#">16190.200.120</a> | M30X200 | 3 | <a href="#">16190.300.200</a> |
| M16X40  | 10 | <a href="#">16190.160.040</a> | M20X140 | 5  | <a href="#">16190.200.140</a> | M30X260 | 3 | <a href="#">16190.300.260</a> |
|         |    |                               | M20X160 | 5  | <a href="#">16190.200.160</a> |         |   |                               |
|         |    |                               | M20X180 | 5  | <a href="#">16190.200.180</a> |         |   |                               |

#### 55782 T-Head bolt with square neck

R49A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |



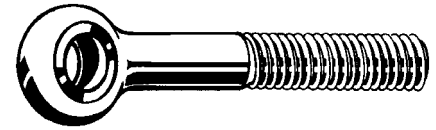
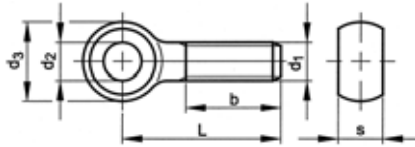
| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M8X30 | 10 | <a href="#">55782.080.030</a> | M8X60  | 10 | <a href="#">55782.080.060</a> | M10X40 | 10 | <a href="#">55782.100.040</a> |
| M8X40 | 10 | <a href="#">55782.080.040</a> |        |    |                               | M10X50 | 10 | <a href="#">55782.100.050</a> |
| M8X50 | 10 | <a href="#">55782.080.050</a> | M10X30 | 10 | <a href="#">55782.100.030</a> | M10X70 | 10 | <a href="#">55782.100.070</a> |

**55782 T-Head bolt with square neck** ←

| d x L  | ☒ | Art.number                    | d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    |
|--------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M12X40 | 5 | <a href="#">55782.120.040</a> | M12X100 | 5 | <a href="#">55782.120.100</a> | M16X100 | 5 | <a href="#">55782.160.100</a> |
| M12X60 | 5 | <a href="#">55782.120.060</a> | M16X50  | 5 | <a href="#">55782.160.050</a> | M20X70  | 3 | <a href="#">55782.200.070</a> |
| M12X70 | 5 | <a href="#">55782.120.070</a> | M16X70  | 5 | <a href="#">55782.160.070</a> | M20X100 | 3 | <a href="#">55782.200.100</a> |
| M12X90 | 5 | <a href="#">55782.120.090</a> | M16X80  | 5 | <a href="#">55782.160.080</a> |         |   |                               |

## Eye bolt

DIN 444 B  
 NEN 2310 B



### Technical data

| d1  | P    | b (min.): L≤125mm | b (min.): 125mm<L≤200mm | b (min.): L>200mm | d <sub>2</sub> (H9) | d <sub>3</sub> (max.) | s (max.) |
|-----|------|-------------------|-------------------------|-------------------|---------------------|-----------------------|----------|
| M6  | 1    | 18                | -                       | -                 | 6                   | 14                    | 7        |
| M8  | 1,25 | 22                | 28                      | -                 | 8                   | 18                    | 9        |
| M10 | 1,5  | 26                | 32                      | -                 | 10                  | 20                    | 12       |
| M12 | 1,75 | 30                | 36                      | 49                | 12                  | 25                    | 14       |
| M16 | 2    | 38                | 44                      | 57                | 16                  | 32                    | 17       |
| M20 | 2,5  | 46                | 52                      | 65                | 18                  | 40                    | 22       |
| M24 | 3    | 54                | 60                      | 73                | 22                  | 45                    | 25       |
| M27 | 3    | 60                | 66                      | 79                | 25                  | 50                    | 27       |
| M30 | 3,5  | 66                | 72                      | 85                | 28                  | 55                    | 30       |

## 5

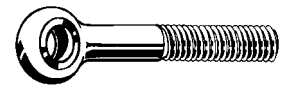
### Article groups

| Thread | Material  | Class | Packaging | Code  | Page |
|--------|-----------|-------|-----------|-------|------|
| M      | St        | 4.6   | Standard  | 16180 | 5-4  |
| M      | St.St. A2 |       | Standard  | 51790 | 5-5  |
| M      | St.St. A4 |       | Standard  | 55790 | 5-5  |

### 16180 Eye bolt

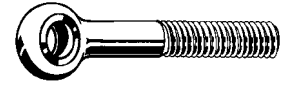
F11D

**Thread** Metric thread  
**Material** Steel  
**Class** 4.6  
**Packaging** Standard



| d1 x L  | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    | d1 x L  | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M6X30   | 25 | <a href="#">16180.060.030</a> | M12X60  | 10 | <a href="#">16180.120.060</a> | M20X140 | 5 | <a href="#">16180.200.140</a> |
| M6X40   | 25 | <a href="#">16180.060.040</a> | M12X70  | 10 | <a href="#">16180.120.070</a> | M20X150 | 5 | <a href="#">16180.200.150</a> |
| M6X50   | 25 | <a href="#">16180.060.050</a> | M12X80  | 10 | <a href="#">16180.120.080</a> | M20X160 | 5 | <a href="#">16180.200.160</a> |
| M6X60   | 25 | <a href="#">16180.060.060</a> | M12X90  | 10 | <a href="#">16180.120.090</a> | M20X180 | 5 | <a href="#">16180.200.180</a> |
| M6X70   | 25 | <a href="#">16180.060.070</a> | M12X100 | 10 | <a href="#">16180.120.100</a> | M20X200 | 5 | <a href="#">16180.200.200</a> |
| M6X80   | 25 | <a href="#">16180.060.080</a> | M12X110 | 10 | <a href="#">16180.120.110</a> | M24X80  | 5 | <a href="#">16180.240.080</a> |
| M8X40   | 25 | <a href="#">16180.080.040</a> | M12X120 | 10 | <a href="#">16180.120.120</a> | M24X100 | 5 | <a href="#">16180.240.100</a> |
| M8X45   | 25 | <a href="#">16180.080.045</a> | M12X130 | 10 | <a href="#">16180.120.130</a> | M24X110 | 5 | <a href="#">16180.240.110</a> |
| M8X50   | 25 | <a href="#">16180.080.050</a> | M12X140 | 10 | <a href="#">16180.120.140</a> | M24X120 | 5 | <a href="#">16180.240.120</a> |
| M8X60   | 25 | <a href="#">16180.080.060</a> | M12X150 | 10 | <a href="#">16180.120.150</a> | M24X130 | 5 | <a href="#">16180.240.130</a> |
| M8X70   | 25 | <a href="#">16180.080.070</a> | M16X60  | 10 | <a href="#">16180.160.060</a> | M24X140 | 5 | <a href="#">16180.240.140</a> |
| M8X80   | 25 | <a href="#">16180.080.080</a> | M16X70  | 10 | <a href="#">16180.160.070</a> | M24X150 | 5 | <a href="#">16180.240.150</a> |
| M8X90   | 25 | <a href="#">16180.080.090</a> | M16X80  | 10 | <a href="#">16180.160.080</a> | M24X160 | 5 | <a href="#">16180.240.160</a> |
| M8X100  | 25 | <a href="#">16180.080.100</a> | M16X90  | 10 | <a href="#">16180.160.090</a> | M24X180 | 5 | <a href="#">16180.240.180</a> |
| M8X110  | 25 | <a href="#">16180.080.110</a> | M16X100 | 10 | <a href="#">16180.160.100</a> | M24X200 | 5 | <a href="#">16180.240.200</a> |
| M8X120  | 25 | <a href="#">16180.080.120</a> | M16X110 | 10 | <a href="#">16180.160.110</a> | M24X220 | 5 | <a href="#">16180.240.220</a> |
| M8X130  | 25 | <a href="#">16180.080.130</a> | M16X120 | 10 | <a href="#">16180.160.120</a> | M27X120 | 5 | <a href="#">16180.270.120</a> |
| M8X140  | 25 | <a href="#">16180.080.140</a> | M16X130 | 10 | <a href="#">16180.160.130</a> | M27X140 | 5 | <a href="#">16180.270.140</a> |
| M10X40  | 25 | <a href="#">16180.100.040</a> | M16X140 | 10 | <a href="#">16180.160.140</a> | M27X160 | 5 | <a href="#">16180.270.160</a> |
| M10X50  | 25 | <a href="#">16180.100.050</a> | M16X150 | 10 | <a href="#">16180.160.150</a> | M27X180 | 5 | <a href="#">16180.270.180</a> |
| M10X60  | 25 | <a href="#">16180.100.060</a> | M16X160 | 10 | <a href="#">16180.160.160</a> | M27X200 | 5 | <a href="#">16180.270.200</a> |
| M10X65  | 25 | <a href="#">16180.100.065</a> | M16X180 | 10 | <a href="#">16180.160.180</a> | M30X120 | 3 | <a href="#">16180.300.120</a> |
| M10X70  | 25 | <a href="#">16180.100.070</a> | M16X200 | 10 | <a href="#">16180.160.200</a> | M30X140 | 3 | <a href="#">16180.300.140</a> |
| M10X80  | 25 | <a href="#">16180.100.080</a> | M20X60  | 5  | <a href="#">16180.200.060</a> | M30X160 | 3 | <a href="#">16180.300.160</a> |
| M10X90  | 25 | <a href="#">16180.100.090</a> | M20X80  | 5  | <a href="#">16180.200.080</a> | M30X180 | 3 | <a href="#">16180.300.180</a> |
| M10X100 | 25 | <a href="#">16180.100.100</a> | M20X100 | 5  | <a href="#">16180.200.100</a> | M30X200 | 3 | <a href="#">16180.300.200</a> |
| M10X110 | 25 | <a href="#">16180.100.110</a> | M20X110 | 5  | <a href="#">16180.200.110</a> |         |   |                               |
| M10X120 | 25 | <a href="#">16180.100.120</a> | M20X120 | 5  | <a href="#">16180.200.120</a> |         |   |                               |
| M10X130 | 25 | <a href="#">16180.100.130</a> | M20X130 | 5  | <a href="#">16180.200.130</a> |         |   |                               |
| M10X140 | 25 | <a href="#">16180.100.140</a> |         |    |                               |         |   |                               |

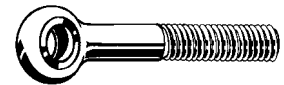
|                  |                    |                 |  |  |             |
|------------------|--------------------|-----------------|--|--|-------------|
| <b>51790</b>     |                    | <b>Eye bolt</b> |  |  | <b>R09A</b> |
| <b>Thread</b>    | Metric thread      |                 |  |  |             |
| <b>Material</b>  | Stainless steel A2 |                 |  |  |             |
| <b>Packaging</b> | Standard           |                 |  |  |             |



| d1 x L | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    |
|--------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M6X30  | 10 | <a href="#">51790.060.030</a> | M10X90   | 10 | <a href="#">51790.100.090</a> | M16X180  | 3  | <a href="#">51790.160.180</a> |
| M6X35  | 10 | <a href="#">51790.060.035</a> | M10X100  | 10 | <a href="#">51790.100.100</a> | M16X200  | 3  | <a href="#">51790.160.200</a> |
| M6X40  | 10 | <a href="#">51790.060.040</a> | M10X110  | 5  | <a href="#">51790.100.110</a> |          |    |                               |
| M6X45  | 10 | <a href="#">51790.060.045</a> | M10X120  | 5  | <a href="#">51790.100.120</a> | M20X70 * | 10 | <a href="#">51790.200.070</a> |
| M6X50  | 10 | <a href="#">51790.060.050</a> | M10X130  | 5  | <a href="#">51790.100.130</a> | M20X75   | 2  | <a href="#">51790.200.075</a> |
| M6X55  | 10 | <a href="#">51790.060.055</a> | M10X140  | 5  | <a href="#">51790.100.140</a> | M20X80   | 2  | <a href="#">51790.200.080</a> |
| M6X60  | 10 | <a href="#">51790.060.060</a> |          |    |                               | M20X90   | 2  | <a href="#">51790.200.090</a> |
| M6X70  | 10 | <a href="#">51790.060.070</a> | M12X50   | 5  | <a href="#">51790.120.050</a> | M20X100  | 2  | <a href="#">51790.200.100</a> |
| M6X80  | 10 | <a href="#">51790.060.080</a> | M12X55   | 5  | <a href="#">51790.120.055</a> | M20X110  | 2  | <a href="#">51790.200.110</a> |
|        |    |                               | M12X60   | 5  | <a href="#">51790.120.060</a> | M20X120  | 2  | <a href="#">51790.200.120</a> |
| M8X30  | 10 | <a href="#">51790.080.030</a> | M12X65   | 5  | <a href="#">51790.120.065</a> | M20X130  | 2  | <a href="#">51790.200.130</a> |
| M8X35  | 10 | <a href="#">51790.080.035</a> | M12X70   | 5  | <a href="#">51790.120.070</a> | M20X140  | 2  | <a href="#">51790.200.140</a> |
| M8X40  | 10 | <a href="#">51790.080.040</a> | M12X75   | 5  | <a href="#">51790.120.075</a> | M20X150  | 1  | <a href="#">51790.200.150</a> |
| M8X45  | 10 | <a href="#">51790.080.045</a> | M12X80   | 5  | <a href="#">51790.120.080</a> | M20X160  | 1  | <a href="#">51790.200.160</a> |
| M8X50  | 10 | <a href="#">51790.080.050</a> | M12X90   | 5  | <a href="#">51790.120.090</a> | M20X180  | 1  | <a href="#">51790.200.180</a> |
| M8X55  | 10 | <a href="#">51790.080.055</a> | M12X100  | 5  | <a href="#">51790.120.100</a> | M20X200  | 1  | <a href="#">51790.200.200</a> |
| M8X60  | 10 | <a href="#">51790.080.060</a> | M12X110  | 3  | <a href="#">51790.120.110</a> |          |    |                               |
| M8X70  | 10 | <a href="#">51790.080.070</a> | M12X120  | 3  | <a href="#">51790.120.120</a> | M24X80   | 3  | <a href="#">51790.240.080</a> |
| M8X75  | 10 | <a href="#">51790.080.075</a> | M12X130  | 3  | <a href="#">51790.120.130</a> | M24X90   | 3  | <a href="#">51790.240.090</a> |
| M8X80  | 10 | <a href="#">51790.080.080</a> | M12X140  | 3  | <a href="#">51790.120.140</a> | M24X110  | 3  | <a href="#">51790.240.110</a> |
| M8X90  | 10 | <a href="#">51790.080.090</a> | M12X150  | 3  | <a href="#">51790.120.150</a> | M24X120  | 3  | <a href="#">51790.240.120</a> |
| M8X100 | 10 | <a href="#">51790.080.100</a> |          |    |                               | M24X130  | 3  | <a href="#">51790.240.130</a> |
| M8X110 | 5  | <a href="#">51790.080.110</a> | M16X60   | 5  | <a href="#">51790.160.060</a> | M24X140  | 3  | <a href="#">51790.240.140</a> |
| M8X120 | 5  | <a href="#">51790.080.120</a> | M16X65   | 5  | <a href="#">51790.160.065</a> | M24X150  | 3  | <a href="#">51790.240.150</a> |
| M8X140 | 5  | <a href="#">51790.080.140</a> | M16X70   | 5  | <a href="#">51790.160.070</a> | M24X180  | 3  | <a href="#">51790.240.180</a> |
|        |    |                               | M16X75 * | 25 | <a href="#">51790.160.075</a> | M24X200  | 3  | <a href="#">51790.240.200</a> |
| M10X40 | 10 | <a href="#">51790.100.040</a> | M16X80   | 5  | <a href="#">51790.160.080</a> | M24X220  | 3  | <a href="#">51790.240.220</a> |
| M10X45 | 10 | <a href="#">51790.100.045</a> | M16X90   | 5  | <a href="#">51790.160.090</a> |          |    |                               |
| M10X50 | 10 | <a href="#">51790.100.050</a> | M16X100  | 5  | <a href="#">51790.160.100</a> | M27X120  | 3  | <a href="#">51790.270.120</a> |
| M10X55 | 10 | <a href="#">51790.100.055</a> | M16X110  | 5  | <a href="#">51790.160.110</a> | M27X160  | 3  | <a href="#">51790.270.160</a> |
| M10X60 | 10 | <a href="#">51790.100.060</a> | M16X120  | 3  | <a href="#">51790.160.120</a> | M27X180  | 3  | <a href="#">51790.270.180</a> |
| M10X65 | 10 | <a href="#">51790.100.065</a> | M16X130  | 3  | <a href="#">51790.160.130</a> | M27X200  | 3  | <a href="#">51790.270.200</a> |
| M10X70 | 10 | <a href="#">51790.100.070</a> | M16X140  | 3  | <a href="#">51790.160.140</a> |          |    |                               |
| M10X75 | 10 | <a href="#">51790.100.075</a> | M16X150  | 3  | <a href="#">51790.160.150</a> |          |    |                               |
| M10X80 | 10 | <a href="#">51790.100.080</a> | M16X160  | 3  | <a href="#">51790.160.160</a> |          |    |                               |

5

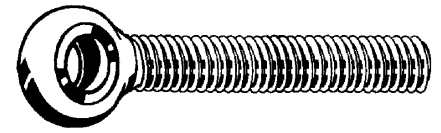
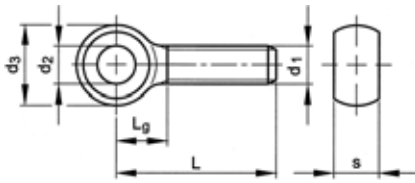
|                  |                    |                 |  |  |             |
|------------------|--------------------|-----------------|--|--|-------------|
| <b>55790</b>     |                    | <b>Eye bolt</b> |  |  | <b>R49A</b> |
| <b>Thread</b>    | Metric thread      |                 |  |  |             |
| <b>Material</b>  | Stainless steel A4 |                 |  |  |             |
| <b>Packaging</b> | Standard           |                 |  |  |             |



| d1 x L   | ☒  | Art.number                    | d1 x L    | ☒  | Art.number                    | d1 x L    | ☒  | Art.number                    |
|----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M6X30    | 10 | <a href="#">55790.060.030</a> | M10X65 *  | 25 | <a href="#">55790.100.065</a> | M16X70    | 5  | <a href="#">55790.160.070</a> |
| M6X35 *  | 50 | <a href="#">55790.060.035</a> | M10X70    | 10 | <a href="#">55790.100.070</a> | M16X75 *  | 25 | <a href="#">55790.160.075</a> |
| M6X40    | 10 | <a href="#">55790.060.040</a> | M10X75 *  | 25 | <a href="#">55790.100.075</a> | M16X80    | 5  | <a href="#">55790.160.080</a> |
| M6X45 *  | 50 | <a href="#">55790.060.045</a> | M10X80    | 10 | <a href="#">55790.100.080</a> | M16X90    | 5  | <a href="#">55790.160.090</a> |
| M6X50    | 10 | <a href="#">55790.060.050</a> | M10X90    | 10 | <a href="#">55790.100.090</a> | M16X100   | 5  | <a href="#">55790.160.100</a> |
| M6X55 *  | 50 | <a href="#">55790.060.055</a> | M10X100   | 10 | <a href="#">55790.100.100</a> | M16X110 * | 25 | <a href="#">55790.160.110</a> |
| M6X60 *  | 50 | <a href="#">55790.060.060</a> | M10X110 * | 25 | <a href="#">55790.100.110</a> | M16X120   | 3  | <a href="#">55790.160.120</a> |
|          |    |                               | M10X120 * | 25 | <a href="#">55790.100.120</a> | M16X130   | 3  | <a href="#">55790.160.130</a> |
| M8X30    | 10 | <a href="#">55790.080.030</a> |           |    |                               |           |    |                               |
| M8X35 *  | 50 | <a href="#">55790.080.035</a> | M12X50    | 5  | <a href="#">55790.120.050</a> | M20X70 *  | 10 | <a href="#">55790.200.070</a> |
| M8X40    | 10 | <a href="#">55790.080.040</a> | M12X55 *  | 25 | <a href="#">55790.120.055</a> | M20X75 *  | 10 | <a href="#">55790.200.075</a> |
| M8X45 *  | 50 | <a href="#">55790.080.045</a> | M12X60    | 5  | <a href="#">55790.120.060</a> | M20X80    | 2  | <a href="#">55790.200.080</a> |
| M8X50    | 10 | <a href="#">55790.080.050</a> | M12X65 *  | 25 | <a href="#">55790.120.065</a> | M20X90    | 2  | <a href="#">55790.200.090</a> |
| M8X60    | 10 | <a href="#">55790.080.060</a> | M12X70    | 5  | <a href="#">55790.120.070</a> | M20X100   | 2  | <a href="#">55790.200.100</a> |
| M8X65 *  | 50 | <a href="#">55790.080.065</a> | M12X75 *  | 25 | <a href="#">55790.120.075</a> | M20X120   | 2  | <a href="#">55790.200.120</a> |
| M8X70    | 10 | <a href="#">55790.080.070</a> | M12X80    | 5  | <a href="#">55790.120.080</a> |           |    |                               |
| M8X80    | 10 | <a href="#">55790.080.080</a> | M12X90    | 5  | <a href="#">55790.120.090</a> | M24X80 *  | 10 | <a href="#">55790.240.080</a> |
| M8X90    | 10 | <a href="#">55790.080.090</a> | M12X100   | 5  | <a href="#">55790.120.100</a> | M24X90 *  | 10 | <a href="#">55790.240.090</a> |
| M8X100   | 10 | <a href="#">55790.080.100</a> | M12X110 * | 25 | <a href="#">55790.120.110</a> | M24X100   | 3  | <a href="#">55790.240.100</a> |
|          |    |                               | M12X120   | 3  | <a href="#">55790.120.120</a> | M24X110 * | 10 | <a href="#">55790.240.110</a> |
| M10X40   | 10 | <a href="#">55790.100.040</a> | M12X130 * | 25 | <a href="#">55790.120.130</a> | M24X120   | 3  | <a href="#">55790.240.120</a> |
| M10X45 * | 25 | <a href="#">55790.100.045</a> | M12X150 * | 10 | <a href="#">55790.120.150</a> | M24X130 * | 10 | <a href="#">55790.240.130</a> |
| M10X50   | 10 | <a href="#">55790.100.050</a> |           |    |                               | M24X140   | 3  | <a href="#">55790.240.140</a> |
| M10X55 * | 25 | <a href="#">55790.100.055</a> | M16X60 *  | 25 | <a href="#">55790.160.060</a> | M24X150 * | 10 | <a href="#">55790.240.150</a> |
| M10X60   | 10 | <a href="#">55790.100.060</a> | M16X65 *  | 25 | <a href="#">55790.160.065</a> |           |    |                               |

## Eye bolt fully threaded

DIN 444 LB  
NEN 2310 B



### Technical data

| d1  | P    | Lg (max.) | d2 (H9) | d3 (max.) | s (max.) |
|-----|------|-----------|---------|-----------|----------|
| M5  | 0,8  | 11        | 5       | 12        | 6        |
| M6  | 1    | 14        | 6       | 14        | 7        |
| M8  | 1,25 | 16        | 8       | 18        | 9        |
| M10 | 1,5  | 18        | 10      | 20        | 12       |
| M12 | 1,75 | 23        | 12      | 25        | 14       |
| M16 | 2    | 27        | 16      | 32        | 17       |
| M20 | 2,5  | 32        | 18      | 40        | 22       |

### 16182 Eye bolt fully threaded

F11D

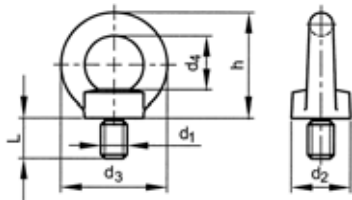
**Thread** Metric thread  
**Material** Steel  
**Class** 4.6  
**Surface treatment** Zinc plated  
**Packaging** Standard



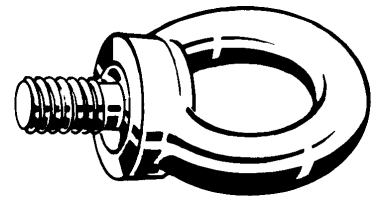
5

| d1 x L | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    |
|--------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M5X25  | 50 | <a href="#">16182.050.025</a> | M10X80  | 25 | <a href="#">16182.100.080</a> | M16X110 | 10 | <a href="#">16182.160.110</a> |
| M5X35  | 50 | <a href="#">16182.050.035</a> | M10X100 | 25 | <a href="#">16182.100.100</a> | M16X120 | 10 | <a href="#">16182.160.120</a> |
| M6X30  | 25 | <a href="#">16182.060.030</a> | M10X120 | 25 | <a href="#">16182.100.120</a> | M16X140 | 10 | <a href="#">16182.160.140</a> |
| M6X40  | 25 | <a href="#">16182.060.040</a> | M10X140 | 25 | <a href="#">16182.100.140</a> | M16X160 | 10 | <a href="#">16182.160.160</a> |
| M6X50  | 25 | <a href="#">16182.060.050</a> | M12X60  | 10 | <a href="#">16182.120.060</a> | M16X180 | 10 | <a href="#">16182.160.180</a> |
| M8X40  | 25 | <a href="#">16182.080.040</a> | M12X70  | 10 | <a href="#">16182.120.070</a> | M16X200 | 10 | <a href="#">16182.160.200</a> |
| M8X50  | 25 | <a href="#">16182.080.050</a> | M12X80  | 10 | <a href="#">16182.120.080</a> | M20X100 | 5  | <a href="#">16182.200.100</a> |
| M8X60  | 25 | <a href="#">16182.080.060</a> | M12X100 | 10 | <a href="#">16182.120.100</a> | M20X120 | 5  | <a href="#">16182.200.120</a> |
| M8X80  | 25 | <a href="#">16182.080.080</a> | M12X110 | 10 | <a href="#">16182.120.110</a> | M20X140 | 5  | <a href="#">16182.200.140</a> |
| M10X40 | 25 | <a href="#">16182.100.040</a> | M12X120 | 10 | <a href="#">16182.120.120</a> | M20X150 | 5  | <a href="#">16182.200.150</a> |
| M10X50 | 25 | <a href="#">16182.100.050</a> | M12X140 | 10 | <a href="#">16182.120.140</a> | M20X160 | 5  | <a href="#">16182.200.160</a> |
| M10X60 | 25 | <a href="#">16182.100.060</a> | M16X70  | 10 | <a href="#">16182.160.070</a> | M20X180 | 5  | <a href="#">16182.200.180</a> |
| M10X70 | 25 | <a href="#">16182.100.070</a> | M16X80  | 10 | <a href="#">16182.160.080</a> | M20X200 | 5  | <a href="#">16182.200.200</a> |
| M10X75 | 25 | <a href="#">16182.100.075</a> | M16X90  | 10 | <a href="#">16182.160.090</a> |         |    |                               |
|        |    |                               | M16X100 | 10 | <a href="#">16182.160.100</a> |         |    |                               |

## Lifting eye bolt with CE marking



ISO 3266  
**DIN 580**  
 NEN 1927  
 BS 4278



### Technical data

| d1         | P    | d2  | d3  | d4  | h   | L    |
|------------|------|-----|-----|-----|-----|------|
| M6 (#DIN)  | 1    | 20  | 36  | 20  | 36  | 13   |
| M8         | 1,25 | 20  | 36  | 20  | 36  | 13   |
| M10        | 1,5  | 25  | 45  | 25  | 45  | 17   |
| M12        | 1,75 | 30  | 54  | 30  | 53  | 20,5 |
| M14 (#DIN) | 2    | 30  | 54  | 30  | 53  | 20,5 |
| M16        | 2    | 35  | 63  | 35  | 62  | 27   |
| M18 (#DIN) | 2,5  | 35  | 63  | 35  | 62  | 27   |
| M20        | 2,5  | 40  | 72  | 40  | 71  | 30   |
| M22 (#DIN) | 2,5  | 40  | 72  | 40  | 71  | 30   |
| M24        | 3    | 50  | 90  | 50  | 90  | 36   |
| M27 (#DIN) | 3    | 50  | 90  | 50  | 90  | 36   |
| M30        | 3,5  | 65  | 108 | 60  | 109 | 45   |
| M33 (#DIN) | 3,5  | 65  | 108 | 60  | 109 | 45   |
| M36        | 4    | 75  | 126 | 70  | 128 | 54   |
| M39 (#DIN) | 4    | 75  | 126 | 70  | 128 | 54   |
| M42        | 4,5  | 85  | 144 | 80  | 147 | 63   |
| M45 (#DIN) | 4,5  | 85  | 144 | 80  | 147 | 63   |
| M48        | 5    | 100 | 166 | 90  | 168 | 68   |
| M52 (#DIN) | 5    | 110 | 184 | 100 | 187 | 78   |
| M56        | 5,5  | 110 | 184 | 100 | 187 | 78   |
| M64        | 6    | 120 | 206 | 110 | 208 | 90   |
| M72x6      | 6    | 150 | 260 | 140 | 260 | 100  |

- If lifting eye bolts form part of lifting equipment, CE marking is necessary.
- Lifting eye bolt do not require CE marking if not used for lifting (as towing eyes for example) or is only used once for lifting (such as for moving machines).

### Maximum load L (N)

|          |  | M6  | M8   | M10  | M12  | M14  | M16  | M18  | M20   | M22   | M24   | M27   |
|----------|--|-----|------|------|------|------|------|------|-------|-------|-------|-------|
| 1 x bolt |  | 900 | 1400 | 2300 | 3400 | 5000 | 7000 | 9300 | 12000 | 15000 | 18000 | 25000 |
| 2 x bolt |  | 600 | 1000 | 1700 | 2400 | 3500 | 5000 | 6500 | 8600  | 10500 | 12900 | 18300 |

|          |  | M30   | M33   | M36   | M39   | M42   | M45   | M48   | M52   | M56    | M64    | M72x6  |
|----------|--|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 1 x bolt |  | 32000 | 42000 | 46000 | 60000 | 63000 | 78000 | 86000 | 99000 | 115000 | 160000 | 200000 |
| 2 x bolt |  | 23000 | 30500 | 33000 | 44000 | 45000 | 55000 | 61000 | 71000 | 82000  | 110000 | 140000 |

### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St C15E   |                   | Standard  | 16000 | 5-8  |
| M      | St C15E   | Zipl              | Standard  | 16010 | 5-8  |
| M      | St.St. A2 |                   | Standard  | 51940 | 5-8  |
| M      | St.St. A4 |                   | Standard  | 55940 | 5-8  |

| 16000 Lifting eye bolt with CE marking |               | F11E |
|--|---------------|------|
| <b>Thread</b>                          | Metric thread |      |
| <b>Material</b>                        | Steel C15E    |      |
| <b>Packaging</b>                       | Standard      |      |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1       | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|----------|---|-------------------------------|
| M6  | 25 | <a href="#">16000.060.001</a> | M20 | 10 | <a href="#">16000.200.001</a> | M39      | 1 | <a href="#">16000.390.001</a> |
| M8  | 25 | <a href="#">16000.080.001</a> | M22 | 5  | <a href="#">16000.220.001</a> | M42      | 1 | <a href="#">16000.420.001</a> |
| M10 | 25 | <a href="#">16000.100.001</a> | M24 | 5  | <a href="#">16000.240.001</a> | M48      | 1 | <a href="#">16000.480.001</a> |
| M12 | 25 | <a href="#">16000.120.001</a> | M27 | 5  | <a href="#">16000.270.001</a> | M56      | 1 | <a href="#">16000.560.001</a> |
| M14 | 10 | <a href="#">16000.140.001</a> | M30 | 1  | <a href="#">16000.300.001</a> | M64      | 1 | <a href="#">16000.640.001</a> |
| M16 | 10 | <a href="#">16000.160.001</a> | M33 | 1  | <a href="#">16000.330.001</a> | M72X6,00 | 1 | <a href="#">16000.720.001</a> |
| M18 | 10 | <a href="#">16000.180.001</a> | M36 | 1  | <a href="#">16000.360.001</a> |          |   |                               |

| 16010 Lifting eye bolt with CE marking |               | F11E |
|--|---------------|------|
| <b>Thread</b>                          | Metric thread |      |
| <b>Material</b>                        | Steel C15E    |      |
| <b>Surface treatment</b>               | Zinc plated   |      |
| <b>Packaging</b>                       | Standard      |      |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 25 | <a href="#">16010.060.001</a> | M20 | 10 | <a href="#">16010.200.001</a> | M42 | 1 | <a href="#">16010.420.001</a> |
| M8  | 25 | <a href="#">16010.080.001</a> | M24 | 5  | <a href="#">16010.240.001</a> | M45 | 1 | <a href="#">16010.450.001</a> |
| M10 | 25 | <a href="#">16010.100.001</a> | M27 | 5  | <a href="#">16010.270.001</a> | M48 | 1 | <a href="#">16010.480.001</a> |
| M12 | 25 | <a href="#">16010.120.001</a> | M30 | 1  | <a href="#">16010.300.001</a> | M52 | 1 | <a href="#">16010.520.001</a> |
| M14 | 10 | <a href="#">16010.140.001</a> | M33 | 1  | <a href="#">16010.330.001</a> | M56 | 1 | <a href="#">16010.560.001</a> |
| M16 | 10 | <a href="#">16010.160.001</a> | M36 | 1  | <a href="#">16010.360.001</a> | M64 | 1 | <a href="#">16010.640.001</a> |
| M18 | 10 | <a href="#">16010.180.001</a> | M39 | 1  | <a href="#">16010.390.001</a> |     |   |                               |

| 51940 Lifting eye bolt with CE marking |                    | R09A |
|--|--------------------|------|
| <b>Thread</b>                          | Metric thread      |      |
| <b>Material</b>                        | Stainless steel A2 |      |
| <b>Packaging</b>                       | Standard           |      |
|  | ISO ≈3266          |      |
|  | DIN ≈580           |      |
|  | NEN ≈1927          |      |
|  | BS ≈4278           |      |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">51940.060.001</a> | M12 | 10 | <a href="#">51940.120.001</a> | M24 | 3 | <a href="#">51940.240.001</a> |
| M8  | 10 | <a href="#">51940.080.001</a> | M16 | 5  | <a href="#">51940.160.001</a> | M27 | 3 | <a href="#">51940.270.001</a> |
| M10 | 10 | <a href="#">51940.100.001</a> | M20 | 5  | <a href="#">51940.200.001</a> | M30 | 1 | <a href="#">51940.300.001</a> |

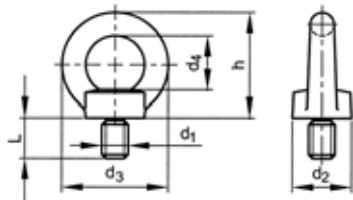
| 55940 Lifting eye bolt with CE marking |                    | R49A |
|--|--------------------|------|
| <b>Thread</b>                          | Metric thread      |      |
| <b>Material</b>                        | Stainless steel A4 |      |
| <b>Packaging</b>                       | Standard           |      |
|  | ISO ≈3266          |      |
|  | DIN ≈580           |      |
|  | NEN ≈1927          |      |
|  | BS ≈4278           |      |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">55940.060.001</a> | M12 | 10 | <a href="#">55940.120.001</a> | M24 | 3 | <a href="#">55940.240.001</a> |
| M8  | 10 | <a href="#">55940.080.001</a> | M16 | 5  | <a href="#">55940.160.001</a> | M27 | 3 | <a href="#">55940.270.001</a> |
| M10 | 10 | <a href="#">55940.100.001</a> | M20 | 5  | <a href="#">55940.200.001</a> |     |   |                               |

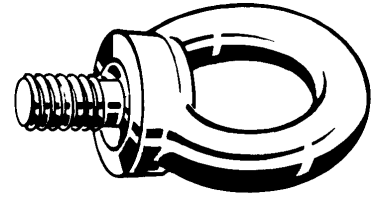
5



## Lifting eye bolt non-metric



DIN ≈580 (1957)  
NEN ≈2347 (1960)



### Technical data

| d1    | Threads per inch | d2  | d3  | d4 | h   | L  |
|-------|------------------|-----|-----|----|-----|----|
| 5/16  | 18               | 20  | 36  | 20 | 36  | 13 |
| 3/8   | 16               | 25  | 45  | 25 | 45  | 17 |
| 1/2   | 12               | 30  | 54  | 30 | 53  | 22 |
| 5/8   | 11               | 35  | 63  | 35 | 62  | 27 |
| 3/4   | 10               | 40  | 72  | 40 | 71  | 30 |
| 7/8   | 9                | 45  | 81  | 45 | 81  | 35 |
| 1.IN. | 8                | 50  | 90  | 50 | 90  | 36 |
| 1.1/4 | 7                | 65  | 108 | 60 | 109 | 45 |
| 1.1/2 | 6                | 75  | 126 | 70 | 128 | 55 |
| 1.3/4 | 5                | 100 | 166 | 90 | 168 | 70 |
| 2.IN. | 4,5              | 100 | 166 | 90 | 168 | 70 |

- Whitworth thread (BSW) is not internationally recommended. It is advised to use metric (M).
- C15 material has been standardised and has a minimum impact strength of 80 Joule (ISO-testpiece) resp. 90 Joule (DIN-testpiece).

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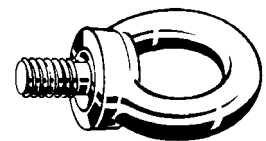
### Maximum load L (N)

|          |  | 5/16 | 3/8  | 1/2  | 5/8  | 3/4   | 7/8   | 1.IN. | 1.1/4 | 1.1/2 | 1.3/4 | 2.IN.  |
|----------|--|------|------|------|------|-------|-------|-------|-------|-------|-------|--------|
| 1 x bolt |  | 1400 | 2300 | 3400 | 7000 | 12000 | 18000 | 18000 | 46000 | 63000 | 86000 | 115000 |
| 2 x bolt |  | 1000 | 1700 | 2400 | 5000 | 8600  | 12900 | 12900 | 33000 | 45000 | 61000 | 82000  |

### 16040 Lifting eye bolt non-metric

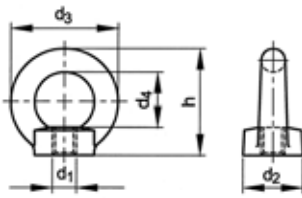
X08A

**Thread** British Standard Whitworth  
**Material** Steel C15  
**Packaging** Standard

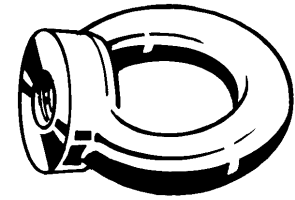


| d1   | ☒  | Art.number                    | d1    | ☒  | Art.number                    | d1    | ☒ | Art.number                    |
|------|----|-------------------------------|-------|----|-------------------------------|-------|---|-------------------------------|
| 5/16 | 25 | <a href="#">16040.079.001</a> | 3/4   | 10 | <a href="#">16040.191.001</a> | 1.1/2 | 1 | <a href="#">16040.381.001</a> |
| 3/8  | 25 | <a href="#">16040.096.001</a> | 7/8   | 5  | <a href="#">16040.222.001</a> | 1.3/4 | 1 | <a href="#">16040.444.001</a> |
| 1/2  | 25 | <a href="#">16040.127.001</a> | 1.IN. | 5  | <a href="#">16040.254.001</a> | 2.IN. | 1 | <a href="#">16040.508.001</a> |
| 5/8  | 10 | <a href="#">16040.158.001</a> | 1.1/4 | 1  | <a href="#">16040.317.001</a> |       |   |                               |

## Lifting eye nut with CE marking



DIN 582  
NEN 1928


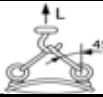



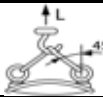
### Technical data

| d1         | P    | d2  | d3  | d4  | h   |
|------------|------|-----|-----|-----|-----|
| M6 (#DIN)  | 1    | 20  | 36  | 20  | 36  |
| M8         | 1,25 | 20  | 36  | 20  | 36  |
| M10        | 1,5  | 25  | 45  | 25  | 45  |
| M12        | 1,75 | 30  | 54  | 30  | 53  |
| M14 (#DIN) | 2    | 30  | 54  | 30  | 53  |
| M16        | 2    | 35  | 63  | 35  | 62  |
| M18 (#DIN) | 2,5  | 35  | 63  | 35  | 62  |
| M20        | 2,5  | 40  | 72  | 40  | 71  |
| M22 (#DIN) | 2,5  | 40  | 72  | 40  | 71  |
| M24        | 3    | 50  | 90  | 50  | 90  |
| M27 (#DIN) | 3    | 65  | 108 | 60  | 109 |
| M30        | 3,5  | 65  | 108 | 60  | 109 |
| M33 (#DIN) | 3,5  | 65  | 108 | 60  | 109 |
| M36        | 4    | 75  | 126 | 70  | 128 |
| M39 (#DIN) | 4    | 75  | 126 | 70  | 128 |
| M42        | 4,5  | 85  | 144 | 80  | 147 |
| M48        | 5    | 100 | 166 | 90  | 168 |
| M56        | 5,5  | 110 | 184 | 100 | 187 |
| M64        | 6    | 120 | 206 | 110 | 208 |
| M72x6      | 6    | 150 | 260 | 140 | 260 |

- If lifting eye nuts form part of lifting equipment, CE marking is necessary.
- Lifting eye nuts do not require CE marking if not used for lifting (as towing eyes for example).

### Maximum load L (N)

|         |   | M6  | M8   | M10  | M12  | M14  | M16  | M18  | M20   | M22   | M24   | M27   |
|---------|---|-----|------|------|------|------|------|------|-------|-------|-------|-------|
| 1 x nut |  | 900 | 1400 | 2300 | 3400 | 5000 | 7000 | 9300 | 12000 | 15000 | 18000 | 25000 |
| 2 x nut |  | 600 | 1000 | 1700 | 2400 | 3500 | 5000 | 6500 | 8600  | 10500 | 12900 | 18300 |

|         |   | M30   | M33   | M36   | M39   | M42   | M45   | M48   | M52   | M56    | M64    | M72x6  |
|---------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 1 x nut |  | 32000 | 42000 | 46000 | 60000 | 63000 | 78000 | 86000 | 99000 | 115000 | 160000 | 200000 |
| 2 x nut |  | 23000 | 30500 | 33000 | 44000 | 45000 | 55000 | 61000 | 71000 | 82000  | 110000 | 140000 |

### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St C15E   |                   | Standard  | 16100 | 5-11 |
| M      | St C15E   | Zipl              | Standard  | 16110 | 5-11 |
| M      | St.St. A2 |                   | Standard  | 51950 | 5-11 |
| M      | St.St. A4 |                   | Standard  | 55950 | 5-11 |

| 16100 Lifting eye nut with CE marking |               | F11E   |   |
|---------------------------------------|---------------|--|---|
| Thread                                | Metric thread |  |  |
| Material                              | Steel C15E    |  |   |
| Packaging                             | Standard      |  |   |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1       | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|----------|---|-------------------------------|
| M6  | 25 | <a href="#">16100.060.001</a> | M20 | 10 | <a href="#">16100.200.001</a> | M39      | 1 | <a href="#">16100.390.001</a> |
| M8  | 25 | <a href="#">16100.080.001</a> | M22 | 5  | <a href="#">16100.220.001</a> | M42      | 1 | <a href="#">16100.420.001</a> |
| M10 | 25 | <a href="#">16100.100.001</a> | M24 | 5  | <a href="#">16100.240.001</a> | M48      | 1 | <a href="#">16100.480.001</a> |
| M12 | 25 | <a href="#">16100.120.001</a> | M27 | 5  | <a href="#">16100.270.001</a> | M56      | 1 | <a href="#">16100.560.001</a> |
| M14 | 10 | <a href="#">16100.140.001</a> | M30 | 1  | <a href="#">16100.300.001</a> | M64      | 1 | <a href="#">16100.640.001</a> |
| M16 | 10 | <a href="#">16100.160.001</a> | M33 | 1  | <a href="#">16100.330.001</a> | M72X6,00 | 1 | <a href="#">16100.720.001</a> |
| M18 | 10 | <a href="#">16100.180.001</a> | M36 | 1  | <a href="#">16100.360.001</a> |          |   |                               |

| 16110 Lifting eye nut with CE marking |               | F11E   |   |
|---------------------------------------|---------------|--|---|
| Thread                                | Metric thread |  |  |
| Material                              | Steel C15E    |  |   |
| Surface treatment                     | Zinc plated   |  |   |
| Packaging                             | Standard      |  |   |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 25 | <a href="#">16110.060.001</a> | M18 | 10 | <a href="#">16110.180.001</a> | M36 | 1 | <a href="#">16110.360.001</a> |
| M8  | 25 | <a href="#">16110.080.001</a> | M20 | 10 | <a href="#">16110.200.001</a> | M39 | 1 | <a href="#">16110.390.001</a> |
| M10 | 25 | <a href="#">16110.100.001</a> | M24 | 5  | <a href="#">16110.240.001</a> | M42 | 1 | <a href="#">16110.420.001</a> |
| M12 | 25 | <a href="#">16110.120.001</a> | M27 | 5  | <a href="#">16110.270.001</a> | M48 | 1 | <a href="#">16110.480.001</a> |
| M14 | 10 | <a href="#">16110.140.001</a> | M30 | 1  | <a href="#">16110.300.001</a> | M56 | 1 | <a href="#">16110.560.001</a> |
| M16 | 10 | <a href="#">16110.160.001</a> | M33 | 1  | <a href="#">16110.330.001</a> | M64 | 1 | <a href="#">16110.640.001</a> |

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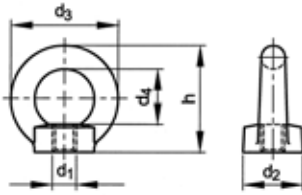
| 51950 Lifting eye nut with CE marking |                                   | R09A   |   |
|---------------------------------------|-----------------------------------|--|---|
| Thread                                | Metric thread                     |  |  |
| Material                              | Stainless steel A2                |  |   |
| Packaging                             | Standard<br>DIN ≈582<br>NEN ≈1928 |  |   |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">51950.060.001</a> | M12 | 10 | <a href="#">51950.120.001</a> | M24 | 3 | <a href="#">51950.240.001</a> |
| M8  | 10 | <a href="#">51950.080.001</a> | M16 | 5  | <a href="#">51950.160.001</a> |     |   |                               |
| M10 | 10 | <a href="#">51950.100.001</a> | M20 | 5  | <a href="#">51950.200.001</a> |     |   |                               |

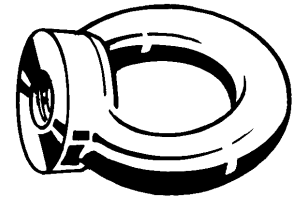
| 55950 Lifting eye nut with CE marking |                                   | R49A   |   |
|---------------------------------------|-----------------------------------|--|---|
| Thread                                | Metric thread                     |  |  |
| Material                              | Stainless steel A4                |  |   |
| Packaging                             | Standard<br>DIN ≈582<br>NEN ≈1928 |  |   |

| d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M8  | 10 | <a href="#">55950.080.001</a> | M12 | 10 | <a href="#">55950.120.001</a> | M20 | 5 | <a href="#">55950.200.001</a> |
| M10 | 10 | <a href="#">55950.100.001</a> | M16 | 5  | <a href="#">55950.160.001</a> | M24 | 3 | <a href="#">55950.240.001</a> |

## Lifting eye nut



DIN ≈582 (1957)  
 NEN ≈2348 (1960)





### Technical data

| d1    | Threads per inch | d2  | d3  | d4 | h   |
|-------|------------------|-----|-----|----|-----|
| 5/16  | 18               | 20  | 36  | 20 | 36  |
| 3/8   | 16               | 25  | 45  | 25 | 45  |
| 1/2   | 12               | 30  | 54  | 30 | 53  |
| 5/8   | 11               | 35  | 63  | 35 | 62  |
| 3/4   | 10               | 40  | 72  | 40 | 71  |
| 7/8   | 9                | 45  | 81  | 45 | 81  |
| 1.IN. | 8                | 50  | 90  | 50 | 90  |
| 1.1/4 | 7                | 65  | 108 | 60 | 109 |
| 1.1/2 | 6                | 75  | 126 | 70 | 128 |
| 1.3/4 | 5                | 85  | 144 | 80 | 147 |
| 2.IN. | 4,5              | 100 | 166 | 90 | 168 |

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- Whitworth thread (BSW) is not internationally recommended.
- It is advised to use metric (M).

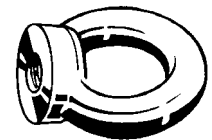
### Maximum load L (N)

|         |   | 5/16 | 3/8  | 1/2  | 5/8  | 3/4   | 7/8   | 1.IN. | 1.1/4 | 1.1/2 | 1.3/4 | 2.IN.  |
|---------|---|------|------|------|------|-------|-------|-------|-------|-------|-------|--------|
| 1 x nut |  | 1400 | 2300 | 3400 | 7000 | 12000 | 18000 | 18000 | 46000 | 63000 | 86000 | 115000 |
| 2 x nut |  | 1000 | 1700 | 2400 | 5000 | 8600  | 12900 | 12900 | 33000 | 45000 | 61000 | 82000  |

### 16140 Lifting eye nut

X08A

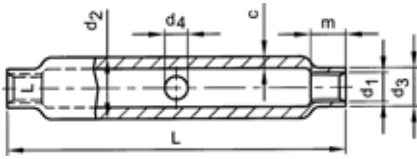
**Thread** British Standard Whitworth  
**Material** Steel C15  
**Packaging** Standard



| d1   | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1    | ☒ | Art.number                    |
|------|----|-------------------------------|-----|----|-------------------------------|-------|---|-------------------------------|
| 5/16 | 25 | <a href="#">16140.079.001</a> | 5/8 | 10 | <a href="#">16140.158.001</a> | 1.IN. | 5 | <a href="#">16140.254.001</a> |
| 3/8  | 25 | <a href="#">16140.096.001</a> | 3/4 | 10 | <a href="#">16140.191.001</a> | 1.1/4 | 1 | <a href="#">16140.317.001</a> |
| 1/2  | 25 | <a href="#">16140.127.001</a> | 7/8 | 5  | <a href="#">16140.222.001</a> | 1.1/2 | 1 | <a href="#">16140.381.001</a> |

## Turnbuckle made from tubes

DIN 1478



### Technical data

| d1                    | M6   | M8   | M10  | M12  | M16 | M20  | M24  |
|-----------------------|------|------|------|------|-----|------|------|
| P                     | 1    | 1,25 | 1,5  | 1,75 | 2   | 2,5  | 3    |
| d <sub>2</sub> (min.) | 17,2 | 17,2 | 21,3 | 25   | 30  | 33,7 | 42,4 |
| d <sub>3</sub>        | 9    | 12   | 15   | 18   | 24  | 30   | 33   |
| d <sub>4</sub>        | 6    | 8    | 8    | 10   | 10  | 12   | 12   |
| c                     | 2,9  | 3,6  | 4    | 4    | 4,5 | 5    | 5,6  |
| L                     | 110  | 110  | 125  | 125  | 170 | 200  | 255  |
| m                     | 7,5  | 10   | 12   | 15   | 20  | 24   | 29   |
| <b>Assembly data</b>  |      |      |      |      |     |      |      |
| Adjustable            | 90   | 85   | 95   | 90   | 120 | 140  | 180  |

### 16151 Turnbuckle made from tubes

F11F

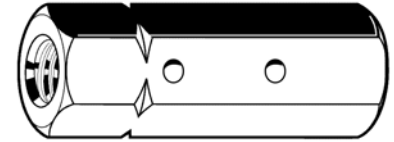
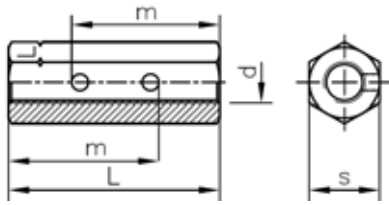
|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">16151.060.001</a> | M12 | 5 | <a href="#">16151.120.001</a> | M24 | 2 | <a href="#">16151.240.001</a> |
| M8  | 10 | <a href="#">16151.080.001</a> | M16 | 5 | <a href="#">16151.160.001</a> |     |   |                               |
| M10 | 5  | <a href="#">16151.100.001</a> | M20 | 2 | <a href="#">16151.200.001</a> |     |   |                               |

## Hexagon turnbuckle

DIN ≈1479



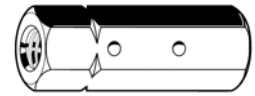
### Technical data

| d                    | M6   | M8   | M10 | M12  | M16 | M20 | M24 |
|----------------------|------|------|-----|------|-----|-----|-----|
| P                    | 1    | 1,25 | 1,5 | 1,75 | 2   | 2,5 | 3   |
| L                    | 30   | 35   | 45  | 55   | 75  | 95  | 115 |
| m                    | 22,5 | 25   | 33  | 40   | 55  | 24  | 29  |
| s                    | 10   | 13   | 16  | 18   | 24  | 30  | 36  |
| <b>Assembly data</b> |      |      |     |      |     |     |     |
| Adjustable           | 15   | 15   | 21  | 25   | 35  | 47  | 57  |

### 16153 Hexagon turnbuckle

F11F

**Thread** Metric thread  
**Material** Steel Min.330N/mm<sup>2</sup>  
**Surface treatment** Zinc plated  
**Packaging** Standard

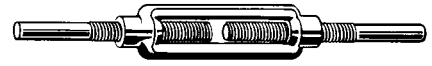
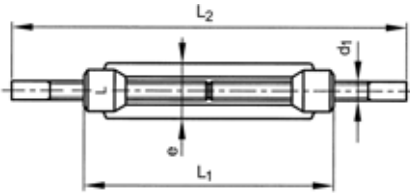


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| d   | ☒  | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">16153.060.001</a> | M12 | 5 | <a href="#">16153.120.001</a> | M24 | 2 | <a href="#">16153.240.001</a> |
| M8  | 10 | <a href="#">16153.080.001</a> | M16 | 5 | <a href="#">16153.160.001</a> |     |   |                               |
| M10 | 5  | <a href="#">16153.100.001</a> | M20 | 2 | <a href="#">16153.200.001</a> |     |   |                               |

## Turnbuckle

DIN 1480



### Technical data

| d1  | P    | L <sub>1</sub> | L <sub>2</sub> (min.) | L <sub>2</sub> (max.) | e   | Allowable load in N |
|-----|------|----------------|-----------------------|-----------------------|-----|---------------------|
| M6  | 1    | 110            | 240                   | 338                   | 19  | 2250                |
| M8  | 1,25 | 110            | 240                   | 338                   | 23  | 4100                |
| M10 | 1,5  | 125            | 300                   | 407                   | 30  | 6500                |
| M12 | 1,75 | 125            | 300                   | 407                   | 34  | 9300                |
| M16 | 2    | 170            | 400                   | 543                   | 42  | 17700               |
| M20 | 2,5  | 200            | 440                   | 606                   | 52  | 27000               |
| M24 | 3    | 255            | 520                   | 736                   | 60  | 39200               |
| M30 | 3,5  | 255            | 520                   | 736                   | 74  | 62500               |
| M36 | 4    | 295            | 600                   | 840                   | 86  | 91000               |
| M42 | 4,5  | 330            | 700                   | 967                   | 104 | 125000              |
| M48 | 5    | 355            | 760                   | 1037                  | 135 | 165000              |
| M56 | 5,5  | 355            | 820                   | 1097                  | 135 | 230000              |

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16160 Turnbuckle with two studs for welding made from weldable steel class 3.6

F11F

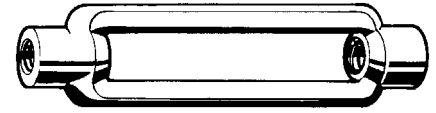
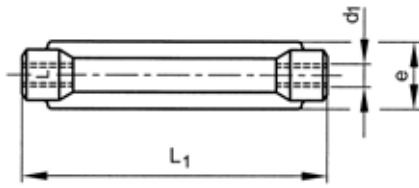
**Thread** Metric thread  
**Material** Steel Min.330N/mm<sup>2</sup>  
**Packaging** Standard



| d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6  | 10 | <a href="#">16160.060.001</a> | M16 | 5 | <a href="#">16160.160.001</a> | M36 | 1 | <a href="#">16160.360.001</a> |
| M8  | 10 | <a href="#">16160.080.001</a> | M20 | 2 | <a href="#">16160.200.001</a> | M42 | 1 | <a href="#">16160.420.001</a> |
| M10 | 5  | <a href="#">16160.100.001</a> | M24 | 2 | <a href="#">16160.240.001</a> | M48 | 1 | <a href="#">16160.480.001</a> |
| M12 | 5  | <a href="#">16160.120.001</a> | M30 | 2 | <a href="#">16160.300.001</a> | M56 | 1 | <a href="#">16160.560.001</a> |

## Turnbuckle

DIN 1480



### Technical data

| d1  | P    | L <sub>1</sub> | e  |
|-----|------|----------------|----|
| M6  | 1    | 110            | 19 |
| M8  | 1,25 | 110            | 23 |
| M10 | 1,5  | 125            | 30 |
| M12 | 1,75 | 125            | 34 |
| M16 | 2    | 170            | 42 |
| M20 | 2,5  | 200            | 52 |
| M24 | 3    | 255            | 60 |
| M30 | 3,5  | 255            | 74 |

- The steel (min. tensile strength 330 N/mm<sup>2</sup>) turnbuckles are zinc plated or hot dip galvanized with ISO-metric mating thread, depending on availability this may deviate. Hooks and eyes are class 3.6 and always zinc plated.

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| 16150 Turnbuckle         |                                | F11F |
|--------------------------|--------------------------------|------|
| <b>Thread</b>            | Metric thread                  |      |
| <b>Material</b>          | Steel Min.330N/mm <sup>2</sup> |      |
| <b>Surface treatment</b> | Zinc plated                    |      |
| <b>Packaging</b>         | Standard                       |      |

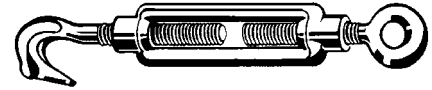
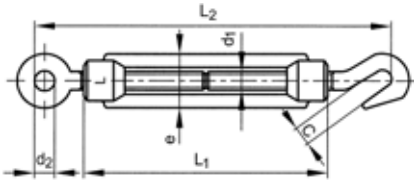


| d1       | ☒  | Art.number                    | d1           | ☒ | Art.number                    | d1           | ☒ | Art.number                    |
|----------|----|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| M6 ZINC  | 10 | <a href="#">16150.060.001</a> | M12 ZINC     | 5 | <a href="#">16150.120.001</a> | M24 HOT D.G. | 2 | <a href="#">16150.240.001</a> |
| M8 ZINC  | 10 | <a href="#">16150.080.001</a> | M16 HOT D.G. | 5 | <a href="#">16150.160.001</a> | M30 HOT D.G. | 2 | <a href="#">16150.300.001</a> |
| M10 ZINC | 5  | <a href="#">16150.100.001</a> | M20 HOT D.G. | 2 | <a href="#">16150.200.001</a> |              |   |                               |



## Turnbuckle with hook and eye

DIN ≈1480



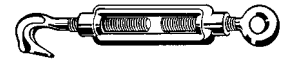
### Technical data

| d1                    | M6  | M8   | M10  | M12  | M16  | M20  | M24   | M30   |
|-----------------------|-----|------|------|------|------|------|-------|-------|
| P                     | 1   | 1,25 | 1,5  | 1,75 | 2    | 2,5  | 3     | 3,5   |
| L <sub>1</sub>        | 110 | 110  | 125  | 125  | 170  | 200  | 255   | 255   |
| L <sub>2</sub> (min.) | 150 | 161  | 188  | 208  | 299  | 341  | 394   | 441   |
| L <sub>2</sub> (max.) | 234 | 245  | 285  | 305  | 433  | 495  | 594   | 635   |
| e                     | 19  | 23   | 30   | 34   | 42   | 52   | 60    | 74    |
| d <sub>2</sub>        | 10  | 11   | 14   | 17   | 23   | 25   | 34    | 38    |
| c                     | 8   | 10   | 13   | 17   | 16,5 | 17   | 23    | 29    |
| Allowable load in N   | 750 | 1650 | 2350 | 3200 | 5300 | 7300 | 15500 | 22400 |

### 16170 Turnbuckle with hook and eye

F11F

|                   |                                |
|-------------------|--------------------------------|
| Thread            | Metric thread                  |
| Material          | Steel Min.330N/mm <sup>2</sup> |
| Surface treatment | Zinc plated                    |
| Packaging         | Standard                       |

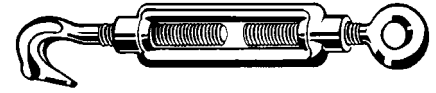
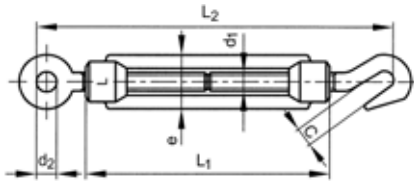


| d1       | ☒  | Art.number                    | d1           | ☒ | Art.number                    | d1           | ☒ | Art.number                    |
|----------|----|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| M6 ZINC  | 10 | <a href="#">16170.060.001</a> | M12 ZINC     | 5 | <a href="#">16170.120.001</a> | M24 HOT D.G. | 2 | <a href="#">16170.240.001</a> |
| M8 ZINC  | 10 | <a href="#">16170.080.001</a> | M16 HOT D.G. | 5 | <a href="#">16170.160.001</a> | M30 HOT D.G. | 2 | <a href="#">16170.300.001</a> |
| M10 ZINC | 5  | <a href="#">16170.100.001</a> | M20 HOT D.G. | 2 | <a href="#">16170.200.001</a> |              |   |                               |

- The steel (min. tensile strength 330 N/mm<sup>2</sup>) turnbuckles are zinc plated or hot dip galvanized with ISO-metric mating thread, depending on availability this may deviate. Hooks and eyes are class 3.6 and always zinc plated.

**Turnbuckle with hook and eye St.st.**

DIN ≈1480



**Technical data**

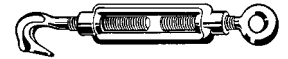
|                       | M6  | M8   | M10  | M12  | M16  | M20  |
|-----------------------|-----|------|------|------|------|------|
| d1                    | M6  | M8   | M10  | M12  | M16  | M20  |
| P                     | 1   | 1,25 | 1,5  | 1,75 | 2    | 2,5  |
| L <sub>1</sub>        | 90  | 120  | 150  | 200  | 250  | 300  |
| L <sub>2</sub> (min.) | 140 | 180  | 230  | 280  | 370  | 420  |
| L <sub>2</sub> (max.) | 220 | 280  | 360  | 460  | 590  | 650  |
| e                     | 18  | 21   | 25   | 31   | 40   | 49   |
| d <sub>2</sub>        | 10  | 14   | 16   | 18   | 26   | 30   |
| c                     | 10  | 11   | 12   | 14   | 16   | 18   |
| Allowable load in N   | 750 | 1650 | 2350 | 3200 | 5300 | 7300 |

5

**51742 Turnbuckle with hook and eye St.st.**

R09A

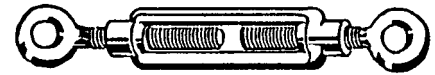
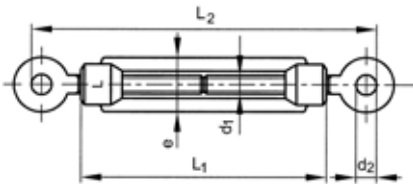
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 10 | <a href="#">51742.060.001</a> | M10 | 5 | <a href="#">51742.100.001</a> | M16 | 5 | <a href="#">51742.160.001</a> |
| M8 | 10 | <a href="#">51742.080.001</a> | M12 | 5 | <a href="#">51742.120.001</a> | M20 | 2 | <a href="#">51742.200.001</a> |

## Turnbuckle with two eyes

DIN ≈1480



### Technical data

| d1         | P    | L <sub>1</sub> | L <sub>2</sub> (min.) | L <sub>2</sub> (max.) | e    | d <sub>2</sub> | Allowable load in N |
|------------|------|----------------|-----------------------|-----------------------|------|----------------|---------------------|
| M5 (#DIN)  | 0,8  | 78,5           | 119                   | 179                   | 16,6 | 8              | 1400                |
| M6         | 1    | 110            | 150                   | 234                   | 19   | 10             | 2250                |
| M8         | 1,25 | 110            | 156                   | 240                   | 23   | 10             | 4100                |
| M10        | 1,5  | 125            | 186                   | 282                   | 30   | 14             | 6500                |
| M12        | 1,75 | 125            | 196                   | 293                   | 34   | 17             | 9300                |
| M14 (#DIN) | 2    | 140            | 234                   | 344                   | 38   | 17,6           | 13200               |
| M16        | 2    | 170            | 294                   | 428                   | 42   | 23             | 17700               |
| M20        | 2,5  | 200            | 352                   | 506                   | 52   | 25             | 27000               |
| M24        | 3    | 235            | 391                   | 589                   | 60   | 34             | 39200               |
| M30        | 3,5  | 255            | 441                   | 636                   | 74   | 38             | 62500               |

### 16177 Turnbuckle with two eyes

F11F

|                          |                                |
|--------------------------|--------------------------------|
| <b>Thread</b>            | Metric thread                  |
| <b>Material</b>          | Steel Min.330N/mm <sup>2</sup> |
| <b>Surface treatment</b> | Zinc plated                    |
| <b>Packaging</b>         | Standard                       |

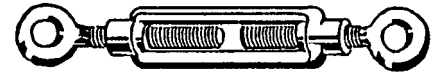
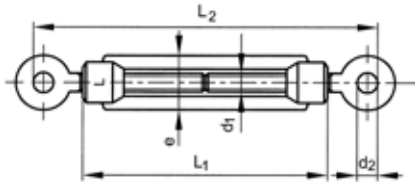


| d1             | ☒  | Art.number                    | d1              | ☒ | Art.number                    | d1           | ☒ | Art.number                    |
|----------------|----|-------------------------------|-----------------|---|-------------------------------|--------------|---|-------------------------------|
| M5 = 3/16 ZINC | 10 | <a href="#">16177.050.001</a> | M12 ZINC        | 5 | <a href="#">16177.120.001</a> | M24 HOT D.G. | 2 | <a href="#">16177.240.001</a> |
| M6 ZINC        | 10 | <a href="#">16177.060.001</a> | M14 = 9/16 ZINC | 5 | <a href="#">16177.140.001</a> | M30 HOT D.G. | 2 | <a href="#">16177.300.001</a> |
| M8 ZINC        | 10 | <a href="#">16177.080.001</a> | M16 HOT D.G.    | 5 | <a href="#">16177.160.001</a> |              |   |                               |
| M10 ZINC       | 5  | <a href="#">16177.100.001</a> | M20 HOT D.G.    | 2 | <a href="#">16177.200.001</a> |              |   |                               |

- The steel (min. tensile strength 330 N/mm<sup>2</sup>) turnbuckles are zinc plated or hot dip galvanized with ISO-metric mating thread, depending on availability this may deviate. Hooks and eyes are class 3.6 and always zinc plated.

**Turnbuckle with two eyes St.st.**

DIN ≈1480



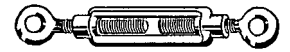
**Technical data**

| d1                    | M6   | M8   | M10  | M12  | M16   | M20   |
|-----------------------|------|------|------|------|-------|-------|
| P                     | 1    | 1,25 | 1,5  | 1,75 | 2     | 2,5   |
| L <sub>1</sub>        | 90   | 120  | 150  | 200  | 250   | 300   |
| L <sub>2</sub> (min.) | 140  | 180  | 230  | 280  | 370   | 420   |
| L <sub>2</sub> (max.) | 220  | 280  | 360  | 460  | 590   | 650   |
| e                     | 18   | 21   | 25   | 31   | 40    | 49    |
| d <sub>2</sub>        | 10   | 14   | 16   | 18   | 26    | 30    |
| Allowable load in N   | 2250 | 4100 | 6500 | 9300 | 17700 | 27000 |

**51744 Turnbuckle with two eyes St.st.**

R09A

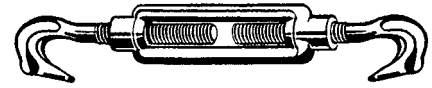
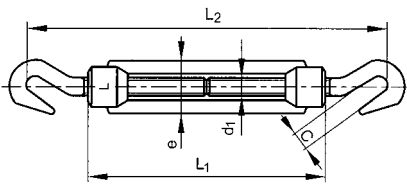
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 10 | <a href="#">51744.060.001</a> | M10 | 5 | <a href="#">51744.100.001</a> | M16 | 5 | <a href="#">51744.160.001</a> |
| M8 | 10 | <a href="#">51744.080.001</a> | M12 | 5 | <a href="#">51744.120.001</a> | M20 | 2 | <a href="#">51744.200.001</a> |

## Turnbuckle with two hooks

DIN ≈1480



### Technical data

| d1                    | M5 (#DIN) | M6  | M8   | M10  | M12  | M16  |
|-----------------------|-----------|-----|------|------|------|------|
| P                     | 0,8       | 1   | 1,25 | 1,5  | 1,75 | 2    |
| L <sub>1</sub>        | 70        | 110 | 110  | 125  | 125  | 170  |
| L <sub>2</sub> (min.) | 107       | 150 | 166  | 189  | 220  | 304  |
| L <sub>2</sub> (max.) | 157       | 234 | 250  | 289  | 317  | 438  |
| e                     | 16,5      | 19  | 23   | 30   | 34   | 42   |
| c                     | 7         | 8   | 10   | 13   | 17   | 16,5 |
| Allowable load in N   | 500       | 750 | 1650 | 2350 | 3200 | 5300 |

### 16178 Turnbuckle with two hooks

F11F

|                   |                                |
|-------------------|--------------------------------|
| Thread            | Metric thread                  |
| Material          | Steel Min.330N/mm <sup>2</sup> |
| Surface treatment | Zinc plated                    |
| Packaging         | Standard                       |



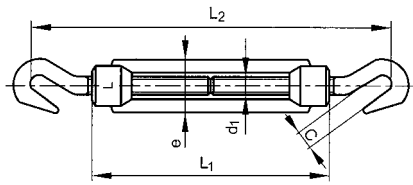
5

| d1        | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1        | ☒ | Art.number                    |
|-----------|----|-------------------------------|-----|----|-------------------------------|-----------|---|-------------------------------|
| M5 = 3/16 | 10 | <a href="#">16178.050.001</a> | M8  | 10 | <a href="#">16178.080.001</a> | M12       | 5 | <a href="#">16178.120.001</a> |
| M6        | 10 | <a href="#">16178.060.001</a> | M10 | 5  | <a href="#">16178.100.001</a> | M16 = 5/8 | 5 | <a href="#">16178.160.001</a> |

- The steel (min. tensile strength 330 N/mm<sup>2</sup>) turnbuckles are zinc plated or hot dip galvanized with ISO-metric mating thread, depending on availability this may deviate. Hooks and eyes are class 3.6 and always zinc plated.

**Turnbuckle with two hooks St.st.**

DIN ≈1480



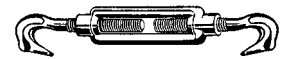
**Technical data**

| d1                    | M6  | M8   | M10  | M12  | M16  | M20  |
|-----------------------|-----|------|------|------|------|------|
| P                     | 1   | 1,25 | 1,5  | 1,75 | 2    | 2,5  |
| L <sub>1</sub>        | 90  | 120  | 150  | 200  | 250  | 300  |
| L <sub>2</sub> (min.) | 140 | 180  | 230  | 280  | 370  | 420  |
| L <sub>2</sub> (max.) | 220 | 280  | 360  | 460  | 590  | 650  |
| e                     | 18  | 21   | 25   | 31   | 40   | 49   |
| c                     | 10  | 11   | 12   | 14   | 16   | 18   |
| Allowable load in N   | 750 | 1650 | 2350 | 3200 | 5300 | 7300 |

**51743 Turnbuckle with two hooks St.st.**

R09A

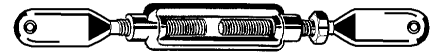
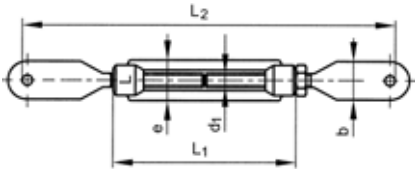
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|----|----|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M6 | 10 | <a href="#">51743.060.001</a> | M10 | 5 | <a href="#">51743.100.001</a> | M16 | 5 | <a href="#">51743.160.001</a> |
| M8 | 10 | <a href="#">51743.080.001</a> | M12 | 5 | <a href="#">51743.120.001</a> | M20 | 2 | <a href="#">51743.200.001</a> |

## Turnbuckle with two flat eyes

DIN ≈1480



### Technical data

| d1                    | M12  | M16   | M20   |
|-----------------------|------|-------|-------|
| P                     | 1,5  | 1,75  | 2     |
| L <sub>1</sub>        | 125  | 170   | 200   |
| L <sub>2</sub> (min.) | 325  | 472   | 463   |
| L <sub>2</sub> (max.) | 430  | 615   | 630   |
| e                     | 34   | 42    | 52    |
| b                     | 30   | 40    | 50    |
| Thickness flat eyes   | 4    | 4     | 5     |
| Allowable load in N   | 9300 | 17700 | 27000 |

### 16172 Turnbuckle with two flat eyes

F11F

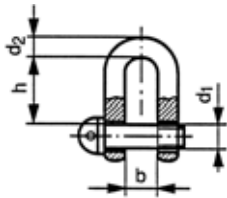
|                   |                                |
|-------------------|--------------------------------|
| Thread            | Metric thread                  |
| Material          | Steel Min.330N/mm <sup>2</sup> |
| Surface treatment | Zinc plated                    |
| Packaging         | Standard                       |



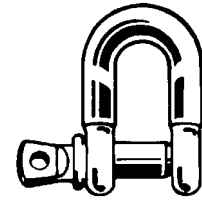
| d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    | d1  | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M12 | 5 | <a href="#">16172.120.001</a> | M16 | 5 | <a href="#">16172.160.001</a> | M20 | 2 | <a href="#">16172.200.001</a> |

- The steel (min. tensile strength 330 N/mm<sup>2</sup>) turnbuckles are zinc plated or hot dip galvanized with ISO-metric mating thread, depending on availability this may deviate. Hooks and eyes are class 3.6 and always zinc plated.

## D (chain) shackle



DIN ≈82101 A  
 NEN ≈964



### Technical data

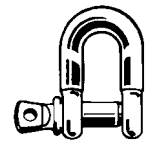
| d1        | d2    | b  | h    | Allowable load in kN |
|-----------|-------|----|------|----------------------|
| 5         | 4/5   | 7  | 15,5 | 1                    |
| 6         | 5/6   | 8  | 18   | 1,6                  |
| 8         | 7/8   | 11 | 24   | 2,5                  |
| 10        | 9/10  | 14 | 30   | 4                    |
| 11 (#DIN) | 11    | 22 | 44   | -                    |
| 12        | 10/12 | 17 | 36   | 6,3                  |
| 14 (#DIN) | 14    | 28 | 53   | -                    |
| 16        | 13/15 | 21 | 49   | 10                   |
| 19 (#DIN) | 19    | 38 | 74   | -                    |
| 20        | 17/19 | 27 | 61   | 16                   |
| 22        | 19/21 | 30 | 67   | 20                   |
| 24        | 21/23 | 33 | 73   | 25                   |
| 25 (#DIN) | 25    | 51 | 100  | -                    |
| 28 (#DIN) | 28    | 57 | 115  | -                    |
| 32 (#DIN) | 32    | 64 | 127  | -                    |
| 38 (#DIN) | 37    | 76 | 152  | -                    |

- The D (chain) shackles are zinc plated or hot dip galvanized, depending on availability this may deviate.
- Depending on availability the dimensions may deviate.
- Sizes not DIN standardised: not to be used for lifting applications.

### 16813 D (chain) shackle

F11H

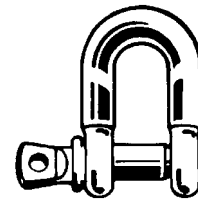
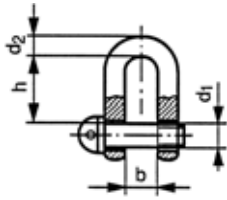
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1        | ☒  | Art.number                    | d1            | ☒  | Art.number                    | d1            | ☒ | Art.number                    |
|-----------|----|-------------------------------|---------------|----|-------------------------------|---------------|---|-------------------------------|
| 5MM ZINC  | 25 | <a href="#">16813.050.001</a> | 14MM ZINC     | 25 | <a href="#">16813.140.001</a> | 25MM HOT D.G. | 3 | <a href="#">16813.250.001</a> |
| 6MM ZINC  | 25 | <a href="#">16813.060.001</a> | 16MM HOT D.G. | 10 | <a href="#">16813.160.001</a> | 28MM HOT D.G. | 1 | <a href="#">16813.280.001</a> |
| 8MM ZINC  | 25 | <a href="#">16813.080.001</a> | 19MM HOT D.G. | 10 | <a href="#">16813.190.001</a> | 32MM HOT D.G. | 1 | <a href="#">16813.320.001</a> |
| 10MM ZINC | 25 | <a href="#">16813.100.001</a> | 20MM HOT D.G. | 5  | <a href="#">16813.200.001</a> | 38MM HOT D.G. | 1 | <a href="#">16813.380.001</a> |
| 11MM ZINC | 25 | <a href="#">16813.110.001</a> | 22MM HOT D.G. | 5  | <a href="#">16813.220.001</a> |               |   |                               |
| 12MM ZINC | 25 | <a href="#">16813.120.001</a> | 24MM HOT D.G. | 5  | <a href="#">16813.240.001</a> |               |   |                               |



**D (chain) shackle St.st.**



**Technical data**

| d1 | d2 | b  | h  | d1 | d2 | b  | h  | d1 | d2 | b  | h     |
|----|----|----|----|----|----|----|----|----|----|----|-------|
| 4  | 4  | 8  | 16 | 8  | 8  | 16 | 32 | 16 | 16 | 32 | 64/56 |
| 5  | 5  | 10 | 20 | 10 | 10 | 20 | 40 | 19 | 19 | 38 | 76    |
| 6  | 6  | 12 | 24 | 12 | 12 | 24 | 48 | 24 | 18 | 32 | 80    |

- Not to be used for lifting applications.

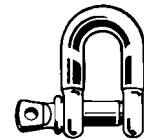
**Article groups**

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St.St. A2 | Standard  | 16711 | 5-25 |
| St.St. A4 | Standard  | 16713 | 5-25 |

5

**16711 D (chain) shackle St.st. R09A**

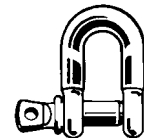
**Material** Stainless steel A2  
**Packaging** Standard



| d1  | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1   | ☒ | Art.number                    |
|-----|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| 5MM | 10 | <a href="#">16711.050.001</a> | 10MM | 10 | <a href="#">16711.100.001</a> | 19MM | 2 | <a href="#">16711.190.001</a> |
| 6MM | 10 | <a href="#">16711.060.001</a> | 12MM | 10 | <a href="#">16711.120.001</a> |      |   |                               |
| 8MM | 10 | <a href="#">16711.080.001</a> | 16MM | 5  | <a href="#">16711.160.001</a> |      |   |                               |

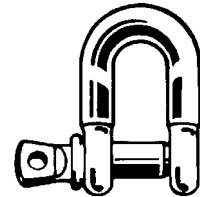
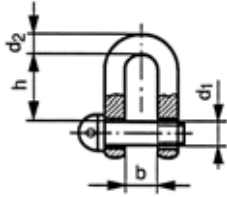
**16713 D (chain) shackle St.st. R49A**

**Material** Stainless steel A4  
**Packaging** Standard



| d1  | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1   | ☒ | Art.number                    |
|-----|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| 4MM | 10 | <a href="#">16713.040.001</a> | 8MM  | 10 | <a href="#">16713.080.001</a> | 16MM | 5 | <a href="#">16713.160.001</a> |
| 5MM | 10 | <a href="#">16713.050.001</a> | 10MM | 10 | <a href="#">16713.100.001</a> | 19MM | 2 | <a href="#">16713.190.001</a> |
| 6MM | 10 | <a href="#">16713.060.001</a> | 12MM | 10 | <a href="#">16713.120.001</a> |      |   |                               |

**D (chain) shackle, commercial type**



**Technical data**

| d1 | d2 | b  | h  |
|----|----|----|----|
| 5  | 5  | 10 | 20 |
| 6  | 6  | 12 | 24 |
| 8  | 8  | 16 | 32 |
| 10 | 10 | 20 | 40 |
| 11 | 11 | 22 | 44 |

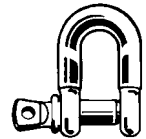
| d1 | d2    | b  | h  |
|----|-------|----|----|
| 12 | 12    | 25 | 50 |
| 14 | 14    | 28 | 53 |
| 16 | 16    | 32 | 64 |
| 19 | 19    | 38 | 74 |
| 22 | 19/21 | 44 | 88 |

| d1 | d2 | b  | h   |
|----|----|----|-----|
| 25 | 25 | 51 | 100 |
| 28 | 28 | 57 | 115 |
| 32 | 32 | 64 | 127 |
| 38 | 38 | 76 | 152 |

**16812 D (chain) shackle, commercial type**

F11H

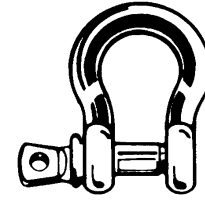
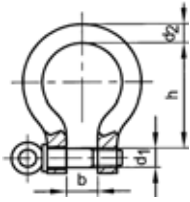
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



5

| d1   | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1   | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| 5MM  | 25 | <a href="#">16812.050.001</a> | 12MM | 25 | <a href="#">16812.120.001</a> | 25MM | 3 | <a href="#">16812.250.001</a> |
| 6MM  | 25 | <a href="#">16812.060.001</a> | 14MM | 25 | <a href="#">16812.140.001</a> | 28MM | 1 | <a href="#">16812.280.001</a> |
| 8MM  | 25 | <a href="#">16812.080.001</a> | 16MM | 10 | <a href="#">16812.160.001</a> | 32MM | 1 | <a href="#">16812.320.001</a> |
| 10MM | 25 | <a href="#">16812.100.001</a> | 19MM | 10 | <a href="#">16812.190.001</a> | 38MM | 1 | <a href="#">16812.380.001</a> |
| 11MM | 25 | <a href="#">16812.110.001</a> | 22MM | 5  | <a href="#">16812.220.001</a> |      |   |                               |

**Bow (anchor) shackle with screw collar pin**



**Technical data**

| d1 | d2 | b  | h  |
|----|----|----|----|
| 5  | 5  | 10 | 19 |
| 6  | 6  | 13 | 25 |
| 8  | 8  | 16 | 32 |
| 10 | 10 | 19 | 38 |
| 11 | 11 | 22 | 46 |

| d1 | d2 | b  | h  |
|----|----|----|----|
| 12 | 12 | 25 | 51 |
| 14 | 14 | 28 | 58 |
| 16 | 16 | 32 | 64 |
| 19 | 19 | 38 | 76 |
| 22 | 22 | 44 | 89 |

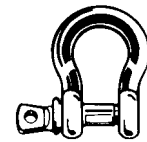
| d1 | d2 | b  | h   |
|----|----|----|-----|
| 25 | 25 | 51 | 100 |
| 28 | 28 | 57 | 115 |
| 32 | 32 | 64 | 127 |
| 38 | 38 | 76 | 152 |

- Depending on availability the dimensions may deviate.

**16817 Bow (anchor) shackle with screw collar pin**

F11H

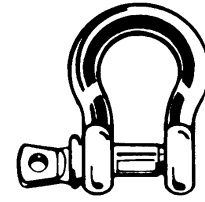
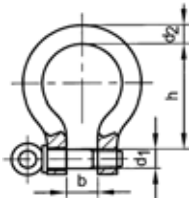
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



5

| d1   | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1           | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|--------------|---|-------------------------------|
| 5MM  | 25 | <a href="#">16817.050.001</a> | 12MM | 25 | <a href="#">16817.120.001</a> | 25MM         | 5 | <a href="#">16817.250.001</a> |
| 6MM  | 25 | <a href="#">16817.060.001</a> | 14MM | 10 | <a href="#">16817.140.001</a> | 28MM = 1.1/8 | 3 | <a href="#">16817.280.001</a> |
| 8MM  | 25 | <a href="#">16817.080.001</a> | 16MM | 10 | <a href="#">16817.160.001</a> | 32MM = 1.1/4 | 1 | <a href="#">16817.320.001</a> |
| 10MM | 25 | <a href="#">16817.100.001</a> | 19MM | 5  | <a href="#">16817.190.001</a> | 38MM = 1.1/2 | 1 | <a href="#">16817.380.001</a> |
| 11MM | 25 | <a href="#">16817.110.001</a> | 22MM | 5  | <a href="#">16817.220.001</a> |              |   |                               |

## Bow (anchor) shackle with screw collar pin St.st.



### Technical data

| d1 | d2 | b  | h  |
|----|----|----|----|
| 4  | 4  | 8  | 16 |
| 5  | 5  | 10 | 20 |
| 6  | 6  | 12 | 24 |
| 8  | 8  | 16 | 32 |
| 10 | 10 | 20 | 40 |
| 12 | 12 | 24 | 48 |
| 16 | 16 | 32 | 64 |

- Not to be used for lifting applications.
- Depending on availability the dimensions may deviate.

## 5

### Article groups

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St.St. A2 | Standard  | 16715 | 5-28 |
| St.St. A4 | Standard  | 16717 | 5-28 |

#### 16715 Bow (anchor) shackle with screw collar pin St.st.

R09A

**Material** Stainless steel A2  
**Packaging** Standard



| d1  | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1   | ☒  | Art.number                    |
|-----|----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| 5MM | 10 | <a href="#">16715.050.001</a> | 8MM  | 10 | <a href="#">16715.080.001</a> | 12MM | 10 | <a href="#">16715.120.001</a> |
| 6MM | 10 | <a href="#">16715.060.001</a> | 10MM | 10 | <a href="#">16715.100.001</a> | 16MM | 5  | <a href="#">16715.160.001</a> |

#### 16717 Bow (anchor) shackle with screw collar pin St.st.

R49A

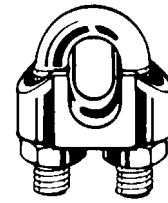
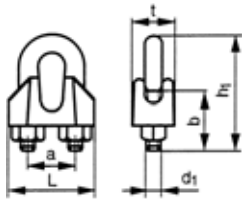
**Material** Stainless steel A4  
**Packaging** Standard



| d1  | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1   | ☒ | Art.number                    |
|-----|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| 4MM | 10 | <a href="#">16717.040.001</a> | 8MM  | 10 | <a href="#">16717.080.001</a> | 16MM | 5 | <a href="#">16717.160.001</a> |
| 5MM | 10 | <a href="#">16717.050.001</a> | 10MM | 10 | <a href="#">16717.100.001</a> |      |   |                               |
| 6MM | 10 | <a href="#">16717.060.001</a> | 12MM | 10 | <a href="#">16717.120.001</a> |      |   |                               |

## Wire rope clip

DIN 741/555 (1987)

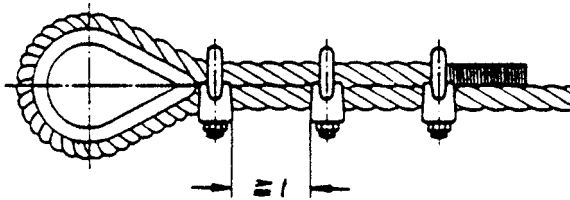


### Technical data

| For cable diam. | d <sub>1</sub> | a  | b  | h <sub>1</sub> | L  | t  | Min. amount of clips |
|-----------------|----------------|----|----|----------------|----|----|----------------------|
| 3               | M4             | 9  | 12 | 20             | 21 | 10 | 3                    |
| 5               | M5             | 11 | 13 | 24             | 23 | 11 | 3                    |
| 6,5             | M5             | 13 | 15 | 28             | 26 | 12 | 3                    |
| 8               | M6             | 16 | 19 | 34             | 30 | 14 | 5                    |
| 10              | M8             | 19 | 22 | 42             | 34 | 18 | 5                    |
| 11              | M8             | 20 | 22 | 44             | 36 | 19 | 5                    |
| 12 (#DIN)       | M10            | 24 | 26 | 56             | 42 | 23 | 5                    |
| 13              | M10            | 24 | 30 | 55             | 42 | 23 | 5                    |
| 14              | M10            | 25 | 30 | 57             | 44 | 23 | 5                    |
| 16              | M12            | 29 | 33 | 63             | 50 | 26 | 6                    |
| 19              | M12            | 32 | 38 | 75             | 54 | 29 | 6                    |
| 22              | M14            | 37 | 44 | 85             | 61 | 33 | 7                    |
| 25 (#DIN)       | M14            | 39 | 48 | 95             | 65 | 34 | 7                    |
| 26              | M14            | 41 | 45 | 95             | 65 | 35 | 8                    |
| 30              | M16            | 48 | 50 | 110            | 74 | 37 | 8                    |
| 34              | M16            | 52 | 55 | 120            | 80 | 42 | 8                    |
| 40              | M16            | 58 | 60 | 140            | 88 | 45 | 8                    |

- The corresponding hexagon nuts have a property class  $\geq$  I4I.

### Assembly data

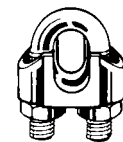


Distance between wire rope clips  $\geq$  t of the wire rope clip, see assembly drawing

### 16829 Wire rope clip

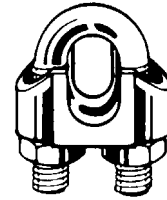
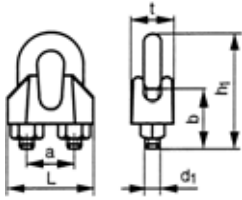
F11M

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For cable diam. | ☒   | Art.number                    | For cable diam. | ☒  | Art.number                    | For cable diam. | ☒  | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| 3MM             | 100 | <a href="#">16829.030.001</a> | 12MM = 1/2      | 25 | <a href="#">16829.120.001</a> | 26MM            | 10 | <a href="#">16829.260.001</a> |
| 5MM             | 100 | <a href="#">16829.050.001</a> | 13MM            | 25 | <a href="#">16829.130.001</a> | 30MM            | 5  | <a href="#">16829.300.001</a> |
| 6,5MM           | 100 | <a href="#">16829.065.001</a> | 14MM            | 25 | <a href="#">16829.140.001</a> | 34MM            | 5  | <a href="#">16829.340.001</a> |
| 8MM             | 100 | <a href="#">16829.080.001</a> | 16MM            | 25 | <a href="#">16829.160.001</a> | 40MM            | 5  | <a href="#">16829.400.001</a> |
| 10MM            | 50  | <a href="#">16829.100.001</a> | 19MM            | 10 | <a href="#">16829.190.001</a> |                 |    |                               |
| 11MM            | 50  | <a href="#">16829.110.001</a> | 22MM            | 10 | <a href="#">16829.220.001</a> |                 |    |                               |

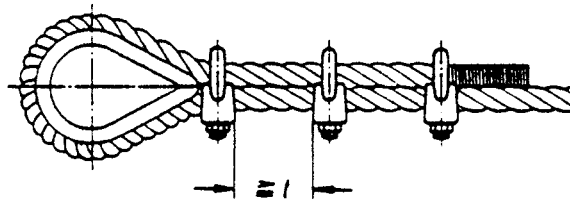
**Wire rope clip A4**



**Technical data**

| For cable diam.      | 3  | 5  | 6  | 8  | 10 | 12  | 16  |
|----------------------|----|----|----|----|----|-----|-----|
| d <sub>1</sub>       | M4 | M5 | M6 | M6 | M8 | M10 | M10 |
| a                    | 9  | 11 | 14 | 16 | 18 | 23  | 28  |
| b                    | 12 | 15 | 18 | 20 | 22 | 30  | 30  |
| h <sub>1</sub>       | 22 | 24 | 33 | 35 | 43 | 54  | 65  |
| L                    | 22 | 24 | 30 | 33 | 37 | 45  | 53  |
| t                    | 14 | 16 | 18 | 20 | 22 | 25  | 30  |
| Min. amount of clips | 3  | 3  | 3  | 5  | 5  | 5   | 5   |

**Assembly data**



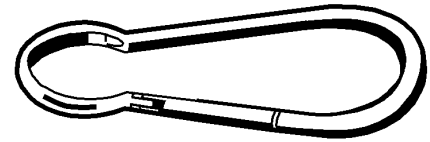
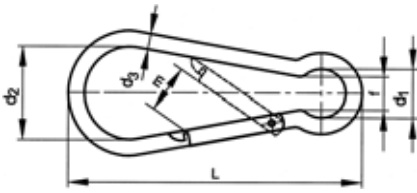
Distance between wire rope clips  $\geq t$  of the wire rope clip, see assembly drawing

5

|                  |                          |             |
|------------------|--------------------------|-------------|
| <b>16728</b>     | <b>Wire rope clip A4</b> | <b>R49A</b> |
| <b>Thread</b>    | Metric thread            |             |
| <b>Material</b>  | Stainless steel A4       |             |
| <b>Packaging</b> | Standard                 |             |

| For cable diam. | ☒  | Art.number                    | For cable diam. | ☒ | Art.number                    | For cable diam. | ☒ | Art.number                    |
|-----------------|----|-------------------------------|-----------------|---|-------------------------------|-----------------|---|-------------------------------|
| 3MM             | 10 | <a href="#">16728.030.001</a> | 8MM             | 5 | <a href="#">16728.080.001</a> | 16MM            | 5 | <a href="#">16728.160.001</a> |
| 5MM             | 10 | <a href="#">16728.050.001</a> | 10MM            | 5 | <a href="#">16728.100.001</a> |                 |   |                               |
| 6MM             | 5  | <a href="#">16728.060.001</a> | 12MM            | 5 | <a href="#">16728.120.001</a> |                 |   |                               |

## Snap hook (carabine hook)



### Technical data

| d3 x L x f | d <sub>1</sub> | d <sub>2</sub> (min.) | m  | f  | Min. breaking load kN |
|------------|----------------|-----------------------|----|----|-----------------------|
| 5x50x7     | 7              | 15                    | 6  | 5  | 1,0                   |
| 6x60x7     | 8              | 17                    | 7  | 6  | 1,2                   |
| 7x70x9     | 10             | 20                    | 8  | 7  | 1,8                   |
| 8x80x11    | 12             | 24                    | 10 | 9  | 2,3                   |
| 10x100x12  | 15             | 30                    | 11 | 11 | 3,5                   |
| 11x120x14  | 16             | 39                    | 17 | 12 | 4,5                   |

- Not to be used for lifting applications.

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St.St. A4 |                   | Standard  | 16733 | 5-31 |
| St        | Zipl              | Standard  | 16833 | 5-31 |

5

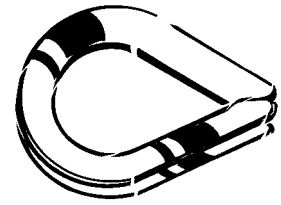
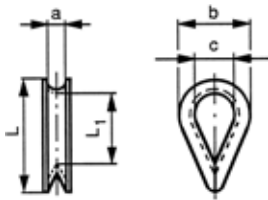
| 16733 Snap hook (carabine hook) |                    | R49A  |
|---------------------------------|--------------------|---|
| Material                        | Stainless steel A4 |   |
| Packaging                       | Standard           |   |
|                                 |                    |  |

| d3 x L | ☒  | Art.number                    | d3 x L | ☒  | Art.number                    | d3 x L   | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|----------|----|-------------------------------|
| 5X50MM | 10 | <a href="#">16733.050.050</a> | 7X70MM | 10 | <a href="#">16733.070.070</a> | 10X100MM | 10 | <a href="#">16733.100.100</a> |
| 6X60MM | 10 | <a href="#">16733.060.060</a> | 8X80MM | 10 | <a href="#">16733.080.080</a> | 11X120MM | 10 | <a href="#">16733.110.120</a> |

| 16833 Snap hook (carabine hook) |             | F11N  |
|---------------------------------|-------------|---|
| Material                        | Steel       |   |
| Surface treatment               | Zinc plated |   |
| Packaging                       | Standard    |   |
|                                 |             |  |

| d3 x L | ☒  | Art.number                    | d3 x L   | ☒  | Art.number                    | d3 x L | ☒ | Art.number |
|--------|----|-------------------------------|----------|----|-------------------------------|--------|---|------------|
| 5X50MM | 10 | <a href="#">16833.050.050</a> | 8X80MM   | 10 | <a href="#">16833.080.080</a> |        |   |            |
| 6X60MM | 10 | <a href="#">16833.060.060</a> | 10X100MM | 10 | <a href="#">16833.100.100</a> |        |   |            |

## Thimble



### Technical data

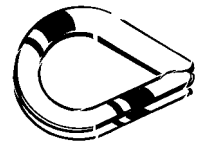
| For cable diam. | a  | b   | c  | L   | L <sub>1</sub> |
|-----------------|----|-----|----|-----|----------------|
| 3               | 3  | 20  | 12 | 28  | 19             |
| 4               | 4  | 19  | 11 | 25  | 16             |
| 5               | 5  | 22  | 16 | 31  | 22             |
| 6               | 6  | 29  | 19 | 37  | 26             |
| 8               | 8  | 38  | 24 | 51  | 34             |
| 10              | 10 | 44  | 32 | 64  | 42             |
| 12              | 12 | 57  | 38 | 76  | 51             |
| 14              | 14 | 60  | 40 | 82  | 57             |
| 16              | 16 | 64  | 42 | 89  | 60             |
| 18              | 18 | 69  | 45 | 102 | 67             |
| 20              | 20 | 79  | 51 | 115 | 76             |
| 22              | 22 | 89  | 54 | 127 | 83             |
| 24              | 24 | 102 | 64 | 140 | 88             |

5

### 16831 Thimble

F11M

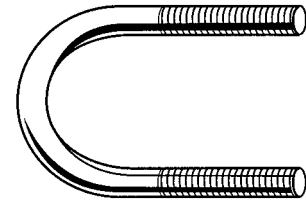
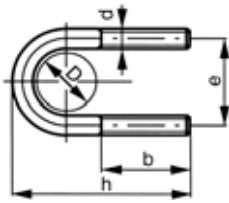
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For cable diam. | ☒   | Art.number                    | For cable diam. | ☒  | Art.number                    | For cable diam. | ☒ | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|---|-------------------------------|
| 3MM             | 100 | <a href="#">16831.030.001</a> | 10MM            | 50 | <a href="#">16831.100.001</a> | 20MM            | 5 | <a href="#">16831.200.001</a> |
| 4MM             | 100 | <a href="#">16831.040.001</a> | 12MM            | 50 | <a href="#">16831.120.001</a> | 22MM            | 2 | <a href="#">16831.220.001</a> |
| 5MM             | 100 | <a href="#">16831.050.001</a> | 14MM            | 10 | <a href="#">16831.140.001</a> | 24MM            | 2 | <a href="#">16831.240.001</a> |
| 6MM             | 100 | <a href="#">16831.060.001</a> | 16MM            | 10 | <a href="#">16831.160.001</a> |                 |   |                               |
| 8MM             | 100 | <a href="#">16831.080.001</a> | 18MM            | 10 | <a href="#">16831.180.001</a> |                 |   |                               |



## U-Bolt



### Technical data

| d x h   | e   | b  | D (nom. mm) | D (nom. inch) |
|---------|-----|----|-------------|---------------|
| M6x42   | 29  | 20 | 22          | 1/2           |
| M6x53   | 34  | 25 | 27          | 3/4           |
| M6x61   | 41  | 30 | 34          | 1.IN.         |
| M8x61   | 44  | 30 | 34          | 1.IN.         |
| M8x65   | 48  | 25 | 35          | 1.IN.         |
| M8x71   | 36  | 30 | 27          | 3/4           |
| M8x74   | 52  | 35 | 42          | 1.1/4         |
| M8x85   | 57  | 40 | 48          | 1.1/2         |
| M8x99   | 71  | 40 | 60          | 2.IN.         |
| M10x85  | 59  | 40 | 48          | 1.1/2         |
| M10x99  | 73  | 40 | 60          | 2.IN.         |
| M10x112 | 89  | 40 | 76          | 2.1/2         |
| M12x124 | 102 | 50 | 89          | 3.IN.         |
| M12x155 | 126 | 50 | 117         | 4.IN.         |
| M16x184 | 160 | 60 | 140         | 5.IN.         |
| M16x209 | 186 | 60 | 168         | 6.IN.         |
| M16x266 | 240 | 60 | 216         | 8.IN.         |

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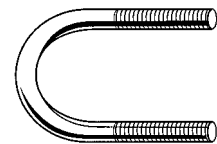
### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 17243 | 5-33 |
| M      | St.St. A2 |                   | Standard  | 17567 | 5-33 |

#### 17243 U-Bolt article 40G

F11B

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

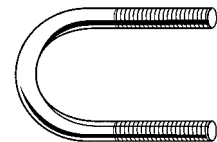


| d x h x e x b | ☒  | Art.number                    | d x h x e x b  | ☒  | Art.number                    | d x h x e x b  | ☒  | Art.number                    |
|---------------|----|-------------------------------|----------------|----|-------------------------------|----------------|----|-------------------------------|
| M6X42X29X20   | 50 | <a href="#">17243.060.029</a> | M8X85X57X40    | 50 | <a href="#">17243.080.057</a> | M12X155X126X50 | 10 | <a href="#">17243.120.126</a> |
| M6X53X34X25   | 50 | <a href="#">17243.060.034</a> | M10X85X59X40   | 25 | <a href="#">17243.100.059</a> | M16X184X160X60 | 3  | <a href="#">17243.160.160</a> |
| M6X61X41X30   | 50 | <a href="#">17243.060.041</a> | M10X99X73X40   | 25 | <a href="#">17243.100.073</a> | M16X209X186X60 | 3  | <a href="#">17243.160.186</a> |
| M8X71X36X30   | 50 | <a href="#">17243.080.036</a> | M10X112X89X40  | 25 | <a href="#">17243.100.089</a> | M16X266X240X60 | 2  | <a href="#">17243.160.240</a> |
| M8X61X44X30   | 50 | <a href="#">17243.080.044</a> | M12X124X102X50 | 10 | <a href="#">17243.120.102</a> |                |    |                               |
| M8X74X52X35   | 50 | <a href="#">17243.080.052</a> |                |    |                               |                |    |                               |

#### 17567 U-Bolt article 40R

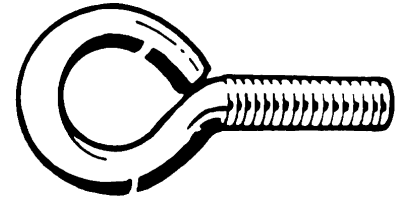
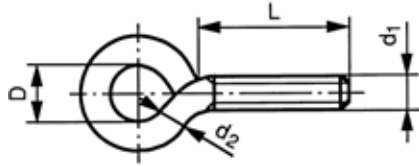
F11C

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d x h x e x b | ☒  | Art.number                    | d x h x e x b | ☒  | Art.number                    | d x h x e x b | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6X42X29X20   | 25 | <a href="#">17567.060.029</a> | M8X61X44X30   | 25 | <a href="#">17567.080.044</a> | M8X99X71X40   | 25 | <a href="#">17567.080.073</a> |
| M6X53X34X25   | 25 | <a href="#">17567.060.034</a> | M8X74X52X35   | 25 | <a href="#">17567.080.052</a> |               |    |                               |
|               |    |                               | M8X85X57X40   | 25 | <a href="#">17567.080.057</a> |               |    |                               |

## Screw eye metric



### Technical data

| d1  | P    | d2   |
|-----|------|------|
| M3  | 0,5  | 2,65 |
| M4  | 0,7  | 3,45 |
| M5  | 0,8  | 4,4  |
| M6  | 1    | 5,25 |
| M8  | 1,25 | 7,05 |
| M10 | 1,5  | 8,85 |

### Article groups

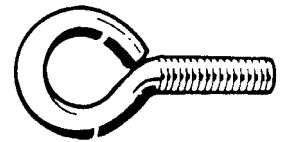
| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 17420 | 5-34 |
| M      | St.St. A2 |                   | Standard  | 17690 | 5-34 |

5

#### 17420 Screw eye article 111G

F11B

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

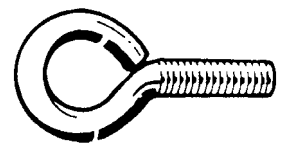


| d1 x L x D | ☒   | Art.number                    | d1 x L x D | ☒   | Art.number                    | d1 x L x D | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| M3X10X6    | 100 | <a href="#">17420.031.006</a> | M5X50X8    | 100 | <a href="#">17420.055.008</a> | M8X40X10   | 100 | <a href="#">17420.084.010</a> |
| M3X20X6    | 100 | <a href="#">17420.032.006</a> | M5X60X8    | 100 | <a href="#">17420.056.008</a> | M8X50X10   | 100 | <a href="#">17420.085.010</a> |
| M4X15X6    | 100 | <a href="#">17420.041.506</a> | M6X20X10   | 100 | <a href="#">17420.062.010</a> | M8X60X10   | 100 | <a href="#">17420.086.010</a> |
| M4X20X6    | 100 | <a href="#">17420.042.006</a> | M6X25X10   | 100 | <a href="#">17420.062.510</a> | M8X80X10   | 50  | <a href="#">17420.088.010</a> |
| M4X25X6    | 100 | <a href="#">17420.042.506</a> | M6X30X10   | 100 | <a href="#">17420.063.010</a> | M8X100X10  | 50  | <a href="#">17420.089.610</a> |
| M4X30X6    | 100 | <a href="#">17420.043.006</a> | M6X40X10   | 100 | <a href="#">17420.064.010</a> | M10X40X15  | 50  | <a href="#">17420.104.014</a> |
| M4X40X6    | 100 | <a href="#">17420.044.006</a> | M6X50X10   | 100 | <a href="#">17420.065.010</a> | M10X50X15  | 50  | <a href="#">17420.105.014</a> |
| M5X15X8    | 100 | <a href="#">17420.051.508</a> | M6X60X10   | 100 | <a href="#">17420.066.010</a> | M10X60X15  | 50  | <a href="#">17420.106.014</a> |
| M5X20X8    | 100 | <a href="#">17420.052.008</a> | M6X80X10   | 100 | <a href="#">17420.068.010</a> | M10X80X15  | 50  | <a href="#">17420.108.014</a> |
| M5X25X8    | 100 | <a href="#">17420.052.508</a> | M6X100X10  | 100 | <a href="#">17420.069.610</a> | M10X90X18  | 50  | <a href="#">17420.109.017</a> |
| M5X30X8    | 100 | <a href="#">17420.053.008</a> | M8X20X10   | 100 | <a href="#">17420.082.010</a> | M10X100X15 | 50  | <a href="#">17420.109.417</a> |
| M5X40X8    | 100 | <a href="#">17420.054.008</a> | M8X30X10   | 100 | <a href="#">17420.083.010</a> | M10X120X15 | 50  | <a href="#">17420.109.515</a> |

#### 17690 Screw eye article 111R

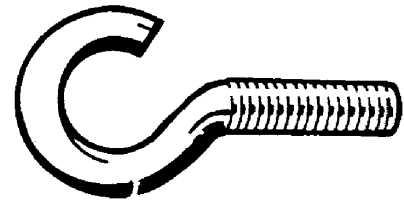
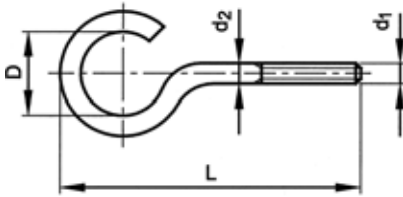
F11C

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d1 x L x D | ☒   | Art.number                    | d1 x L x D | ☒   | Art.number                    | d1 x L x D | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|----|-------------------------------|
| M5X15X8    | 100 | <a href="#">17690.051.508</a> | M6X30X10   | 100 | <a href="#">17690.063.010</a> | M8X80X10   | 50 | <a href="#">17690.088.010</a> |
| M5X30X8    | 100 | <a href="#">17690.053.008</a> | M6X40X10   | 100 | <a href="#">17690.064.010</a> | M10X70X15  | 50 | <a href="#">17690.107.014</a> |
| M5X50X8    | 100 | <a href="#">17690.055.008</a> | M6X60X10   | 100 | <a href="#">17690.066.010</a> |            |    |                               |
| M6X20X10   | 100 | <a href="#">17690.062.010</a> | M8X60X10   | 100 | <a href="#">17690.086.010</a> |            |    |                               |

## Cup hook metric



### Technical data

| d1 | P    | d2   | D  |
|----|------|------|----|
| M4 | 0,7  | 3,45 | 12 |
| M5 | 0,8  | 4,4  | 15 |
| M6 | 1    | 5,25 | 16 |
| M8 | 1,25 | 7,05 | 16 |

### 17203 Cup hook article 26

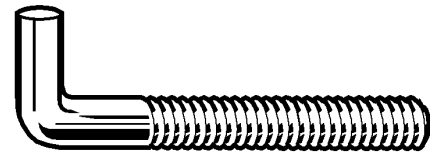
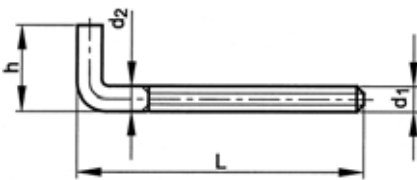
F11A

**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|---|------------|
| M4X50  | 100 | <a href="#">17203.040.050</a> | M6X60  | 100 | <a href="#">17203.060.060</a> |        |   |            |
| M5X50  | 100 | <a href="#">17203.050.050</a> | M8X60  | 100 | <a href="#">17203.080.060</a> |        |   |            |

## Square hook metric



### Technical data

| d1 | P    | d2   | h  |
|----|------|------|----|
| M4 | 0,7  | 3,45 | 12 |
| M5 | 0,8  | 4,4  | 15 |
| M6 | 1    | 5,25 | 17 |
| M8 | 1,25 | 7,05 | 25 |

### 17123 Square hook article 27

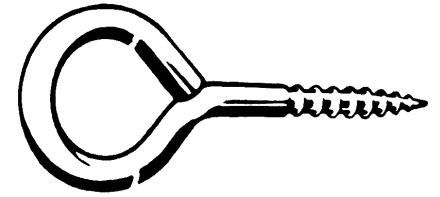
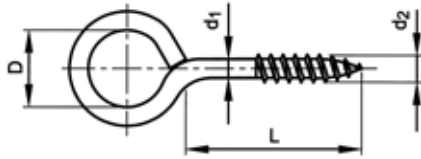
F11A

**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|---|------------|
| M4X40  | 100 | <a href="#">17123.040.040</a> | M6X60  | 100 | <a href="#">17123.060.060</a> |        |   |            |
| M5X50  | 100 | <a href="#">17123.050.050</a> | M8X60  | 100 | <a href="#">17123.080.060</a> |        |   |            |

## Screw eye



### Technical data

| d1   | d2   | d1          | d2  | d1            | d2  |
|------|------|-------------|-----|---------------|-----|
| 1,92 | 1,92 | 3           | 3,8 | 4,75 (d2=5,8) | 5,8 |
| 2    | 2,4  | 3,2         | 4   | 5             | -   |
| 2,15 | 2,7  | 3,45        | 4,3 | 5,25          | 5,3 |
| 2,4  | 3    | 4           | 4,6 | 6             | 6   |
| 2,5  | 2,5  | 4,4         | 5   |               |     |
| 2,65 | 3,4  | 4,5         | 5   |               |     |
| 2,75 | 3,5  | 4,75 (d2=5) | 5   |               |     |

### Article groups

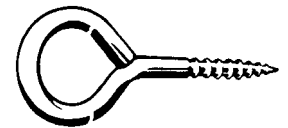
| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        | Zipl              | Standard  | 17020 | 5-36 |
| St.St. A2 |                   | Standard  | 17545 | 5-36 |
| Br        |                   | Standard  | 17620 | 5-37 |

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#### 17020 Screw eye article 1G

F11B

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| d1 x L x D | ☒   | Art.number                    | d1 x L x D          | ☒   | Art.number                    | d1 x L x D          | ☒   | Art.number                    |
|------------|-----|-------------------------------|---------------------|-----|-------------------------------|---------------------|-----|-------------------------------|
| 1,85X6X3   | 100 | <a href="#">17020.060.003</a> | 3,0X20X8            | 100 | <a href="#">17020.200.008</a> | 4,00X40X14MM        | 100 | <a href="#">17020.400.014</a> |
| 2,2X8X4    | 100 | <a href="#">17020.080.004</a> | 3,5X20X10           | 100 | <a href="#">17020.200.010</a> | 4,9X40X15           | 100 | <a href="#">17020.400.015</a> |
| 2,2X10X4   | 100 | <a href="#">17020.100.004</a> | 4,00X20X12MM        | 100 | <a href="#">17020.200.012</a> | 4,3X40X16           | 100 | <a href="#">17020.400.016</a> |
|            |     |                               | 3,45X25X10MM        | 100 | <a href="#">17020.250.010</a> | 4,75X40X18MM (d2=5) | 100 | <a href="#">17020.400.018</a> |
| 2,5X12X5   | 100 | <a href="#">17020.100.005</a> | 4,00X25X12MM        | 100 | <a href="#">17020.250.012</a> | 5,2X37X20           | 100 | <a href="#">17020.400.020</a> |
| 2,5X10X6   | 100 | <a href="#">17020.100.006</a> | 3X20X8              | 100 | <a href="#">17020.300.008</a> | 4,85X50X15          | 100 | <a href="#">17020.500.015</a> |
| 2,2X12X4   | 100 | <a href="#">17020.120.004</a> | 3,45X30X10MM        | 100 | <a href="#">17020.300.010</a> | 6,00X50X16MM        | 100 | <a href="#">17020.500.016</a> |
| 2,7X13X6   | 100 | <a href="#">17020.120.006</a> | 4X29X12             | 100 | <a href="#">17020.300.012</a> | 4,75X50X18MM (d2=5) | 100 | <a href="#">17020.500.018</a> |
| 3,3X12X8   | 100 | <a href="#">17020.120.008</a> | 4,00X30X14MM        | 100 | <a href="#">17020.300.014</a> | 5,20X50X20          | 100 | <a href="#">17020.500.020</a> |
| 2,7X16X6   | 100 | <a href="#">17020.160.006</a> |                     |     |                               | 6X47X25             | 100 | <a href="#">17020.500.025</a> |
| 3,0X16X8   | 100 | <a href="#">17020.160.008</a> | 4,4X29X16           | 100 | <a href="#">17020.300.016</a> | 5,20X60X20          | 100 | <a href="#">17020.600.020</a> |
| 3,5X16X10  | 100 | <a href="#">17020.160.010</a> | 4,75X30X18MM (d2=5) | 100 | <a href="#">17020.300.018</a> | 6,00X60X25MM        | 100 | <a href="#">17020.600.025</a> |

#### 17545 Screw eye article 1R

F11C

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |

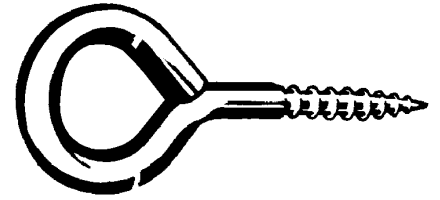
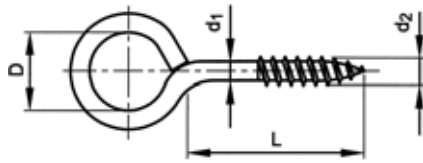


| d1 x L x D   | ☒   | Art.number                    | d1 x L x D           | ☒   | Art.number                    | d1 x L x D   | ☒   | Art.number                    |
|--------------|-----|-------------------------------|----------------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3,45X20X10MM | 100 | <a href="#">17545.200.010</a> | 5,25X30X10MM         | 100 | <a href="#">17545.300.010</a> | 4,40X40X16MM | 100 | <a href="#">17545.400.016</a> |
| 4,00X25X12MM | 100 | <a href="#">17545.250.012</a> | 4,75X30X8MM (d2=5,8) | 100 | <a href="#">17545.301.008</a> |              |     |                               |
| 4,00X30X8MM  | 100 | <a href="#">17545.300.008</a> |                      |     |                               |              |     |                               |

|                  |                             |  |  |  |  |  |  |   |
|------------------|-----------------------------|--|--|--|--|--|--|---|
| <b>17620</b>     | <b>Screw eye article 1M</b> |  |  |  |  |  |  | <b>F11B</b>   |
| <b>Material</b>  | Brass                       |  |  |  |  |  |  |   |
| <b>Packaging</b> | Standard                    |  |  |  |  |  |  |   |
|                  |                             |  |  |  |  |  |  |  |

| <b>d1 x L x D</b> | ✉   | <b>Art.number</b>             | <b>d1 x L x D</b> | ✉   | <b>Art.number</b>             | <b>d1 x L x D</b> | ✉   | <b>Art.number</b>             |
|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|
| 2,65X12X6MM       | 100 | <a href="#">17620.120.006</a> | 3,45X20X10MM      | 100 | <a href="#">17620.200.010</a> | 4,50X40X16MM      | 100 | <a href="#">17620.400.016</a> |
| 2,75X16X6MM       | 100 | <a href="#">17620.160.006</a> | 4,00X25X12MM      | 100 | <a href="#">17620.250.012</a> |                   |     |                               |
| 3,00X20X8MM       | 100 | <a href="#">17620.200.008</a> | 4,00X30X14MM      | 100 | <a href="#">17620.300.014</a> |                   |     |                               |

## Screw eye heavy type



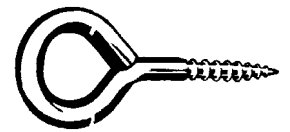
### Technical data

| No. | d <sub>1</sub> | d <sub>2</sub> | L  | D  |
|-----|----------------|----------------|----|----|
| 8   | 4              | 5,1            | 20 | 8  |
| 10  | 4,40           | 5,7            | 25 | 8  |
| 15  | 6              | 7,6            | 35 | 10 |
| 17  | 7              | 8,9            | 40 | 10 |
| 18  | 7,80           | 9,5            | 45 | 14 |

### 17023 Screw eye heavy type article 3

F11A

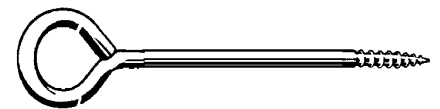
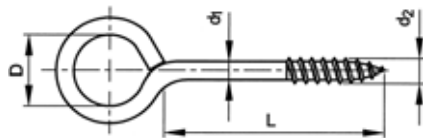
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



5

| No.   | ☒   | Art.number                    | No.   | ☒   | Art.number                    | No.   | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| No.8  | 100 | <a href="#">17023.000.008</a> | No.15 | 100 | <a href="#">17023.000.015</a> | No.18 | 100 | <a href="#">17023.000.018</a> |
| No.10 | 100 | <a href="#">17023.000.010</a> | No.17 | 100 | <a href="#">17023.000.017</a> |       |     |                               |

## Screw eye long type



### 17022 Screw eye long type article 2

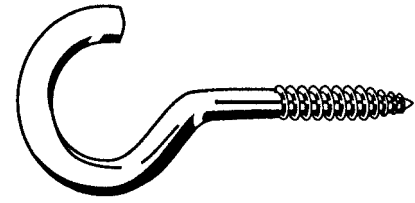
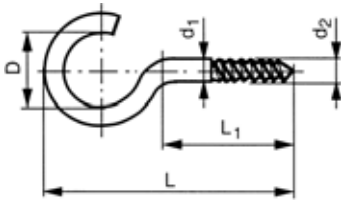
F11A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x d2 x L x D | ☒   | Art.number                    | d1 x d2 x L x D | ☒ | Art.number | d1 x d2 x L x D | ☒ | Art.number |
|-----------------|-----|-------------------------------|-----------------|---|------------|-----------------|---|------------|
| 7,05X7X60X20MM  | 100 | <a href="#">17022.000.060</a> |                 |   |            |                 |   |            |
| 7,05X7X100X20MM | 100 | <a href="#">17022.000.100</a> |                 |   |            |                 |   |            |
| 7,05X7X140X20MM | 100 | <a href="#">17022.000.140</a> |                 |   |            |                 |   |            |

## Cup hook



### Technical data

| d1 x L1/L  | d <sub>2</sub> | D  | d1 x L1/L  | d <sub>2</sub> | D  | d1 x L1/L    | d <sub>2</sub> | D  |
|------------|----------------|----|------------|----------------|----|--------------|----------------|----|
| 2,00x11/25 | 2,5            | 7  | 4,00x27/55 | 5,2            | 18 | 5,20x82/120  | 6,4            | 25 |
| 2,20x10/20 | 2,7            | 7  | 4,30x32/60 | 5,5            | 18 | 6,00x45/80   | 7,7            | 25 |
| 2,35x12/25 | 3              | 9  | 4,30x50/80 | 5,5            | 20 | 6,00x62/100  | 7,7            | 25 |
| 2,40x15/30 | 3              | 9  | 4,40x25/50 | 5,6            | 16 | 6,00x82/120  | 7,7            | 25 |
| 3,30x13/30 | 4,1            | 9  | 4,75x32/60 | 6,1            | 18 | 7,00x100/140 | 9,2            | 25 |
| 3,30x20/40 | 4,1            | 12 | 5,00x47/85 | 6,2            | 25 | 7,00x120/160 | 9,2            | 25 |
| 3,45x30/50 | 4,3            | 14 | 5,00x50/80 | 6,2            | 25 |              |                |    |

### Article groups

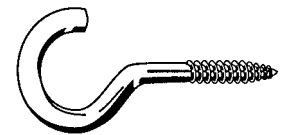
| Material | Surface treatment |     | Packaging | Code  | Page |
|----------|-------------------|-----|-----------|-------|------|
| St       | Zipl              | 11  | Standard  | 17200 | 5-39 |
| St       | W.Epox            | 11W | Standard  | 17199 | 5-39 |
| St       | Zipl              | 15  | Standard  | 17220 | 5-39 |

5

#### 17200 Cup hook article 11

F11B

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

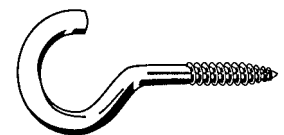


| d1 x L1/L    | ☒   | Art.number                    | d1 x L1/L     | ☒   | Art.number                    | d1 x L1/L    | ☒   | Art.number                    |
|--------------|-----|-------------------------------|---------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2,20X10/20MM | 100 | <a href="#">17200.000.020</a> | 4,30X32/60MM  | 100 | <a href="#">17200.000.060</a> | 3,30X13/30MM | 100 | <a href="#">17200.030.030</a> |
| 2,00X11/25MM | 100 | <a href="#">17200.000.025</a> | 4,30X50/80MM  | 100 | <a href="#">17200.000.080</a> | 4,00X27/55MM | 100 | <a href="#">17200.040.055</a> |
| 2,40X15/30MM | 100 | <a href="#">17200.000.030</a> | 5,00X47/85MM  | 100 | <a href="#">17200.000.085</a> | 5,00X50/80MM | 100 | <a href="#">17200.050.085</a> |
| 3,30X20/40MM | 100 | <a href="#">17200.000.040</a> | 5,20X82/120MM | 100 | <a href="#">17200.000.120</a> |              |     |                               |
| 3,45X30/50MM | 100 | <a href="#">17200.000.050</a> | 2,35X12/25MM  | 100 | <a href="#">17200.025.025</a> |              |     |                               |

#### 17199 Cup hook article 11W

F11B

|                          |            |
|--------------------------|------------|
| <b>Material</b>          | Steel      |
| <b>Surface treatment</b> | White epox |
| <b>Packaging</b>         | Standard   |



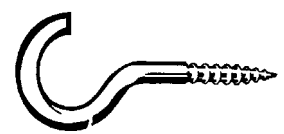
| d1 x L1/L    | ☒   | Art.number                    | d1 x L1/L    | ☒   | Art.number                    | d1 x L1/L    | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2,20X10/20MM | 100 | <a href="#">17199.000.020</a> | 2,40X15/30MM | 100 | <a href="#">17199.000.030</a> | 3,45X30/50MM | 100 | <a href="#">17199.000.050</a> |
| 2,00X11/25MM | 100 | <a href="#">17199.000.025</a> | 3,30X20/40MM | 100 | <a href="#">17199.000.040</a> | 4,30X32/60MM | 100 | <a href="#">17199.000.060</a> |

- Steel zinc plated, white epox (coating 60-80 µm), for extra surface protection and decoration.

#### 17220 Cup hook heavy type article 15

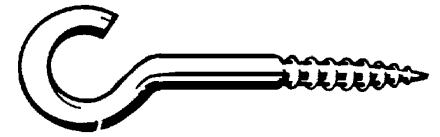
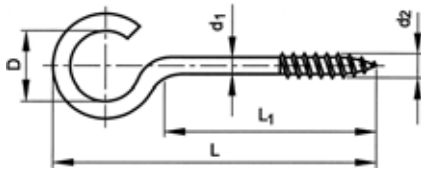
F11A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| d1 x L1/L    | ☒   | Art.number                    | d1 x L1/L     | ☒   | Art.number                    | d1 x L1/L      | ☒   | Art.number                    |
|--------------|-----|-------------------------------|---------------|-----|-------------------------------|----------------|-----|-------------------------------|
| 4,40X25/50MM | 100 | <a href="#">17220.044.050</a> | 6,00X62/100MM | 100 | <a href="#">17220.060.100</a> | 7,00X100/140MM | 100 | <a href="#">17220.069.140</a> |
| 4,75X32/60MM | 100 | <a href="#">17220.047.060</a> | 6,00X82/120MM | 100 | <a href="#">17220.062.120</a> | 7,00X120/160MM | 100 | <a href="#">17220.069.160</a> |
| 6,00X45/80MM | 100 | <a href="#">17220.060.080</a> |               |     |                               |                |     |                               |

**Cup hook small**



**Technical data**

| d1  | d2  | D  |
|-----|-----|----|
| 3,2 | 4,1 | 8  |
| 4   | 5,1 | 14 |
| 4,4 | 5,6 | 16 |

**17210 Cup hook small type article 13**

F11A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

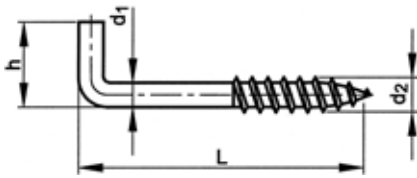


5

| d1 x L1/L    | ☒   | Art.number                    | d1 x L1/L     | ☒   | Art.number                    | d1 x L1/L     | ☒   | Art.number                    |
|--------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3,20X26/40MM | 100 | <a href="#">17210.000.040</a> | 4,40X75/100MM | 100 | <a href="#">17210.000.100</a> | 4,40X95/120MM | 100 | <a href="#">17210.000.120</a> |
| 4,00X37/60MM | 100 | <a href="#">17210.000.060</a> |               |     |                               |               |     |                               |
| 4,00X58/80MM | 100 | <a href="#">17210.000.080</a> |               |     |                               |               |     |                               |



## Square hook



### Technical data

| d1 x L  | d <sub>2</sub> | h  | d1 x L  | d <sub>2</sub> | h  | d1 x L   | d <sub>2</sub> | h  |
|---------|----------------|----|---------|----------------|----|----------|----------------|----|
| 2,15x20 | 2,7            | 10 | 3,50x40 | 4,3            | 16 | 5,00x50  | 6              | 22 |
| 2,40x25 | 3              | 11 | 4,00x40 | 4,6            | 18 | 5,00x60  | 5,25           | 22 |
| 2,65x30 | 4              | 14 | 4,00x45 | 4,6            | 48 | 5,00x70  | 5,25           | 22 |
| 3,00x25 | 4              | 16 | 4,00x50 | 4,6            | 18 | 5,25x100 | 5,5            | 24 |
| 3,20x40 | 4              | 16 | 4,00x60 | 4,6            | 20 |          |                |    |
| 3,45x50 | 4,3            | 18 | 4,40x60 | 5              | 20 |          |                |    |
| 3,50x30 | 4              | 14 | 4,40x80 | 5              | 23 |          |                |    |

### Article groups

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| St       | Zipl              | Standard  | 17120 | 5-41 |
| St       | W.Epox            | Standard  | 17119 | 5-41 |

**5**

#### 17120 Square hook article 7

**F11B**

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| d1 x L    | ☒   | Art.number                    | d1 x L     | ☒   | Art.number                    | d1 x L    | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2,15X20MM | 100 | <a href="#">17120.000.020</a> | 4,40X80MM  | 100 | <a href="#">17120.000.080</a> | 4,40X60MM | 100 | <a href="#">17120.045.060</a> |
| 2,40X25MM | 100 | <a href="#">17120.000.025</a> | 5,25X100MM | 100 | <a href="#">17120.000.100</a> | 5,00X50MM | 100 | <a href="#">17120.050.050</a> |
| 2,65X30MM | 100 | <a href="#">17120.000.030</a> | 3,45X40MM  | 100 | <a href="#">17120.035.040</a> | 5,00X60MM | 100 | <a href="#">17120.050.060</a> |
| 3,20X40MM | 100 | <a href="#">17120.000.040</a> | 4,00X40MM  | 100 | <a href="#">17120.040.040</a> | 5,00X70MM | 100 | <a href="#">17120.050.070</a> |
| 3,45X50MM | 100 | <a href="#">17120.000.050</a> | 4,00X50MM  | 100 | <a href="#">17120.040.050</a> |           |     |                               |
| 4,00X60MM | 100 | <a href="#">17120.000.060</a> |            |     |                               |           |     |                               |

#### 17119 Square hook article 7W

**F11B**

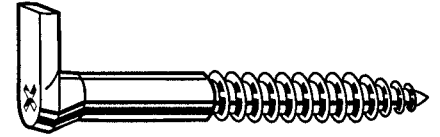
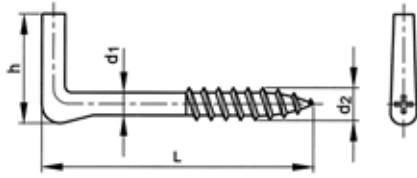
|                          |            |
|--------------------------|------------|
| <b>Material</b>          | Steel      |
| <b>Surface treatment</b> | White epox |
| <b>Packaging</b>         | Standard   |



| d1 x L    | ☒   | Art.number                    | d1 x L    | ☒   | Art.number                    | d1 x L    | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2,40X25MM | 100 | <a href="#">17119.000.025</a> | 3,20X40MM | 100 | <a href="#">17119.000.040</a> | 4,00X60MM | 100 | <a href="#">17119.000.060</a> |
| 2,65X30MM | 100 | <a href="#">17119.000.030</a> | 3,45X50MM | 100 | <a href="#">17119.000.050</a> |           |     |                               |

- Steel zinc plated, white epox (coating 60-80 µm), for extra surface protection and decoration.

## Cross recessed heavy square hook



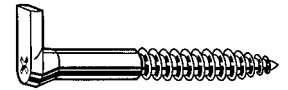
### Technical data

|    |      |    |
|----|------|----|
| d1 | 5,25 | 6  |
| d2 | 5,5  | 6  |
| h  | 16   | 18 |

#### 17140 Cross recessed heavy square hook article 9G

F11B

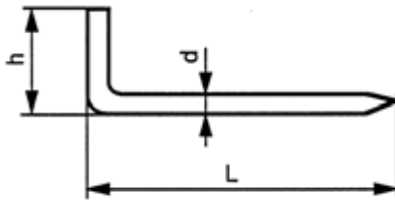
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



5

| d1 x L    | ☒   | Art.number                    | d1 x L    | ☒   | Art.number                    | d1 x L | ☒ | Art.number |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|--------|---|------------|
| 5,25X40MM | 100 | <a href="#">17140.052.040</a> | 6,00X65MM | 100 | <a href="#">17140.060.065</a> |        |   |            |
| 5,25X50MM | 100 | <a href="#">17140.052.050</a> | 6,00X80MM | 100 | <a href="#">17140.060.080</a> |        |   |            |

## Square hook pin



### Technical data

|          |    |
|----------|----|
| d x L    | h  |
| 2,40x20  | 10 |
| 2,40x25  | 11 |
| 3,20x30  | 14 |
| 3,45x40  | 16 |
| 4,00x50  | 18 |
| 4,00x60  | 20 |
| 5,00x80  | 23 |
| 5,00x100 | 24 |

#### 17080 Square hook pin article 4

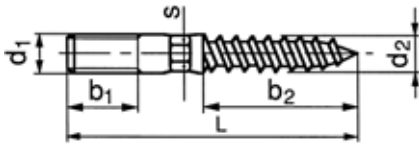
F11B

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2,40X20MM | 100 | <a href="#">17080.000.020</a> | 3,20X30MM | 100 | <a href="#">17080.000.030</a> | 4,00X60MM | 100 | <a href="#">17080.000.060</a> |
| 2,40X25MM | 100 | <a href="#">17080.000.025</a> | 3,45X40MM | 100 | <a href="#">17080.000.040</a> | 5,00X80MM | 100 | <a href="#">17080.000.080</a> |
|           |     |                               | 4,00X50MM | 100 | <a href="#">17080.000.050</a> |           |     |                               |

## Dowel screw



### Technical data

| d1 x L  | P    | d2   | b1 | b2 | s  |
|---------|------|------|----|----|----|
| M4x20   | 0,7  | 4,4  | 10 | 10 | -  |
| M4x25   | 0,7  | 4,4  | 10 | 10 | -  |
| M4x30   | 0,7  | 4,4  | 10 | 15 | -  |
| M4x35   | 0,7  | 4,4  | 15 | 15 | -  |
| M4x40   | 0,7  | 4,4  | 17 | 20 | -  |
| M5x25   | 0,8  | 5,5  | 10 | 15 | -  |
| M5x40   | 0,8  | 5,5  | 15 | 20 | -  |
| M5x50   | 0,8  | 5,5  | 20 | 20 | -  |
| M6x40   | 1    | 6,3  | 17 | 23 | -  |
| M6x50   | 1    | 6,3  | 20 | 25 | -  |
| M6x60   | 1    | 6,3  | 20 | 30 | -  |
| M6x70   | 1    | 6,3  | 20 | 30 | -  |
| M6x80   | 1    | 6,3  | 20 | 30 | -  |
| M6x90   | 1    | 6,3  | 30 | 30 | -  |
| M6x120  | 1    | 6,3  | 45 | 30 | -  |
| M6x150  | 1    | 6,3  | 75 | 30 | -  |
| M8x50   | 1,25 | 7,3  | 15 | 30 | 6  |
| M8x60   | 1,25 | 7,3  | 20 | 30 | 6  |
| M8x70   | 1,25 | 7,3  | 25 | 30 | 6  |
| M8x80   | 1,25 | 7,3  | 30 | 40 | 6  |
| M8x90   | 1,25 | 7,3  | 30 | 40 | 6  |
| M8x100  | 1,25 | 7,3  | 40 | 40 | 6  |
| M8x120  | 1,25 | 7,3  | 50 | 50 | 6  |
| M8x140  | 1,25 | 7,3  | 50 | 50 | 6  |
| M8x150  | 1,25 | 7,3  | 50 | 50 | 6  |
| M8x160  | 1,25 | 7,3  | 50 | 50 | 6  |
| M10x60  | 1,5  | 9    | 20 | 40 | 8  |
| M10x70  | 1,5  | 9    | 30 | 30 | 8  |
| M10x80  | 1,5  | 9    | 30 | 40 | 8  |
| M10x90  | 1,5  | 9    | 30 | 50 | 8  |
| M10x100 | 1,5  | 9    | 30 | 60 | 8  |
| M10x110 | 1,5  | 9    | 40 | 60 | 8  |
| M10x120 | 1,5  | 9    | 50 | 60 | 8  |
| M10x130 | 1,5  | 9    | 50 | 60 | 8  |
| M10x140 | 1,5  | 9    | 50 | 60 | 8  |
| M12x100 | 1,75 | 10,7 | 30 | 55 | 10 |
| M12x120 | 1,75 | 10,7 | 30 | 55 | 10 |
| M12x145 | 1,75 | 10,7 | 40 | 55 | 10 |
| M12x165 | 1,75 | 10,7 | 40 | 55 | 10 |

5

### Article groups

| Thread | Material | Surface treatment |     | Packaging | Code  | Page |
|--------|----------|-------------------|-----|-----------|-------|------|
| M      | St       | Zipl              | 73A | Standard  | 17320 | 5-43 |
| M      | St       | Zipl              | 69G | Standard  | 17310 | 5-44 |
| M      | St       | Zipl              | 69  | Standard  | 17315 | 5-44 |

#### 17320 Dowel screw without flat surface for wrenche article 73

F11B

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X20  | 100 | <a href="#">17320.040.020</a> | M4X35  | 100 | <a href="#">17320.040.035</a> | M5X25  | 100 | <a href="#">17320.050.025</a> |
| M4X25  | 100 | <a href="#">17320.040.025</a> | M4X40  | 100 | <a href="#">17320.040.040</a> | M5X40  | 100 | <a href="#">17320.050.040</a> |
| M4X30  | 100 | <a href="#">17320.040.030</a> |        |     |                               | M5X50  | 100 | <a href="#">17320.050.050</a> |

**17320 Dowel screw without flat surface for wrenche article 73**

| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X40  | 100 | <a href="#">17320.060.040</a> | M6X70  | 100 | <a href="#">17320.060.070</a> | M6X150 | 100 | <a href="#">17320.060.150</a> |
| M6X50  | 100 | <a href="#">17320.060.050</a> | M6X80  | 100 | <a href="#">17320.060.080</a> |        |     |                               |
| M6X60  | 100 | <a href="#">17320.060.060</a> | M6X90  | 100 | <a href="#">17320.060.090</a> |        |     |                               |
|        |     |                               | M6X120 | 100 | <a href="#">17320.060.120</a> |        |     |                               |

**17310 Dowel screw with hexagon for jaw, hexalobular, article 69**
**F11B**

**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L  | ☒  | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| M8X50  | 100 | <a href="#">17310.080.050</a> | M8X140 | 100 | <a href="#">17310.080.140</a> | M10X90  | 50 | <a href="#">17310.100.090</a> |
| M8X60  | 100 | <a href="#">17310.080.060</a> | M8X150 | 100 | <a href="#">17310.080.150</a> | M10X100 | 50 | <a href="#">17310.100.100</a> |
| M8X70  | 100 | <a href="#">17310.080.070</a> | M8X160 | 100 | <a href="#">17310.080.160</a> | M10X110 | 50 | <a href="#">17310.100.110</a> |
| M8X80  | 100 | <a href="#">17310.080.080</a> |        |     |                               | M10X120 | 50 | <a href="#">17310.100.120</a> |
| M8X90  | 100 | <a href="#">17310.080.090</a> | M10X60 | 100 | <a href="#">17310.100.060</a> | M10X130 | 50 | <a href="#">17310.100.130</a> |
| M8X100 | 100 | <a href="#">17310.080.100</a> | M10X70 | 100 | <a href="#">17310.100.070</a> | M10X140 | 50 | <a href="#">17310.100.140</a> |
| M8X120 | 100 | <a href="#">17310.080.120</a> | M10X80 | 100 | <a href="#">17310.100.080</a> |         |    |                               |

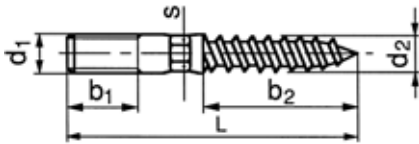
**5**
**17315 Dowel screw with hexagon for jaw, hexalobular, article 71**
**F11B**

**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L  | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M12X100 | 50 | <a href="#">17315.120.100</a> | M12X140 | 50 | <a href="#">17315.120.145</a> | M12X160 | 50 | <a href="#">17315.120.165</a> |
| M12X120 | 50 | <a href="#">17315.120.120</a> |         |    |                               |         |    |                               |

## Dowel screw A2



### Technical data

| d1 x L  | P    | d2  | b1 | b2 | s |
|---------|------|-----|----|----|---|
| M8x80   | 1,25 | 7,3 | 30 | 40 | 6 |
| M8x100  | 1,25 | 7,3 | 40 | 40 | 6 |
| M8x120  | 1,25 | 7,3 | 50 | 50 | 6 |
| M10x80  | 1,50 | 9,0 | 30 | 40 | 8 |
| M10x90  | 1,5  | 9,0 | 30 | 50 | 8 |
| M10x100 | 1,50 | 9,0 | 30 | 60 | 8 |
| M10x120 | 1,50 | 9,0 | 50 | 60 | 8 |
| M10x140 | 1,50 | 9,0 | 50 | 60 | 8 |

### 17576 Dowel screw with hexagon for jaw, article 71

F11C

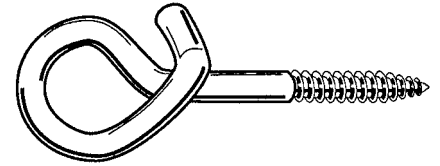
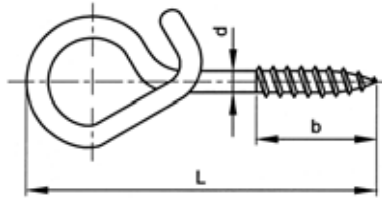
**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



5

| d1 x L | ☒   | Art.number                    | d1 x L  | ☒   | Art.number                    | d1 x L  | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M8X80  | 100 | <a href="#">17576.080.080</a> | M10X80  | 100 | <a href="#">17576.100.080</a> | M10X140 | 50 | <a href="#">17576.100.140</a> |
| M8X100 | 50  | <a href="#">17576.080.100</a> | M10X100 | 50  | <a href="#">17576.100.100</a> |         |    |                               |
| M8X120 | 50  | <a href="#">17576.080.120</a> | M10X120 | 50  | <a href="#">17576.100.120</a> |         |    |                               |

## Safety swing hook

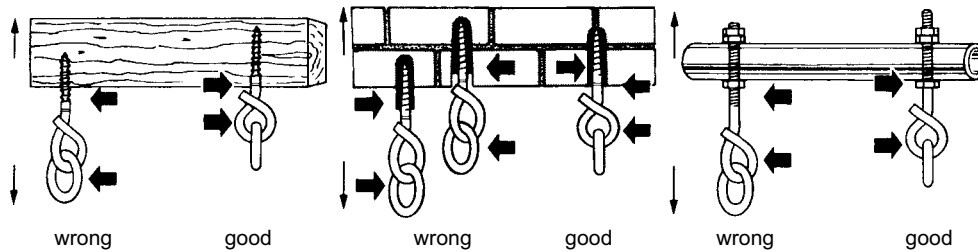


### Technical data

| d   | b  |
|-----|----|
| 8,8 | 50 |
| 10  | 45 |
| 12  | 55 |

### Assembly data

5

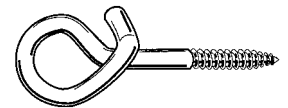


- safety swing hook must be turned in sufficiently so that the threaded shank is completely **invisible**
- safety swing hook must be **transversely** assembled to the swingdirection (this causes the ring to roll and not to slide, consequently reducing wear to minimum)
- safety swing hook and ring must be greased regularly!
- extensive assembly data in each packaging of these safety swing hooks

### 17443 Safety swing hook article 117G

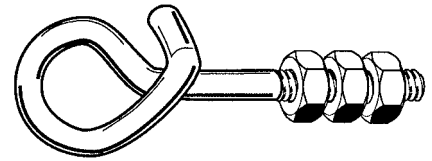
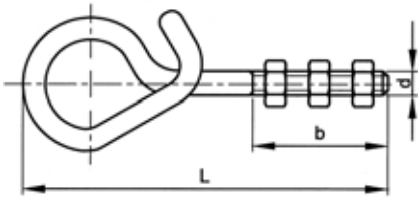
F11B

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L    | ☒  | Art.number                    | d x L    | ☒  | Art.number                    | d x L    | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| 10X125MM | 10 | <a href="#">17443.100.125</a> | 12X140MM | 10 | <a href="#">17443.120.140</a> | 12X160MM | 10 | <a href="#">17443.120.160</a> |
| 10X140MM | 10 | <a href="#">17443.100.140</a> |          |    |                               |          |    |                               |
| 10X160MM | 10 | <a href="#">17443.100.160</a> |          |    |                               |          |    |                               |

## Safety swing hook metric



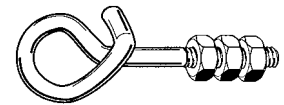
### Technical data

|   |      |
|---|------|
| d | M12  |
| P | 1,75 |

#### 17445 Safety swing hook article 118G

F11B

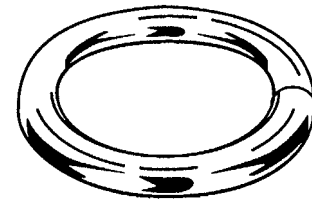
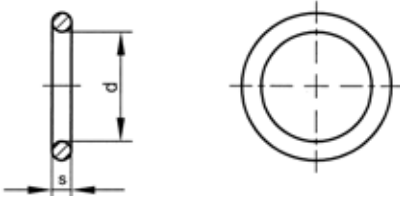
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L/b    | ☒  | Art.number                    | d x L/b    | ☒  | Art.number                    | d x L/b     | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|-------------|----|-------------------------------|
| M12X140X60 | 10 | <a href="#">17445.120.140</a> | M12X180X80 | 10 | <a href="#">17445.120.180</a> | M12X250X160 | 10 | <a href="#">17445.120.250</a> |
| M12X160X80 | 10 | <a href="#">17445.120.160</a> |            |    |                               |             |    |                               |

5

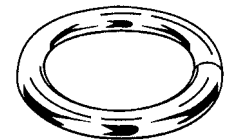
## Ring for safety swing hooks welded



#### 17447 Ring for safety swing hooks welded article 119G

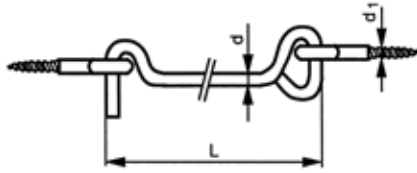
F11B

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| s x d  | ☒  | Art.number                    | s x d | ☒ | Art.number | s x d | ☒ | Art.number |
|--------|----|-------------------------------|-------|---|------------|-------|---|------------|
| 9X45MM | 10 | <a href="#">17447.090.045</a> |       |   |            |       |   |            |

## Gate hook with 2 screw eyes



### Technical data

| L   | d    | d <sub>1</sub> |
|-----|------|----------------|
| 100 | 4,4  | 4              |
| 160 | 5,25 | 4,75           |
| 200 | 5,25 | 4,75           |
| 250 | 6    | 5,25           |

17571 Gate hook with 2 screw eyes article 63R

F11C

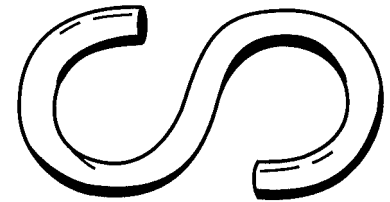
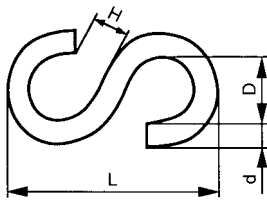
**Material** Stainless steel A2  
**Packaging** Standard



5

| L     | ☒  | Art.number                    | L     | ☒  | Art.number                    | L | ☒ | Art.number |
|-------|----|-------------------------------|-------|----|-------------------------------|---|---|------------|
| 100MM | 50 | <a href="#">17571.040.100</a> | 200MM | 25 | <a href="#">17571.052.200</a> |   |   |            |
| 160MM | 25 | <a href="#">17571.052.160</a> | 250MM | 25 | <a href="#">17571.060.250</a> |   |   |            |

## S-Hook



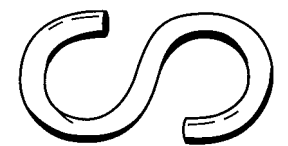
### Technical data

| No. | d    | D  | H   | No. | d   | D  | H   | No. | d   | D  | H   |
|-----|------|----|-----|-----|-----|----|-----|-----|-----|----|-----|
| 30  | 3    | 7  | 3,5 | 45  | 4,4 | 12 | 5   | 60  | 6   | 16 | 7   |
| 35  | 3,45 | 9  | 4   | 50  | 5   | 14 | 5,5 | 70  | 7   | 20 | 7,5 |
| 40  | 4    | 11 | 5   | 55  | 6   | 15 | 6   | 80  | 8,4 | 23 | 8,5 |

17380 S-Hook article 105G

F11B


**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| No.(L)       | ☒   | Art.number                    | No.(L)       | ☒   | Art.number                    | No.(L)       | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| No.30 (25MM) | 100 | <a href="#">17380.000.030</a> | No.45 (40MM) | 100 | <a href="#">17380.000.045</a> | No.60 (55MM) | 100 | <a href="#">17380.000.060</a> |
| No.35 (30MM) | 100 | <a href="#">17380.000.035</a> | No.50 (45MM) | 100 | <a href="#">17380.000.050</a> | No.70 (65MM) | 50  | <a href="#">17380.000.070</a> |
| No.40 (35MM) | 100 | <a href="#">17380.000.040</a> | No.55 (50MM) | 100 | <a href="#">17380.000.055</a> | No.80 (75MM) | 50  | <a href="#">17380.000.080</a> |









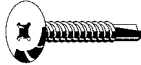


































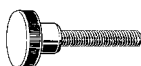
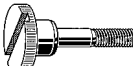
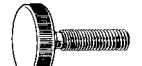
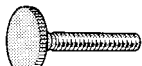
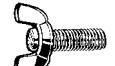



# Screws 6

|  |  |   |  |  |
|--|--|---|--|--|
| <br>Page 6-3<br>ISO 4766<br>DIN 551<br><br><b>Flat point Metric</b>       | <br>Page 6-5<br>ISO 7434<br>DIN 553<br><br><b>Cone point Metric</b>               | <br>Page 6-7<br>ISO 7436<br>DIN 438<br><br><b>Cup point Metric</b>       | <br>Page 6-8<br>ISO 1207<br>DIN 84<br><br><b>Metric</b>                  | <br>Page 6-14<br>ISO 1580<br>DIN 85<br><br><b>Metric</b>                |
| <br>Page 6-17<br>ISO 2009<br>DIN 963<br><br><b>Metric</b>                 | <br>Page 6-23<br>NEN ≈1780 A<br>(1960)<br><br><b>BSW</b>                          | <br>Page 6-25<br>ISO 2010<br>DIN 964<br><br><b>Metric</b>                | <br>Page 6-28<br>NEN ≈1779 A<br>(1960)<br><br><b>BSW</b>                 | <br>Page 6-30<br>NF ≈E25-129<br><br><b>Metric</b>                       |
| <br>Page 6-31<br>DIN 923<br><br><b>With shoulder Metric</b>               | <br>Page 6-32<br>ISO ≈10644<br>DIN ≈6900<br><br><b>With captive washer Metric</b> | <br>Page 6-33<br>ISO 7045<br>DIN 7985<br><br><b>Metric</b>               | <br>Page 6-38<br>ISO 14583<br><br><b>Hexalobular Metric</b>              | <br>Page 6-40<br>ISO 7046-1<br>DIN 965<br><br><b>Metric</b>             |
| <br>Page 6-45<br>ISO ≈7046-1<br>DIN ≈965<br><br><b>Hexalobular Metric</b> | <br>Page 6-47<br>ISO 7047<br>DIN 966<br><br><b>Metric</b>                         | <br>Page 6-50<br>NF ≈E25-129<br><br><b>Cross slot Metric</b>             | <br>Page 6-51<br>NF E25-129<br><br><b>Cross slot Metric</b>              | <br>Page 6-52<br>DIN 7516 AE-H<br><br><b>Metric</b>                     |
| <br>Page 6-53<br>DIN 7516 EE-H<br><br><b>Metric</b>                     | <br>Page 6-54<br>DIN 7516 DE-H<br><br><b>Metric</b>                             | <br>Page 6-55<br>DIN 7513 A<br><br><b>Metric</b>                       | <br>Page 6-56<br><br><b>UNC</b>  | <br>Page 6-58<br>DIN ≈7500<br><br><b>TAPTITE 2000® Metric</b>         |
| <br>Page 6-59<br>DIN ≈7500-1<br><br><b>TAPTITE 2000® Metric</b>         | <br>Page 6-60<br>DIN ≈7500-1<br><br><b>TAPTITE 2000® Metric</b>                 | <br>Page 6-62<br><br><b>REMFORM®</b>                                   | <br>Page 6-63<br><br><b>REMFORM Torx®</b>                              | <br>Page 6-63<br><br><b>REMFORM®</b>                                  |
| <br>Page 6-64<br>ISO 1481 C<br>DIN 7971 C<br><br><b>Slotted</b>         | <br>Page 6-66<br>ISO 1482 C<br>DIN 7972 C<br><br><b>Slotted</b>                 | <br>Page 6-68<br>ISO 1483 C<br>DIN 7973 C<br><br><b>Slotted</b>        | <br>Page 6-70<br>ISO 7049 C<br>DIN 7981 C<br><br><b>Cross recessed</b> | <br>Page 6-76<br>ISO ≈7049 C<br>DIN ≈7981 C<br><br><b>Hexalobular</b> |
| <br>Page 6-77<br>ISO 7050 C<br>DIN 7982 C<br><br><b>Cross recessed</b>  | <br>Page 6-81<br>ISO 14586 C<br><br><b>Hexalobular</b>                          | <br>Page 6-82<br>ISO 7051 C<br>DIN 7983 C<br><br><b>Cross recessed</b> | <br>Page 6-86<br><br><b>Cross recessed and flanged</b>                 | <br>Page 6-87<br><br><b>Cross recessed</b>                            |
| <br>Page 6-88<br><br><b>Drive screw</b>                                 | <br>Page 6-89<br>ISO ≈7053 C<br>DIN ≈6928 C<br><br><b>Hexagon washer faced</b>  | <br>Page 6-90<br>ISO 1479 C<br>DIN 7976 C<br><br><b>Hexagon</b>        | <br>Page 6-92<br><br><b>With cone end and captive washer</b>           | <br>Page 6-93<br><br><b>For license plates</b>                        |
| <br>Page 6-94<br><br><b>For license plates</b>                          | <br>Page 6-95<br><br><b>For license plate screw</b>                             | <br>Page 6-96<br>DIN 571<br>NEN 2260<br><br><b>Hex wood screw</b>      | <br>Page 6-99<br><br><b>With washer</b>                                | <br>Page 6-101<br><br><b>With washer</b>                              |

# Screws 6

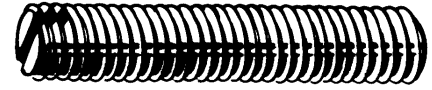
6

|   |  |  |   |  |
|---|--|--|---|--|
| <br>Page 6-102<br><b>Elastomer</b>                                   | <br>Page 6-104<br>ISO 15481<br>DIN 7504 M<br><b>Cross recessed</b>            | <br>Page 6-107<br>ISO ≈15481<br>DIN ≈7504 M<br><b>SR-recessed</b> | <br>Page 6-108<br>ISO ≈15481<br>DIN ≈7504 M<br><b>With square socket drive</b> | <br>Page 6-108<br><b>Square bit</b>                                 |
| <br>Page 6-109<br>ISO 15482<br>DIN 7504 O-H<br><b>Cross recessed</b> | <br>Page 6-111<br>ISO 15480<br>DIN 7504 K<br><b>Hexagon head washer faced</b> | <br>Page 6-113<br><b>Cross recessed</b>                           | <br>Page 6-114<br><b>SR-recessed</b>   | <br>Page 6-115<br><b>With wings and Torx®</b>                       |
| <br>Page 6-116<br><b>With wings and Torx®</b>                        | <br>Page 6-118<br><b>With wings and Torx® UNC</b>                             | <br>Page 6-119<br><b>With wings and cross recess</b>              | <br>Page 6-120<br><b>Tool</b>  | <br>Page 6-123<br><b>Cross recessed</b>                             |
| <br>Page 6-128<br><b>Cross recessed countersunk head</b>            | <br>Page 6-131<br><b>Countersunk head with ttap®</b>                         | <br>Page 6-133<br><b>Cross recessed with hole</b>                | <br>Page 6-134<br><b>Cross recessed small head</b>                            | <br>Page 6-135<br><b>Hexalobular</b>                               |
| <br>Page 6-138<br><b>Hexalobular A2</b>                            | <br>Page 6-139<br><b>Hexalobular</b>  | <br>Page 6-139<br><b>Countersunk head with ttap®</b>            | <br>Page 6-140<br><b>Cross recessed</b>                                      | <br>Page 6-142<br><b>Cross recessed raised cheese head</b>        |
| <br>Page 6-144<br><b>Raised cheese head with ttap®</b>             | <br>Page 6-146<br><b>Raised cheese head cross recessed</b>                  | <br>Page 6-149<br><b>Hexalobular</b>                            | <br>Page 6-150<br><b>Countersunk head with ttap®</b>                         | <br>Page 6-151<br><b>Flange head with ttap®</b>                   |
| <br>Page 6-152<br>DIN 95<br>NEN 2252<br><b>Slotted</b>             | <br>Page 6-154<br>DIN 96<br>NEN 2251<br><b>Slotted</b>                      | <br>Page 6-157<br>DIN 7996<br>NEN 2254<br><b>Cross recessed</b> | <br>Page 6-158<br>DIN 97<br>NEN 2250<br><b>Slotted</b>                       | <br>Page 6-161<br>DIN 7997-Z<br>NEN 2253<br><b>Cross recessed</b> |
| <br>Page 6-162<br>DIN 7995-Z<br><b>Cross recessed</b>              | <br>Page 6-163<br><b>Dry wall screw</b>                                     | <br>Page 6-164<br><b>Dry wall screw</b>                         | <br>Page 6-165<br><b>Plastic</b>   | <br>Page 6-166<br><b>Plastic</b>                                  |
| <br>Page 6-166<br><b>Plastic</b>                                   | <br>Page 6-167<br><b>Plastic</b>  | <br>Page 6-168<br><b>Metric</b>                                 | <br>Page 6-169<br>DIN 464<br><b>High Metric</b>                              | <br>Page 6-171<br>DIN 464 Sz<br><b>High with slotted Metric</b>   |
| <br>Page 6-172<br>DIN 653<br><b>Low Metric</b>                     | <br>Page 6-173<br><b>Low Metric, plastic</b>                                | <br>Page 6-174<br><b>American model Metric</b>                  | <br>Page 6-175<br>DIN 316<br>NEN 1624<br><b>Round wings Metric</b>           |  |

## Slotted set screw with flat point



ISO 4766  
**DIN 551**  
 NEN 1487  
 NF E25-160



### Technical data

| d    | P    | d <sub>p</sub> | n    |
|------|------|----------------|------|
| M1,6 | 0,35 | 0,8            | 0,25 |
| M2   | 0,4  | 1              | 0,25 |
| M2,5 | 0,45 | 1,5            | 0,4  |
| M3   | 0,5  | 2              | 0,4  |

| d  | P    | d <sub>p</sub> | n   |
|----|------|----------------|-----|
| M4 | 0,7  | 2,5            | 0,6 |
| M5 | 0,8  | 3,5            | 0,8 |
| M6 | 1    | 4              | 1   |
| M8 | 1,25 | 5,5            | 1,2 |

| d   | P    | d <sub>p</sub> | n   |
|-----|------|----------------|-----|
| M10 | 1,5  | 7              | 1,6 |
| M12 | 1,75 | 8,5            | 2   |

### Article groups

| Thread | Driving features | Material     | Class | Packaging | Code  | Page |
|--------|------------------|--------------|-------|-----------|-------|------|
| M      | slotted          | St           | 14H   | Standard  | 20010 | 6-3  |
| M      | slotted          | St.St. A1/A2 |       | Standard  | 51292 | 6-3  |
| M      | slotted          | St.St. A4    |       | Standard  | 55292 | 6-4  |

#### 20010 Slotted set screw with flat point

G07A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 14H           |
| <b>Packaging</b> | Standard      |



6

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X4  | 500 | <a href="#">20010.030.004</a> | M4X25 | 250 | <a href="#">20010.040.025</a> | M6X12  | 250 | <a href="#">20010.060.012</a> |
| M3X5  | 500 | <a href="#">20010.030.005</a> | M4X30 | 250 | <a href="#">20010.040.030</a> | M6X16  | 250 | <a href="#">20010.060.016</a> |
| M3X6  | 500 | <a href="#">20010.030.006</a> | M4X35 | 250 | <a href="#">20010.040.035</a> | M6X20  | 250 | <a href="#">20010.060.020</a> |
| M3X8  | 500 | <a href="#">20010.030.008</a> |       |     |                               | M6X25  | 250 | <a href="#">20010.060.025</a> |
| M3X10 | 500 | <a href="#">20010.030.010</a> | M5X5  | 500 | <a href="#">20010.050.005</a> |        |     |                               |
| M3X16 | 500 | <a href="#">20010.030.016</a> | M5X6  | 500 | <a href="#">20010.050.006</a> | M8X10  | 250 | <a href="#">20010.080.010</a> |
| M3X20 | 500 | <a href="#">20010.030.020</a> | M5X8  | 500 | <a href="#">20010.050.008</a> | M8X20  | 250 | <a href="#">20010.080.020</a> |
|       |     |                               | M5X10 | 500 | <a href="#">20010.050.010</a> | M8X30  | 100 | <a href="#">20010.080.030</a> |
| M4X4  | 500 | <a href="#">20010.040.004</a> | M5X12 | 500 | <a href="#">20010.050.012</a> |        |     |                               |
| M4X5  | 500 | <a href="#">20010.040.005</a> | M5X16 | 250 | <a href="#">20010.050.016</a> | M10X10 | 250 | <a href="#">20010.100.010</a> |
| M4X6  | 500 | <a href="#">20010.040.006</a> | M5X20 | 250 | <a href="#">20010.050.020</a> | M10X20 | 100 | <a href="#">20010.100.020</a> |
| M4X8  | 500 | <a href="#">20010.040.008</a> | M5X25 | 250 | <a href="#">20010.050.025</a> | M10X30 | 100 | <a href="#">20010.100.030</a> |
| M4X10 | 500 | <a href="#">20010.040.010</a> |       |     |                               | M10X40 | 100 | <a href="#">20010.100.040</a> |
| M4X12 | 500 | <a href="#">20010.040.012</a> | M6X6  | 500 | <a href="#">20010.060.006</a> | M10X50 | 100 | <a href="#">20010.100.050</a> |
| M4X16 | 500 | <a href="#">20010.040.016</a> | M6X8  | 500 | <a href="#">20010.060.008</a> |        |     |                               |
| M4X20 | 250 | <a href="#">20010.040.020</a> | M6X10 | 500 | <a href="#">20010.060.010</a> |        |     |                               |

#### 51292 Slotted set screw with flat point

R03A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Metric thread         |
| <b>Material</b>  | Stainless steel A1/A2 |
| <b>Packaging</b> | Standard              |



| d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|---------|-----|-------------------------------|
| M1,6X2 * | 200 | <a href="#">51292.016.002</a> | M2,5X5 *  | 200 | <a href="#">51292.025.005</a> | M4X6    | 200 | <a href="#">51292.040.006</a> |
| M1,6X3 * | 200 | <a href="#">51292.016.003</a> | M2,5X6 *  | 200 | <a href="#">51292.025.006</a> | M4X8    | 200 | <a href="#">51292.040.008</a> |
| M1,6X5 * | 200 | <a href="#">51292.016.005</a> | M2,5X8 *  | 200 | <a href="#">51292.025.008</a> | M4X10   | 200 | <a href="#">51292.040.010</a> |
|          |     |                               | M2,5X10 * | 200 | <a href="#">51292.025.010</a> | M4X12   | 200 | <a href="#">51292.040.012</a> |
| M2X2 *   | 200 | <a href="#">51292.020.002</a> |           |     |                               | M4X16   | 200 | <a href="#">51292.040.016</a> |
| M2X3 *   | 200 | <a href="#">51292.020.003</a> | M3X3 *    | 200 | <a href="#">51292.030.003</a> | M4X18 * | 200 | <a href="#">51292.040.018</a> |
| M2X4 *   | 200 | <a href="#">51292.020.004</a> | M3X4 *    | 200 | <a href="#">51292.030.004</a> | M4X20   | 200 | <a href="#">51292.040.020</a> |
| M2X5 *   | 200 | <a href="#">51292.020.005</a> | M3X6      | 200 | <a href="#">51292.030.006</a> | M4X25 * | 200 | <a href="#">51292.040.025</a> |
| M2X6 *   | 200 | <a href="#">51292.020.006</a> | M3X8      | 200 | <a href="#">51292.030.008</a> | M4X30   | 200 | <a href="#">51292.040.030</a> |
| M2X8 *   | 200 | <a href="#">51292.020.008</a> | M3X10     | 200 | <a href="#">51292.030.010</a> |         |     |                               |
| M2X10 *  | 200 | <a href="#">51292.020.010</a> | M3X16     | 200 | <a href="#">51292.030.016</a> | M5X5 *  | 200 | <a href="#">51292.050.005</a> |
| M2X12 *  | 200 | <a href="#">51292.020.012</a> | M3X20     | 200 | <a href="#">51292.030.020</a> | M5X6    | 200 | <a href="#">51292.050.006</a> |
|          |     |                               |           |     |                               | M5X8    | 200 | <a href="#">51292.050.008</a> |
| M2,5X3 * | 200 | <a href="#">51292.025.003</a> | M4X4      | 200 | <a href="#">51292.040.004</a> | M5X10   | 200 | <a href="#">51292.050.010</a> |
| M2,5X4 * | 200 | <a href="#">51292.025.004</a> | M4X5      | 200 | <a href="#">51292.040.005</a> | M5X12   | 200 | <a href="#">51292.050.012</a> |

**51292 Slotted set screw with flat point** ←

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M5X16   | 200 | <a href="#">51292.050.016</a> | M6X45 * | 200 | <a href="#">51292.060.045</a> | M10X10   | 100 | <a href="#">51292.100.010</a> |
| M5X20   | 200 | <a href="#">51292.050.020</a> | M6X60 * | 200 | <a href="#">51292.060.060</a> | M10X12 * | 50  | <a href="#">51292.100.012</a> |
| M5X25 * | 200 | <a href="#">51292.050.025</a> |         |     |                               | M10X16 * | 50  | <a href="#">51292.100.016</a> |
| M5X30 * | 200 | <a href="#">51292.050.030</a> | M8X8 *  | 100 | <a href="#">51292.080.008</a> | M10X20   | 100 | <a href="#">51292.100.020</a> |
| M5X40 * | 200 | <a href="#">51292.050.040</a> | M8X10   | 200 | <a href="#">51292.080.010</a> | M10X25 * | 50  | <a href="#">51292.100.025</a> |
|         |     |                               | M8X12 * | 100 | <a href="#">51292.080.012</a> | M10X30   | 100 | <a href="#">51292.100.030</a> |
| M6X6 *  | 200 | <a href="#">51292.060.006</a> | M8X20   | 200 | <a href="#">51292.080.020</a> | M10X35 * | 50  | <a href="#">51292.100.035</a> |
| M6X8    | 200 | <a href="#">51292.060.008</a> | M8X25 * | 100 | <a href="#">51292.080.025</a> | M10X40   | 100 | <a href="#">51292.100.040</a> |
| M6X10   | 200 | <a href="#">51292.060.010</a> | M8X30   | 100 | <a href="#">51292.080.030</a> | M10X45 * | 50  | <a href="#">51292.100.045</a> |
| M6X16   | 200 | <a href="#">51292.060.016</a> | M8X35 * | 100 | <a href="#">51292.080.035</a> | M10X50 * | 50  | <a href="#">51292.100.050</a> |
| M6X20   | 200 | <a href="#">51292.060.020</a> | M8X40 * | 100 | <a href="#">51292.080.040</a> | M10X55 * | 50  | <a href="#">51292.100.055</a> |
| M6X25   | 200 | <a href="#">51292.060.025</a> | M8X45 * | 100 | <a href="#">51292.080.045</a> | M10X60 * | 50  | <a href="#">51292.100.060</a> |
| M6X30 * | 200 | <a href="#">51292.060.030</a> | M8X50 * | 100 | <a href="#">51292.080.050</a> |          |     |                               |
| M6X35 * | 200 | <a href="#">51292.060.035</a> | M8X60 * | 100 | <a href="#">51292.080.060</a> |          |     |                               |
| M6X40 * | 200 | <a href="#">51292.060.040</a> |         |     |                               |          |     |                               |

• Depending on availability A1 can be supplied as well as A2.

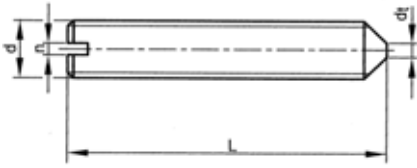
**55292 Slotted set screw with flat point** R43A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |

6

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X10   | 200 | <a href="#">55292.030.010</a> | M6X12   | 200 | <a href="#">55292.060.012</a> | M10X10   | 100 | <a href="#">55292.100.010</a> |
| M4X8    | 200 | <a href="#">55292.040.008</a> | M6X16   | 200 | <a href="#">55292.060.016</a> | M10X12 * | 50  | <a href="#">55292.100.012</a> |
| M4X10   | 200 | <a href="#">55292.040.010</a> | M6X20   | 200 | <a href="#">55292.060.020</a> | M10X16 * | 50  | <a href="#">55292.100.016</a> |
| M4X12   | 200 | <a href="#">55292.040.012</a> | M6X25   | 200 | <a href="#">55292.060.025</a> | M10X20   | 100 | <a href="#">55292.100.020</a> |
|         |     |                               | M6X30 * | 200 | <a href="#">55292.060.030</a> | M10X25 * | 50  | <a href="#">55292.100.025</a> |
| M5X5 *  | 200 | <a href="#">55292.050.005</a> | M6X35 * | 200 | <a href="#">55292.060.035</a> | M10X30   | 100 | <a href="#">55292.100.030</a> |
| M5X6    | 200 | <a href="#">55292.050.006</a> | M6X40 * | 200 | <a href="#">55292.060.040</a> | M10X35 * | 50  | <a href="#">55292.100.035</a> |
| M5X8    | 200 | <a href="#">55292.050.008</a> |         |     |                               | M10X40   | 100 | <a href="#">55292.100.040</a> |
| M5X10   | 200 | <a href="#">55292.050.010</a> | M8X10   | 200 | <a href="#">55292.080.010</a> | M10X45 * | 50  | <a href="#">55292.100.045</a> |
| M5X12   | 200 | <a href="#">55292.050.012</a> | M8X12 * | 100 | <a href="#">55292.080.012</a> | M10X50 * | 50  | <a href="#">55292.100.050</a> |
| M5X16   | 200 | <a href="#">55292.050.016</a> | M8X16 * | 100 | <a href="#">55292.080.016</a> | M10X60 * | 50  | <a href="#">55292.100.060</a> |
| M5X20   | 200 | <a href="#">55292.050.020</a> | M8X20   | 200 | <a href="#">55292.080.020</a> |          |     |                               |
| M5X25 * | 200 | <a href="#">55292.050.025</a> | M8X25 * | 100 | <a href="#">55292.080.025</a> | M12X20 * | 50  | <a href="#">55292.120.020</a> |
| M5X30 * | 200 | <a href="#">55292.050.030</a> | M8X30   | 100 | <a href="#">55292.080.030</a> | M12X30 * | 50  | <a href="#">55292.120.030</a> |
|         |     |                               | M8X35 * | 100 | <a href="#">55292.080.035</a> |          |     |                               |
| M6X6 *  | 200 | <a href="#">55292.060.006</a> | M8X40 * | 100 | <a href="#">55292.080.040</a> |          |     |                               |
| M6X8    | 200 | <a href="#">55292.060.008</a> | M8X45 * | 100 | <a href="#">55292.080.045</a> |          |     |                               |
| M6X10   | 200 | <a href="#">55292.060.010</a> | M8X50 * | 100 | <a href="#">55292.080.050</a> |          |     |                               |

## Slotted set screw with cone point



ISO 7434  
**DIN 553**  
 NEN 1488  
 NF E25-161  
 BS 4219



### Technical data

| d           | P    | d <sub>t</sub> (max.) | n    |
|-------------|------|-----------------------|------|
| <b>M1,6</b> | 0,35 | 0,16                  | 0,25 |
| <b>M2</b>   | 0,4  | 0,2                   | 0,25 |
| <b>M2,5</b> | 0,45 | 0,25                  | 0,4  |
| <b>M3</b>   | 0,5  | 0,3                   | 0,4  |

| d         | P    | d <sub>t</sub> (max.) | n   |
|-----------|------|-----------------------|-----|
| <b>M4</b> | 0,7  | 0,4                   | 0,6 |
| <b>M5</b> | 0,8  | 0,5                   | 0,8 |
| <b>M6</b> | 1    | 1,5                   | 1   |
| <b>M8</b> | 1,25 | 2                     | 1,2 |

| d          | P    | d <sub>t</sub> (max.) | n   |
|------------|------|-----------------------|-----|
| <b>M10</b> | 1,5  | 2,5                   | 1,6 |
| <b>M12</b> | 1,75 | 3                     | 2   |

### Article groups

| Thread | Driving features | Material     | Class | Packaging | Code  | Page |
|--------|------------------|--------------|-------|-----------|-------|------|
| M      | slotted          | St           | 14H   | Standard  | 20030 | 6-5  |
| M      | slotted          | St.St. A1/A2 |       | Standard  | 51293 | 6-5  |
| M      | slotted          | St.St. A4    |       | Standard  | 55293 | 6-6  |

#### 20030 Slotted set screw with cone point

G07A

**Thread** Metric thread  
**Material** Steel  
**Class** 14H  
**Packaging** Standard



6

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X4  | 500 | <a href="#">20030.030.004</a> | M4X30 | 250 | <a href="#">20030.040.030</a> | M6X16  | 250 | <a href="#">20030.060.016</a> |
| M3X5  | 500 | <a href="#">20030.030.005</a> | M4X35 | 250 | <a href="#">20030.040.035</a> | M6X20  | 250 | <a href="#">20030.060.020</a> |
| M3X6  | 500 | <a href="#">20030.030.006</a> |       |     |                               | M6X25  | 250 | <a href="#">20030.060.025</a> |
| M3X10 | 500 | <a href="#">20030.030.010</a> | M5X6  | 500 | <a href="#">20030.050.006</a> |        |     |                               |
| M3X12 | 500 | <a href="#">20030.030.012</a> | M5X8  | 500 | <a href="#">20030.050.008</a> | M8X10  | 250 | <a href="#">20030.080.010</a> |
|       |     |                               | M5X10 | 500 | <a href="#">20030.050.010</a> | M8X20  | 250 | <a href="#">20030.080.020</a> |
| M4X5  | 500 | <a href="#">20030.040.005</a> | M5X12 | 500 | <a href="#">20030.050.012</a> | M8X30  | 100 | <a href="#">20030.080.030</a> |
| M4X6  | 500 | <a href="#">20030.040.006</a> | M5X16 | 250 | <a href="#">20030.050.016</a> |        |     |                               |
| M4X8  | 500 | <a href="#">20030.040.008</a> | M5X20 | 250 | <a href="#">20030.050.020</a> | M10X10 | 250 | <a href="#">20030.100.010</a> |
| M4X10 | 500 | <a href="#">20030.040.010</a> | M5X25 | 250 | <a href="#">20030.050.025</a> | M10X20 | 100 | <a href="#">20030.100.020</a> |
| M4X12 | 500 | <a href="#">20030.040.012</a> |       |     |                               | M10X30 | 100 | <a href="#">20030.100.030</a> |
| M4X16 | 500 | <a href="#">20030.040.016</a> | M6X8  | 500 | <a href="#">20030.060.008</a> | M10X40 | 100 | <a href="#">20030.100.040</a> |
| M4X20 | 250 | <a href="#">20030.040.020</a> | M6X10 | 500 | <a href="#">20030.060.010</a> | M10X50 | 100 | <a href="#">20030.100.050</a> |
| M4X25 | 250 | <a href="#">20030.040.025</a> | M6X12 | 250 | <a href="#">20030.060.012</a> |        |     |                               |

#### 51293 Slotted set screw with cone point

R03A

**Thread** Metric thread  
**Material** Stainless steel A1/A2  
**Packaging** Standard



| d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M1,6X2 * | 200 | <a href="#">51293.016.002</a> | M3X4    | 200 | <a href="#">51293.030.004</a> | M5X5 *  | 200 | <a href="#">51293.050.005</a> |
| M1,6X3 * | 200 | <a href="#">51293.016.003</a> | M3X5    | 200 | <a href="#">51293.030.005</a> | M5X6    | 200 | <a href="#">51293.050.006</a> |
| M1,6X4 * | 200 | <a href="#">51293.016.004</a> | M3X6    | 200 | <a href="#">51293.030.006</a> | M5X8    | 200 | <a href="#">51293.050.008</a> |
|          |     |                               | M3X8    | 200 | <a href="#">51293.030.008</a> | M5X10   | 200 | <a href="#">51293.050.010</a> |
| M2X2 *   | 200 | <a href="#">51293.020.002</a> | M3X10   | 200 | <a href="#">51293.030.010</a> | M5X12   | 200 | <a href="#">51293.050.012</a> |
| M2X3 *   | 200 | <a href="#">51293.020.003</a> | M3X16 * | 200 | <a href="#">51293.030.016</a> | M5X16   | 200 | <a href="#">51293.050.016</a> |
| M2X4 *   | 200 | <a href="#">51293.020.004</a> | M3X20 * | 200 | <a href="#">51293.030.020</a> | M5X20   | 200 | <a href="#">51293.050.020</a> |
| M2X5 *   | 200 | <a href="#">51293.020.005</a> |         |     |                               | M5X25   | 200 | <a href="#">51293.050.025</a> |
| M2X6 *   | 200 | <a href="#">51293.020.006</a> | M4X5    | 200 | <a href="#">51293.040.005</a> |         |     |                               |
| M2X8 *   | 200 | <a href="#">51293.020.008</a> | M4X6    | 200 | <a href="#">51293.040.006</a> | M6X6 *  | 200 | <a href="#">51293.060.006</a> |
| M2X10 *  | 200 | <a href="#">51293.020.010</a> | M4X8    | 200 | <a href="#">51293.040.008</a> | M6X8    | 200 | <a href="#">51293.060.008</a> |
| M2X12 *  | 200 | <a href="#">51293.020.012</a> | M4X10   | 200 | <a href="#">51293.040.010</a> | M6X10   | 200 | <a href="#">51293.060.010</a> |
|          |     |                               | M4X12   | 200 | <a href="#">51293.040.012</a> | M6X16   | 200 | <a href="#">51293.060.016</a> |
| M2,5X3 * | 200 | <a href="#">51293.025.003</a> | M4X16   | 200 | <a href="#">51293.040.016</a> | M6X25   | 200 | <a href="#">51293.060.025</a> |
| M2,5X6 * | 200 | <a href="#">51293.025.006</a> | M4X25   | 200 | <a href="#">51293.040.025</a> | M6X30 * | 200 | <a href="#">51293.060.030</a> |
|          |     |                               | M4X30   | 200 | <a href="#">51293.040.030</a> | M6X35 * | 200 | <a href="#">51293.060.035</a> |
| M3X3 *   | 200 | <a href="#">51293.030.003</a> | M4X35   | 200 | <a href="#">51293.040.035</a> |         |     |                               |

**51293 Slotted set screw with cone point**

| d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M6X40 * | 200 | <a href="#">51293.060.040</a> | M8X30    | 200 | <a href="#">51293.080.030</a> | M10X20   | 100 | <a href="#">51293.100.020</a> |
| M8X8 *  | 100 | <a href="#">51293.080.008</a> | M8X35 *  | 100 | <a href="#">51293.080.035</a> | M10X25 * | 50  | <a href="#">51293.100.025</a> |
| M8X10   | 200 | <a href="#">51293.080.010</a> | M8X40 *  | 100 | <a href="#">51293.080.040</a> | M10X30   | 100 | <a href="#">51293.100.030</a> |
| M8X12 * | 100 | <a href="#">51293.080.012</a> | M8X45 *  | 100 | <a href="#">51293.080.045</a> | M10X35 * | 50  | <a href="#">51293.100.035</a> |
| M8X16 * | 100 | <a href="#">51293.080.016</a> | M8X50 *  | 100 | <a href="#">51293.080.050</a> | M10X50   | 100 | <a href="#">51293.100.050</a> |
| M8X20   | 200 | <a href="#">51293.080.020</a> | M10X12 * | 50  | <a href="#">51293.100.012</a> |          |     |                               |
| M8X25 * | 100 | <a href="#">51293.080.025</a> | M10X16 * | 50  | <a href="#">51293.100.016</a> |          |     |                               |

• Depending on availability A1 can be supplied as well as A2.

**55293 Slotted set screw with cone point**
R43A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |



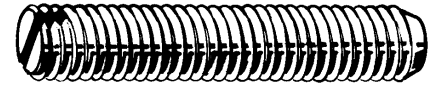
| d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|-------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X5  | 200 | <a href="#">55293.030.005</a> | M5X12   | 200 | <a href="#">55293.050.012</a> | M10X12 * | 50  | <a href="#">55293.100.012</a> |
| M3X8  | 200 | <a href="#">55293.030.008</a> | M5X16   | 200 | <a href="#">55293.050.016</a> | M10X16 * | 50  | <a href="#">55293.100.016</a> |
| M3X10 | 200 | <a href="#">55293.030.010</a> | M5X25   | 200 | <a href="#">55293.050.025</a> | M10X20   | 100 | <a href="#">55293.100.020</a> |
| M4X5  | 200 | <a href="#">55293.040.005</a> | M6X10   | 200 | <a href="#">55293.060.010</a> | M10X30   | 100 | <a href="#">55293.100.030</a> |
| M4X8  | 200 | <a href="#">55293.040.008</a> | M6X12   | 200 | <a href="#">55293.060.012</a> | M10X35 * | 50  | <a href="#">55293.100.035</a> |
| M4X10 | 200 | <a href="#">55293.040.010</a> | M6X16   | 200 | <a href="#">55293.060.016</a> | M10X50   | 100 | <a href="#">55293.100.050</a> |
| M4X12 | 200 | <a href="#">55293.040.012</a> | M6X20   | 200 | <a href="#">55293.060.020</a> |          |     |                               |
| M4X16 | 200 | <a href="#">55293.040.016</a> | M6X25   | 200 | <a href="#">55293.060.025</a> | M12X25 * | 50  | <a href="#">55293.120.025</a> |
| M5X6  | 200 | <a href="#">55293.050.006</a> | M8X10   | 200 | <a href="#">55293.080.010</a> | M12X30 * | 50  | <a href="#">55293.120.030</a> |
| M5X8  | 200 | <a href="#">55293.050.008</a> | M8X12 * | 100 | <a href="#">55293.080.012</a> |          |     |                               |
| M5X10 | 200 | <a href="#">55293.050.010</a> | M8X16 * | 100 | <a href="#">55293.080.016</a> |          |     |                               |

6

## Slotted set screw with cup point



ISO 7436  
**DIN 438**  
 NEN 1486  
 NF E25-163



### Technical data

| d   | P    | dz  | n   |
|-----|------|-----|-----|
| M3  | 0,5  | 1,4 | 0,4 |
| M4  | 0,7  | 2   | 0,6 |
| M5  | 0,8  | 2,5 | 0,8 |
| M6  | 1    | 3   | 1   |
| M8  | 1,25 | 5   | 1,2 |
| M10 | 1,5  | 6   | 1,6 |

### Article groups

| Thread | Driving features | Material     | Class | Packaging | Code  | Page |
|--------|------------------|--------------|-------|-----------|-------|------|
| M      | slotted          | St           | 14H   | Standard  | 20000 | 6-7  |
| M      | slotted          | St.St. A1/A2 |       | Standard  | 51291 | 6-7  |

#### 20000 Slotted set screw with cup point

G07A

**Thread** Metric thread  
**Material** Steel  
**Class** 14H  
**Packaging** Standard



6

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X4  | 500 | <a href="#">20000.030.004</a> | M4X12 | 500 | <a href="#">20000.040.012</a> | M5X16 | 250 | <a href="#">20000.050.016</a> |
| M3X6  | 500 | <a href="#">20000.030.006</a> | M4X16 | 500 | <a href="#">20000.040.016</a> | M5X20 | 250 | <a href="#">20000.050.020</a> |
| M3X8  | 500 | <a href="#">20000.030.008</a> | M4X25 | 250 | <a href="#">20000.040.025</a> |       |     |                               |
| M3X10 | 500 | <a href="#">20000.030.010</a> | M4X30 | 250 | <a href="#">20000.040.030</a> | M6X8  | 500 | <a href="#">20000.060.008</a> |
|       |     |                               | M4X35 | 250 | <a href="#">20000.040.035</a> | M6X10 | 500 | <a href="#">20000.060.010</a> |
| M4X5  | 500 | <a href="#">20000.040.005</a> |       |     |                               | M6X12 | 250 | <a href="#">20000.060.012</a> |
| M4X6  | 500 | <a href="#">20000.040.006</a> | M5X6  | 500 | <a href="#">20000.050.006</a> | M6X16 | 250 | <a href="#">20000.060.016</a> |
| M4X8  | 500 | <a href="#">20000.040.008</a> | M5X8  | 500 | <a href="#">20000.050.008</a> | M6X20 | 250 | <a href="#">20000.060.020</a> |
| M4X10 | 500 | <a href="#">20000.040.010</a> | M5X10 | 500 | <a href="#">20000.050.010</a> |       |     |                               |

#### 51291 Slotted set screw with cup point

R03A

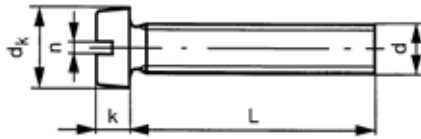
**Thread** Metric thread  
**Material** Stainless steel A1/A2  
**Packaging** Standard



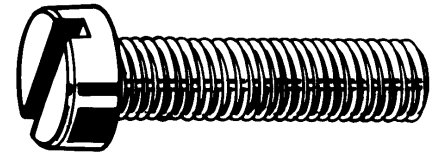
| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|----------|-----|-------------------------------|
| M3X4   | 200 | <a href="#">51291.030.004</a> | M4X20  | 200 | <a href="#">51291.040.020</a> | M6X16    | 200 | <a href="#">51291.060.016</a> |
| M3X5   | 200 | <a href="#">51291.030.005</a> | M4X25  | 200 | <a href="#">51291.040.025</a> | M6X20    | 200 | <a href="#">51291.060.020</a> |
| M3X6   | 200 | <a href="#">51291.030.006</a> |        |     |                               |          |     |                               |
| M3X8   | 200 | <a href="#">51291.030.008</a> | M5X10  | 200 | <a href="#">51291.050.010</a> | M8X10 *  | 100 | <a href="#">51291.080.010</a> |
|        |     |                               | M5X12  | 200 | <a href="#">51291.050.012</a> | M8X20 *  | 100 | <a href="#">51291.080.020</a> |
| M4X5 * | 200 | <a href="#">51291.040.005</a> | M5X16  | 200 | <a href="#">51291.050.016</a> | M8X25 *  | 100 | <a href="#">51291.080.025</a> |
| M4X6   | 200 | <a href="#">51291.040.006</a> | M5X20  | 200 | <a href="#">51291.050.020</a> | M8X35 *  | 100 | <a href="#">51291.080.035</a> |
| M4X8   | 200 | <a href="#">51291.040.008</a> |        |     |                               |          |     |                               |
| M4X10  | 200 | <a href="#">51291.040.010</a> | M6X6 * | 100 | <a href="#">51291.060.006</a> | M10X35 * | 100 | <a href="#">51291.100.035</a> |
| M4X12  | 200 | <a href="#">51291.040.012</a> | M6X8   | 200 | <a href="#">51291.060.008</a> |          |     |                               |
| M4X16  | 200 | <a href="#">51291.040.016</a> | M6X12  | 200 | <a href="#">51291.060.012</a> |          |     |                               |

- Depending on availability A1 can be supplied as well as A2.

## Slotted cheese head screw



ISO 1207  
**DIN 84**  
 NEN 1602  
 ANSI B18.6.7M  
 NF E25-127  
 BS 4183



### Technical data

| d           | P    | dk  | k   | n    | Full thread L ≤ |
|-------------|------|-----|-----|------|-----------------|
| M1          | 0,25 | 2   | 0,7 | 0,25 | 30              |
| M1,2        | 0,25 | 2,3 | 0,8 | 0,3  | 30              |
| M1,4        | 0,3  | 2,6 | 0,9 | 0,3  | 30              |
| M1,6        | 0,35 | 3   | 1   | 0,4  | 30              |
| M1,7 (#DIN) | 0,35 | 3,4 | 1,2 | 0,4  | 30              |
| M2          | 0,4  | 3,8 | 1,3 | 0,5  | 30              |
| M2,3 (#DIN) | 0,45 | 4,4 | 1,5 | 0,6  | 30              |
| M2,5        | 0,45 | 4,5 | 1,6 | 0,6  | 30              |
| M2,6 (#DIN) | 0,45 | 5   | 1,7 | 0,6  | 30              |
| M3          | 0,5  | 5,5 | 2   | 0,8  | 30              |
| M3,5        | 0,6  | 6   | 2,4 | 1    | 40              |
| M4          | 0,7  | 7   | 2,6 | 1,2  | 40              |
| M5          | 0,8  | 8,5 | 3,3 | 1,2  | 40              |
| M6          | 1    | 10  | 3,9 | 1,6  | 40              |
| M8          | 1,25 | 13  | 5   | 2    | 40              |
| M10         | 1,5  | 16  | 6   | 2,5  | 40              |
| M12 (#DIN)  | 1,75 | 18  | 7   | 3    | 40              |

6

### Article groups

| Thread | Driving features | Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|--------|------------------|------------|--------|-------------------|--------|-----------|-------|------|
| M      | slotted          | St         | 4.8    | Zipl              |        | Standard  | 24520 | 6-8  |
| M      | slotted          | St         | 4.8    | Zipl yell.p.      |        | Standard  | 24510 | 6-9  |
| M      | slotted          | St         | 4.8    | Zipl blk p.       |        | Standard  | 24515 | 6-9  |
| M      | slotted          | St         | 8.8    | Zipl              |        | Standard  | 24402 | 6-10 |
| M      | slotted          | St.St. A2  | 70     |                   |        | Standard  | 51121 | 6-10 |
| M      | slotted          | St.St. A2  | 70     |                   |        | Large     | 51120 | 6-10 |
| M      | slotted          | St.St. A4  | 70     |                   |        | Standard  | 55120 | 6-11 |
| M      | slotted          | Br Cu2/Cu3 |        |                   |        | Standard  | 48020 | 6-12 |
| M      | slotted          | Br Cu2/Cu3 |        | Ni.pl.            |        | Standard  | 48520 | 6-12 |
| M      | slotted          | Plastic PA | PA 6.6 |                   | White  | Standard  | 56410 | 6-13 |

### 24520 Slotted cheese head screw

H01A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X4    | 200 | <a href="#">24520.020.004</a> | M3X4    | 200 | <a href="#">24520.030.004</a> | M3,5X16 | 200 | <a href="#">24520.035.016</a> |
| M2X5    | 200 | <a href="#">24520.020.005</a> | M3X5    | 200 | <a href="#">24520.030.005</a> | M3,5X20 | 200 | <a href="#">24520.035.020</a> |
| M2X6    | 200 | <a href="#">24520.020.006</a> | M3X6    | 200 | <a href="#">24520.030.006</a> | M3,5X25 | 200 | <a href="#">24520.035.025</a> |
| M2X8    | 200 | <a href="#">24520.020.008</a> | M3X8    | 200 | <a href="#">24520.030.008</a> | M3,5X30 | 200 | <a href="#">24520.035.030</a> |
| M2X10   | 200 | <a href="#">24520.020.010</a> | M3X10   | 200 | <a href="#">24520.030.010</a> | M3,5X35 | 200 | <a href="#">24520.035.035</a> |
| M2X12   | 200 | <a href="#">24520.020.012</a> | M3X12   | 200 | <a href="#">24520.030.012</a> | M3,5X40 | 200 | <a href="#">24520.035.040</a> |
| M2X16   | 200 | <a href="#">24520.020.016</a> | M3X16   | 200 | <a href="#">24520.030.016</a> | M3,5X50 | 200 | <a href="#">24520.035.050</a> |
| M2X20   | 200 | <a href="#">24520.020.020</a> | M3X20   | 200 | <a href="#">24520.030.020</a> |         |     |                               |
| M2X30   | 200 | <a href="#">24520.020.030</a> | M3X25   | 200 | <a href="#">24520.030.025</a> | M4X5    | 200 | <a href="#">24520.040.005</a> |
|         |     |                               | M3X30   | 200 | <a href="#">24520.030.030</a> | M4X6    | 200 | <a href="#">24520.040.006</a> |
| M2,5X4  | 200 | <a href="#">24520.025.004</a> | M3X35   | 200 | <a href="#">24520.030.035</a> | M4X8    | 200 | <a href="#">24520.040.008</a> |
| M2,5X5  | 200 | <a href="#">24520.025.005</a> | M3X40   | 200 | <a href="#">24520.030.040</a> | M4X10   | 200 | <a href="#">24520.040.010</a> |
| M2,5X6  | 200 | <a href="#">24520.025.006</a> | M3X45   | 200 | <a href="#">24520.030.045</a> | M4X12   | 200 | <a href="#">24520.040.012</a> |
| M2,5X8  | 200 | <a href="#">24520.025.008</a> | M3X50   | 200 | <a href="#">24520.030.050</a> | M4X14   | 200 | <a href="#">24520.040.014</a> |
| M2,5X10 | 200 | <a href="#">24520.025.010</a> | M3X60   | 200 | <a href="#">24520.030.060</a> | M4X16   | 200 | <a href="#">24520.040.016</a> |
| M2,5X12 | 200 | <a href="#">24520.025.012</a> | M3X70   | 200 | <a href="#">24520.030.070</a> | M4X18   | 200 | <a href="#">24520.040.018</a> |
| M2,5X16 | 200 | <a href="#">24520.025.016</a> |         |     |                               | M4X20   | 200 | <a href="#">24520.040.020</a> |
| M2,5X20 | 200 | <a href="#">24520.025.020</a> | M3,5X6  | 200 | <a href="#">24520.035.006</a> | M4X25   | 200 | <a href="#">24520.040.025</a> |
| M2,5X25 | 200 | <a href="#">24520.025.025</a> | M3,5X8  | 200 | <a href="#">24520.035.008</a> | M4X30   | 200 | <a href="#">24520.040.030</a> |
| M2,5X30 | 200 | <a href="#">24520.025.030</a> | M3,5X10 | 200 | <a href="#">24520.035.010</a> | M4X35   | 200 | <a href="#">24520.040.035</a> |
|         |     |                               | M3,5X12 | 200 | <a href="#">24520.035.012</a> | M4X40   | 200 | <a href="#">24520.040.040</a> |



**24520 Slotted cheese head screw**

| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X45  | 200 | <a href="#">24520.040.045</a> | M6X10  | 200 | <a href="#">24520.060.010</a> | M8X80   | 100 | <a href="#">24520.080.080</a> |
| M4X50  | 200 | <a href="#">24520.040.050</a> | M6X12  | 200 | <a href="#">24520.060.012</a> | M8X100  | 100 | <a href="#">24520.080.100</a> |
| M4X55  | 200 | <a href="#">24520.040.055</a> | M6X16  | 200 | <a href="#">24520.060.016</a> |         |     |                               |
| M4X60  | 200 | <a href="#">24520.040.060</a> | M6X20  | 200 | <a href="#">24520.060.020</a> | M10X16  | 100 | <a href="#">24520.100.016</a> |
| M4X65  | 200 | <a href="#">24520.040.065</a> | M6X25  | 200 | <a href="#">24520.060.025</a> | M10X20  | 100 | <a href="#">24520.100.020</a> |
| M4X70  | 200 | <a href="#">24520.040.070</a> | M6X30  | 200 | <a href="#">24520.060.030</a> | M10X25  | 100 | <a href="#">24520.100.025</a> |
| M4X80  | 200 | <a href="#">24520.040.080</a> | M6X35  | 200 | <a href="#">24520.060.035</a> | M10X30  | 100 | <a href="#">24520.100.030</a> |
|        |     |                               | M6X40  | 200 | <a href="#">24520.060.040</a> | M10X35  | 100 | <a href="#">24520.100.035</a> |
| M5X6   | 200 | <a href="#">24520.050.006</a> | M6X45  | 200 | <a href="#">24520.060.045</a> | M10X40  | 100 | <a href="#">24520.100.040</a> |
| M5X8   | 200 | <a href="#">24520.050.008</a> | M6X50  | 200 | <a href="#">24520.060.050</a> | M10X45  | 100 | <a href="#">24520.100.045</a> |
| M5X10  | 200 | <a href="#">24520.050.010</a> | M6X60  | 200 | <a href="#">24520.060.060</a> | M10X50  | 100 | <a href="#">24520.100.050</a> |
| M5X12  | 200 | <a href="#">24520.050.012</a> | M6X70  | 200 | <a href="#">24520.060.070</a> | M10X60  | 100 | <a href="#">24520.100.060</a> |
| M5X16  | 200 | <a href="#">24520.050.016</a> | M6X80  | 100 | <a href="#">24520.060.080</a> | M10X70  | 100 | <a href="#">24520.100.070</a> |
| M5X18  | 200 | <a href="#">24520.050.018</a> | M6X90  | 100 | <a href="#">24520.060.090</a> | M10X80  | 100 | <a href="#">24520.100.080</a> |
| M5X20  | 200 | <a href="#">24520.050.020</a> | M6X100 | 100 | <a href="#">24520.060.100</a> | M10X100 | 100 | <a href="#">24520.100.100</a> |
| M5X25  | 200 | <a href="#">24520.050.025</a> |        |     |                               |         |     |                               |
| M5X30  | 200 | <a href="#">24520.050.030</a> | M8X10  | 200 | <a href="#">24520.080.010</a> | M12X20  | 100 | <a href="#">24520.120.020</a> |
| M5X35  | 200 | <a href="#">24520.050.035</a> | M8X12  | 200 | <a href="#">24520.080.012</a> | M12X25  | 100 | <a href="#">24520.120.025</a> |
| M5X40  | 200 | <a href="#">24520.050.040</a> | M8X16  | 200 | <a href="#">24520.080.016</a> | M12X30  | 100 | <a href="#">24520.120.030</a> |
| M5X45  | 200 | <a href="#">24520.050.045</a> | M8X20  | 200 | <a href="#">24520.080.020</a> | M12X35  | 100 | <a href="#">24520.120.035</a> |
| M5X50  | 200 | <a href="#">24520.050.050</a> | M8X25  | 200 | <a href="#">24520.080.025</a> | M12X40  | 100 | <a href="#">24520.120.040</a> |
| M5X55  | 100 | <a href="#">24520.050.055</a> | M8X30  | 200 | <a href="#">24520.080.030</a> | M12X45  | 100 | <a href="#">24520.120.045</a> |
| M5X60  | 200 | <a href="#">24520.050.060</a> | M8X35  | 200 | <a href="#">24520.080.035</a> | M12X50  | 100 | <a href="#">24520.120.050</a> |
| M5X70  | 200 | <a href="#">24520.050.070</a> | M8X40  | 200 | <a href="#">24520.080.040</a> | M12X60  | 50  | <a href="#">24520.120.060</a> |
| M5X80  | 100 | <a href="#">24520.050.080</a> | M8X45  | 200 | <a href="#">24520.080.045</a> | M12X70  | 50  | <a href="#">24520.120.070</a> |
| M5X100 | 100 | <a href="#">24520.050.100</a> | M8X50  | 200 | <a href="#">24520.080.050</a> | M12X80  | 50  | <a href="#">24520.120.080</a> |
|        |     |                               | M8X60  | 100 | <a href="#">24520.080.060</a> |         |     |                               |
| M6X8   | 200 | <a href="#">24520.060.008</a> | M8X70  | 100 | <a href="#">24520.080.070</a> |         |     |                               |

**24510 Slotted cheese head screw**

H01A

|                   |                               |
|-------------------|-------------------------------|
| Thread            | Metric thread                 |
| Material          | Steel                         |
| Class             | 4.8                           |
| Surface treatment | Zinc plated yellow passivated |
| Packaging         | Standard                      |



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| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X6    | 500 | <a href="#">24510.020.006</a> | M4X6  | 500 | <a href="#">24510.040.006</a> | M5X70 | 200 | <a href="#">24510.050.070</a> |
| M2X8    | 500 | <a href="#">24510.020.008</a> | M4X8  | 500 | <a href="#">24510.040.008</a> | M5X80 | 200 | <a href="#">24510.050.080</a> |
| M2X10   | 500 | <a href="#">24510.020.010</a> | M4X10 | 500 | <a href="#">24510.040.010</a> |       |     |                               |
| M2X12   | 500 | <a href="#">24510.020.012</a> | M4X12 | 500 | <a href="#">24510.040.012</a> | M6X8  | 200 | <a href="#">24510.060.008</a> |
| M2X16   | 500 | <a href="#">24510.020.016</a> | M4X16 | 500 | <a href="#">24510.040.016</a> | M6X10 | 200 | <a href="#">24510.060.010</a> |
|         |     |                               | M4X20 | 500 | <a href="#">24510.040.020</a> | M6X12 | 200 | <a href="#">24510.060.012</a> |
| M2,5X6  | 500 | <a href="#">24510.025.006</a> | M4X25 | 500 | <a href="#">24510.040.025</a> | M6X16 | 200 | <a href="#">24510.060.016</a> |
| M2,5X8  | 500 | <a href="#">24510.025.008</a> | M4X30 | 500 | <a href="#">24510.040.030</a> | M6X20 | 200 | <a href="#">24510.060.020</a> |
| M2,5X10 | 500 | <a href="#">24510.025.010</a> | M4X35 | 500 | <a href="#">24510.040.035</a> | M6X25 | 200 | <a href="#">24510.060.025</a> |
| M2,5X12 | 500 | <a href="#">24510.025.012</a> | M4X40 | 500 | <a href="#">24510.040.040</a> | M6X30 | 200 | <a href="#">24510.060.030</a> |
| M2,5X16 | 500 | <a href="#">24510.025.016</a> | M4X45 | 500 | <a href="#">24510.040.045</a> | M6X35 | 200 | <a href="#">24510.060.035</a> |
| M2,5X20 | 500 | <a href="#">24510.025.020</a> | M4X50 | 500 | <a href="#">24510.040.050</a> | M6X40 | 200 | <a href="#">24510.060.040</a> |
| M2,5X25 | 500 | <a href="#">24510.025.025</a> | M4X60 | 200 | <a href="#">24510.040.060</a> | M6X45 | 200 | <a href="#">24510.060.045</a> |
|         |     |                               | M4X70 | 200 | <a href="#">24510.040.070</a> | M6X50 | 200 | <a href="#">24510.060.050</a> |
| M3X6    | 500 | <a href="#">24510.030.006</a> | M4X80 | 200 | <a href="#">24510.040.080</a> | M6X60 | 200 | <a href="#">24510.060.060</a> |
| M3X8    | 500 | <a href="#">24510.030.008</a> |       |     |                               | M6X70 | 200 | <a href="#">24510.060.070</a> |
| M3X10   | 500 | <a href="#">24510.030.010</a> | M5X8  | 500 | <a href="#">24510.050.008</a> | M6X80 | 200 | <a href="#">24510.060.080</a> |
| M3X12   | 500 | <a href="#">24510.030.012</a> | M5X10 | 500 | <a href="#">24510.050.010</a> |       |     |                               |
| M3X16   | 500 | <a href="#">24510.030.016</a> | M5X12 | 500 | <a href="#">24510.050.012</a> | M8X16 | 200 | <a href="#">24510.080.016</a> |
| M3X20   | 500 | <a href="#">24510.030.020</a> | M5X16 | 500 | <a href="#">24510.050.016</a> | M8X20 | 200 | <a href="#">24510.080.020</a> |
| M3X25   | 500 | <a href="#">24510.030.025</a> | M5X20 | 500 | <a href="#">24510.050.020</a> | M8X25 | 200 | <a href="#">24510.080.025</a> |
| M3X30   | 500 | <a href="#">24510.030.030</a> | M5X25 | 500 | <a href="#">24510.050.025</a> | M8X30 | 200 | <a href="#">24510.080.030</a> |
| M3X35   | 500 | <a href="#">24510.030.035</a> | M5X30 | 500 | <a href="#">24510.050.030</a> | M8X35 | 200 | <a href="#">24510.080.035</a> |
| M3X40   | 500 | <a href="#">24510.030.040</a> | M5X35 | 500 | <a href="#">24510.050.035</a> | M8X40 | 200 | <a href="#">24510.080.040</a> |
| M3X50   | 500 | <a href="#">24510.030.050</a> | M5X40 | 500 | <a href="#">24510.050.040</a> | M8X50 | 200 | <a href="#">24510.080.050</a> |
| M3X60   | 500 | <a href="#">24510.030.060</a> | M5X45 | 200 | <a href="#">24510.050.045</a> | M8X80 | 200 | <a href="#">24510.080.080</a> |
|         |     |                               | M5X50 | 200 | <a href="#">24510.050.050</a> |       |     |                               |
|         |     |                               | M5X60 | 200 | <a href="#">24510.050.060</a> |       |     |                               |

**24515 Slotted cheese head screw**

H01A

|                   |                              |
|-------------------|------------------------------|
| Thread            | Metric thread                |
| Material          | Steel                        |
| Class             | 4.8                          |
| Surface treatment | Zinc plated black passivated |
| Packaging         | Standard                     |



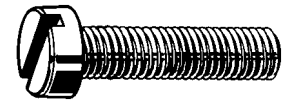
| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X6  | 200 | <a href="#">24515.020.006</a> | M3X6  | 200 | <a href="#">24515.030.006</a> |       |     |                               |
| M2X8  | 200 | <a href="#">24515.020.008</a> | M3X8  | 200 | <a href="#">24515.030.008</a> | M4X6  | 200 | <a href="#">24515.040.006</a> |
| M2X10 | 200 | <a href="#">24515.020.010</a> | M3X10 | 200 | <a href="#">24515.030.010</a> | M4X8  | 200 | <a href="#">24515.040.008</a> |
| M2X12 | 200 | <a href="#">24515.020.012</a> | M3X12 | 200 | <a href="#">24515.030.012</a> | M4X10 | 200 | <a href="#">24515.040.010</a> |
| M2X16 | 200 | <a href="#">24515.020.016</a> | M3X16 | 200 | <a href="#">24515.030.016</a> | M4X12 | 200 | <a href="#">24515.040.012</a> |
| M2X20 | 200 | <a href="#">24515.020.020</a> | M3X20 | 200 | <a href="#">24515.030.020</a> | M4X16 | 200 | <a href="#">24515.040.016</a> |
|       |     |                               | M3X25 | 200 | <a href="#">24515.030.025</a> | M4X20 | 200 | <a href="#">24515.040.020</a> |
| M3X4  | 200 | <a href="#">24515.030.004</a> | M3X30 | 200 | <a href="#">24515.030.030</a> | M4X25 | 200 | <a href="#">24515.040.025</a> |

**24515 Slotted cheese head screw**

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M4X30 | 200 | <a href="#">24515.040.030</a> | M5X12 | 200 | <a href="#">24515.050.012</a> | M6X10 | 200 | <a href="#">24515.060.010</a> |
| M5X6  | 200 | <a href="#">24515.050.006</a> | M5X16 | 200 | <a href="#">24515.050.016</a> | M6X16 | 200 | <a href="#">24515.060.016</a> |
| M5X8  | 200 | <a href="#">24515.050.008</a> | M5X20 | 200 | <a href="#">24515.050.020</a> | M6X20 | 200 | <a href="#">24515.060.020</a> |
| M5X10 | 200 | <a href="#">24515.050.010</a> | M6X8  | 200 | <a href="#">24515.060.008</a> |       |     |                               |

**24402 Slotted cheese head screw**
**H07A**

**Thread** Metric thread  
**Material** Steel  
**Class** 8.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X5    | 200 | <a href="#">24402.020.005</a> | M3X16 | 200 | <a href="#">24402.030.016</a> | M5X10 | 200 | <a href="#">24402.050.010</a> |
| M2X6    | 200 | <a href="#">24402.020.006</a> | M3X20 | 200 | <a href="#">24402.030.020</a> | M5X12 | 200 | <a href="#">24402.050.012</a> |
| M2X8    | 200 | <a href="#">24402.020.008</a> | M3X25 | 200 | <a href="#">24402.030.025</a> | M5X16 | 200 | <a href="#">24402.050.016</a> |
| M2X10   | 200 | <a href="#">24402.020.010</a> | M3X30 | 200 | <a href="#">24402.030.030</a> | M5X20 | 200 | <a href="#">24402.050.020</a> |
| M2X12   | 200 | <a href="#">24402.020.012</a> | M3X40 | 200 | <a href="#">24402.030.040</a> | M5X25 | 200 | <a href="#">24402.050.025</a> |
| M2X16   | 200 | <a href="#">24402.020.016</a> | M4X6  | 200 | <a href="#">24402.040.006</a> | M5X30 | 200 | <a href="#">24402.050.030</a> |
| M2X20   | 200 | <a href="#">24402.020.020</a> | M4X8  | 200 | <a href="#">24402.040.008</a> | M5X40 | 200 | <a href="#">24402.050.040</a> |
| M2,5X5  | 200 | <a href="#">24402.025.005</a> | M4X10 | 200 | <a href="#">24402.040.010</a> | M5X50 | 200 | <a href="#">24402.050.050</a> |
| M2,5X6  | 200 | <a href="#">24402.025.006</a> | M4X12 | 200 | <a href="#">24402.040.012</a> | M6X8  | 200 | <a href="#">24402.060.008</a> |
| M2,5X8  | 200 | <a href="#">24402.025.008</a> | M4X16 | 200 | <a href="#">24402.040.016</a> | M6X10 | 200 | <a href="#">24402.060.010</a> |
| M2,5X10 | 200 | <a href="#">24402.025.010</a> | M4X20 | 200 | <a href="#">24402.040.020</a> | M6X12 | 200 | <a href="#">24402.060.012</a> |
| M3X5    | 200 | <a href="#">24402.030.005</a> | M4X25 | 200 | <a href="#">24402.040.025</a> | M6X16 | 200 | <a href="#">24402.060.016</a> |
| M3X6    | 200 | <a href="#">24402.030.006</a> | M4X30 | 200 | <a href="#">24402.040.030</a> | M6X20 | 200 | <a href="#">24402.060.020</a> |
| M3X8    | 200 | <a href="#">24402.030.008</a> | M4X40 | 200 | <a href="#">24402.040.040</a> | M6X25 | 200 | <a href="#">24402.060.025</a> |
| M3X10   | 200 | <a href="#">24402.030.010</a> | M4X50 | 200 | <a href="#">24402.040.050</a> | M6X30 | 200 | <a href="#">24402.060.030</a> |
| M3X12   | 200 | <a href="#">24402.030.012</a> | M5X8  | 200 | <a href="#">24402.050.008</a> | M6X40 | 200 | <a href="#">24402.060.040</a> |

**51121 Slotted cheese head screw**
**R02A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X4    | 200 | <a href="#">51121.020.004</a> | M3X4  | 200 | <a href="#">51121.030.004</a> | M3X50 | 200 | <a href="#">51121.030.050</a> |
| M2X10   | 200 | <a href="#">51121.020.010</a> | M3X5  | 200 | <a href="#">51121.030.005</a> | M4X6  | 200 | <a href="#">51121.040.006</a> |
| M2X20   | 200 | <a href="#">51121.020.020</a> | M3X6  | 200 | <a href="#">51121.030.006</a> | M4X8  | 200 | <a href="#">51121.040.008</a> |
| M2,5X4  | 200 | <a href="#">51121.025.004</a> | M3X10 | 200 | <a href="#">51121.030.010</a> | M4X10 | 200 | <a href="#">51121.040.010</a> |
| M2,5X8  | 200 | <a href="#">51121.025.008</a> | M3X16 | 200 | <a href="#">51121.030.016</a> | M4X12 | 200 | <a href="#">51121.040.012</a> |
| M2,5X10 | 200 | <a href="#">51121.025.010</a> | M3X20 | 200 | <a href="#">51121.030.020</a> | M4X16 | 200 | <a href="#">51121.040.016</a> |
| M2,5X12 | 200 | <a href="#">51121.025.012</a> | M3X25 | 200 | <a href="#">51121.030.025</a> | M4X20 | 200 | <a href="#">51121.040.020</a> |
|         |     |                               | M3X30 | 200 | <a href="#">51121.030.030</a> |       |     |                               |
|         |     |                               | M3X40 | 200 | <a href="#">51121.030.040</a> |       |     |                               |

**51120 Slotted cheese head screw**
**R02A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Large



| d x L    | ☒    | Art.number                    | d x L     | ☒    | Art.number                    | d x L     | ☒    | Art.number                    |
|----------|------|-------------------------------|-----------|------|-------------------------------|-----------|------|-------------------------------|
| M1X2 *   | 1000 | <a href="#">51120.010.002</a> | M1,4X10 * | 1000 | <a href="#">51120.014.010</a> | M2X3      | 500  | <a href="#">51120.020.003</a> |
| M1X3     | 100  | <a href="#">51120.010.003</a> | M1,4X12 * | 1000 | <a href="#">51120.014.012</a> | M2X4      | 500  | <a href="#">51120.020.004</a> |
| M1X4     | 100  | <a href="#">51120.010.004</a> | M1,6X3    | 100  | <a href="#">51120.016.003</a> | M2X5      | 500  | <a href="#">51120.020.005</a> |
| M1X5     | 100  | <a href="#">51120.010.005</a> | M1,6X4    | 100  | <a href="#">51120.016.004</a> | M2X6      | 500  | <a href="#">51120.020.006</a> |
| M1X6     | 100  | <a href="#">51120.010.006</a> | M1,6X5    | 100  | <a href="#">51120.016.005</a> | M2X8      | 500  | <a href="#">51120.020.008</a> |
| M1X8     | 100  | <a href="#">51120.010.008</a> | M1,6X6    | 100  | <a href="#">51120.016.006</a> | M2X10     | 500  | <a href="#">51120.020.010</a> |
| M1X10    | 100  | <a href="#">51120.010.010</a> | M1,6X8    | 100  | <a href="#">51120.016.008</a> | M2X12     | 500  | <a href="#">51120.020.012</a> |
| M1,2X2 * | 1000 | <a href="#">51120.012.002</a> | M1,6X10   | 100  | <a href="#">51120.016.010</a> | M2X16     | 500  | <a href="#">51120.020.016</a> |
| M1,2X3   | 100  | <a href="#">51120.012.003</a> | M1,6X12   | 100  | <a href="#">51120.016.012</a> | M2X20     | 500  | <a href="#">51120.020.020</a> |
| M1,2X4   | 100  | <a href="#">51120.012.004</a> | M1,6X14 * | 1000 | <a href="#">51120.016.014</a> | M2X22 *   | 500  | <a href="#">51120.020.022</a> |
| M1,2X5   | 100  | <a href="#">51120.012.005</a> | M1,6X18 * | 1000 | <a href="#">51120.016.018</a> | M2X25     | 500  | <a href="#">51120.020.025</a> |
| M1,2X6   | 100  | <a href="#">51120.012.006</a> | M1,6X20 * | 1000 | <a href="#">51120.016.020</a> | M2X40 *   | 500  | <a href="#">51120.020.040</a> |
| M1,2X8   | 100  | <a href="#">51120.012.008</a> | M1,7X3 *  | 1000 | <a href="#">51120.017.003</a> | M2,3X10 * | 1000 | <a href="#">51120.023.010</a> |
| M1,2X10  | 100  | <a href="#">51120.012.010</a> | M1,7X5 *  | 1000 | <a href="#">51120.017.005</a> | M2,5X4    | 500  | <a href="#">51120.025.004</a> |
| M1,4X3 * | 1000 | <a href="#">51120.014.003</a> | M1,7X10 * | 1000 | <a href="#">51120.017.010</a> | M2,5X5    | 500  | <a href="#">51120.025.005</a> |
| M1,4X4 * | 1000 | <a href="#">51120.014.004</a> |           |      |                               | M2,5X6    | 500  | <a href="#">51120.025.006</a> |
| M1,4X8 * | 1000 | <a href="#">51120.014.008</a> |           |      |                               | M2,5X8    | 500  | <a href="#">51120.025.008</a> |
|          |      |                               |           |      |                               | M2,5X10   | 500  | <a href="#">51120.025.010</a> |

**51120 Slotted cheese head screw** ↩

| <b>d x L</b> | ☒    | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             |
|--------------|------|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M2,5X12      | 500  | <a href="#">51120.025.012</a> | M4X25        | 200 | <a href="#">51120.040.025</a> | M6X40        | 100 | <a href="#">51120.060.040</a> |
| M2,5X16      | 500  | <a href="#">51120.025.016</a> | M4X30        | 200 | <a href="#">51120.040.030</a> | M6X45        | 100 | <a href="#">51120.060.045</a> |
| M2,5X20      | 500  | <a href="#">51120.025.020</a> | M4X35        | 200 | <a href="#">51120.040.035</a> | M6X50        | 100 | <a href="#">51120.060.050</a> |
| M2,5X25      | 500  | <a href="#">51120.025.025</a> | M4X40        | 200 | <a href="#">51120.040.040</a> | M6X55 *      | 200 | <a href="#">51120.060.055</a> |
|              |      |                               | M4X45        | 200 | <a href="#">51120.040.045</a> | M6X60        | 100 | <a href="#">51120.060.060</a> |
| M2,6X5 *     | 1000 | <a href="#">51120.026.005</a> | M4X50        | 200 | <a href="#">51120.040.050</a> | M6X65 *      | 200 | <a href="#">51120.060.065</a> |
| M3X4         | 500  | <a href="#">51120.030.004</a> | M4X60        | 200 | <a href="#">51120.040.060</a> | M6X70        | 100 | <a href="#">51120.060.070</a> |
| M3X5         | 500  | <a href="#">51120.030.005</a> | M4X70        | 200 | <a href="#">51120.040.070</a> | M6X80        | 100 | <a href="#">51120.060.080</a> |
| M3X6         | 500  | <a href="#">51120.030.006</a> | M4X80        | 200 | <a href="#">51120.040.080</a> | M6X90        | 100 | <a href="#">51120.060.090</a> |
| M3X8         | 500  | <a href="#">51120.030.008</a> | M4X90        | 200 | <a href="#">51120.040.090</a> | M6X100       | 100 | <a href="#">51120.060.100</a> |
| M3X10        | 500  | <a href="#">51120.030.010</a> | M4X100       | 200 | <a href="#">51120.040.100</a> |              |     |                               |
| M3X12        | 500  | <a href="#">51120.030.012</a> |              |     |                               | M8X12        | 100 | <a href="#">51120.080.012</a> |
| M3X14        | 500  | <a href="#">51120.030.014</a> | M5X6         | 200 | <a href="#">51120.050.006</a> | M8X16        | 100 | <a href="#">51120.080.016</a> |
| M3X16        | 500  | <a href="#">51120.030.016</a> | M5X8         | 200 | <a href="#">51120.050.008</a> | M8X20        | 100 | <a href="#">51120.080.020</a> |
| M3X20        | 500  | <a href="#">51120.030.020</a> | M5X10        | 200 | <a href="#">51120.050.010</a> | M8X25        | 100 | <a href="#">51120.080.025</a> |
| M3X25        | 500  | <a href="#">51120.030.025</a> | M5X12        | 200 | <a href="#">51120.050.012</a> | M8X30        | 100 | <a href="#">51120.080.030</a> |
| M3X30        | 500  | <a href="#">51120.030.030</a> | M5X16        | 200 | <a href="#">51120.050.016</a> | M8X35        | 100 | <a href="#">51120.080.035</a> |
| M3X35        | 500  | <a href="#">51120.030.035</a> | M5X20        | 200 | <a href="#">51120.050.020</a> | M8X40        | 100 | <a href="#">51120.080.040</a> |
| M3X40        | 500  | <a href="#">51120.030.040</a> | M5X25        | 200 | <a href="#">51120.050.025</a> | M8X45        | 100 | <a href="#">51120.080.045</a> |
| M3X50        | 500  | <a href="#">51120.030.050</a> | M5X30        | 200 | <a href="#">51120.050.030</a> | M8X50        | 100 | <a href="#">51120.080.050</a> |
|              |      |                               | M5X35        | 200 | <a href="#">51120.050.035</a> | M8X60        | 100 | <a href="#">51120.080.060</a> |
| M3X55 *      | 200  | <a href="#">51120.030.055</a> | M5X40        | 200 | <a href="#">51120.050.040</a> | M8X70        | 50  | <a href="#">51120.080.070</a> |
| M3X60        | 500  | <a href="#">51120.030.060</a> | M5X45        | 200 | <a href="#">51120.050.045</a> | M8X80        | 50  | <a href="#">51120.080.080</a> |
| M3,5X5 *     | 500  | <a href="#">51120.035.005</a> | M5X50        | 200 | <a href="#">51120.050.050</a> | M8X90        | 50  | <a href="#">51120.080.090</a> |
| M3,5X10      | 500  | <a href="#">51120.035.010</a> | M5X60        | 200 | <a href="#">51120.050.060</a> | M8X100       | 50  | <a href="#">51120.080.100</a> |
| M3,5X12 *    | 500  | <a href="#">51120.035.012</a> | M5X70        | 200 | <a href="#">51120.050.070</a> |              |     |                               |
| M3,5X20      | 500  | <a href="#">51120.035.020</a> | M5X80        | 200 | <a href="#">51120.050.080</a> | M10X16 *     | 100 | <a href="#">51120.100.016</a> |
| M3,5X25      | 500  | <a href="#">51120.035.025</a> | M5X90        | 200 | <a href="#">51120.050.090</a> | M10X20       | 50  | <a href="#">51120.100.020</a> |
| M3,5X30      | 500  | <a href="#">51120.035.030</a> | M5X100       | 200 | <a href="#">51120.050.100</a> | M10X25       | 50  | <a href="#">51120.100.025</a> |
| M3,5X40 *    | 500  | <a href="#">51120.035.040</a> |              |     |                               | M10X30       | 50  | <a href="#">51120.100.030</a> |
| M3,5X50 *    | 200  | <a href="#">51120.035.050</a> | M6X6 *       | 500 | <a href="#">51120.060.006</a> | M10X30       | 50  | <a href="#">51120.100.030</a> |
|              |      |                               | M6X8         | 200 | <a href="#">51120.060.008</a> | M10X40       | 50  | <a href="#">51120.100.040</a> |
| M4X6         | 500  | <a href="#">51120.040.006</a> | M6X10        | 200 | <a href="#">51120.060.010</a> | M10X45       | 50  | <a href="#">51120.100.045</a> |
| M4X8         | 500  | <a href="#">51120.040.008</a> | M6X12        | 200 | <a href="#">51120.060.012</a> | M10X50       | 50  | <a href="#">51120.100.050</a> |
| M4X10        | 500  | <a href="#">51120.040.010</a> | M6X16        | 200 | <a href="#">51120.060.016</a> | M10X60       | 50  | <a href="#">51120.100.060</a> |
| M4X12        | 500  | <a href="#">51120.040.012</a> | M6X20        | 200 | <a href="#">51120.060.020</a> | M10X70       | 50  | <a href="#">51120.100.070</a> |
| M4X16        | 500  | <a href="#">51120.040.016</a> | M6X25        | 200 | <a href="#">51120.060.025</a> | M10X80       | 50  | <a href="#">51120.100.080</a> |
| M4X18        | 500  | <a href="#">51120.040.018</a> | M6X30        | 200 | <a href="#">51120.060.030</a> | M10X90       | 50  | <a href="#">51120.100.090</a> |
| M4X20        | 500  | <a href="#">51120.040.020</a> | M6X35        | 100 | <a href="#">51120.060.035</a> | M10X100      | 50  | <a href="#">51120.100.100</a> |

**6**

**55120 Slotted cheese head screw** **R42A**

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| <b>d x L</b> | ☒    | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             |
|--------------|------|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M1X3 *       | 1000 | <a href="#">55120.010.003</a> | M3X12        | 500 | <a href="#">55120.030.012</a> | M4X45        | 200 | <a href="#">55120.040.045</a> |
| M1X4 *       | 1000 | <a href="#">55120.010.004</a> | M3X14 *      | 500 | <a href="#">55120.030.014</a> | M4X50        | 200 | <a href="#">55120.040.050</a> |
| M1X5 *       | 1000 | <a href="#">55120.010.005</a> | M3X16        | 500 | <a href="#">55120.030.016</a> | M4X60        | 200 | <a href="#">55120.040.060</a> |
|              |      |                               | M3X18 *      | 500 | <a href="#">55120.030.018</a> | M4X70        | 200 | <a href="#">55120.040.070</a> |
| M1,6X4 *     | 1000 | <a href="#">55120.016.004</a> | M3X20        | 500 | <a href="#">55120.030.020</a> | M4X80        | 200 | <a href="#">55120.040.080</a> |
| M1,6X5 *     | 1000 | <a href="#">55120.016.005</a> | M3X22 *      | 500 | <a href="#">55120.030.022</a> | M4X90        | 200 | <a href="#">55120.040.090</a> |
| M1,6X6 *     | 1000 | <a href="#">55120.016.006</a> | M3X25        | 500 | <a href="#">55120.030.025</a> | M4X100       | 200 | <a href="#">55120.040.100</a> |
| M1,6X8 *     | 1000 | <a href="#">55120.016.008</a> | M3X30        | 500 | <a href="#">55120.030.030</a> |              |     |                               |
| M1,6X10 *    | 1000 | <a href="#">55120.016.010</a> | M3X35        | 500 | <a href="#">55120.030.035</a> | M5X6 *       | 500 | <a href="#">55120.050.006</a> |
|              |      |                               | M3X40        | 500 | <a href="#">55120.030.040</a> | M5X8         | 200 | <a href="#">55120.050.008</a> |
| M2X3 *       | 1000 | <a href="#">55120.020.003</a> | M3X45 *      | 200 | <a href="#">55120.030.045</a> | M5X10        | 200 | <a href="#">55120.050.010</a> |
| M2X5         | 500  | <a href="#">55120.020.005</a> | M3X50        | 500 | <a href="#">55120.030.050</a> | M5X12        | 200 | <a href="#">55120.050.012</a> |
| M2X6         | 500  | <a href="#">55120.020.006</a> | M3X60        | 500 | <a href="#">55120.030.060</a> | M5X16        | 200 | <a href="#">55120.050.016</a> |
| M2X8         | 500  | <a href="#">55120.020.008</a> |              |     |                               | M5X18        | 200 | <a href="#">55120.050.018</a> |
| M2X10        | 500  | <a href="#">55120.020.010</a> | M3,5X5 *     | 500 | <a href="#">55120.035.005</a> | M5X20        | 200 | <a href="#">55120.050.020</a> |
| M2X12        | 500  | <a href="#">55120.020.012</a> | M3,5X6 *     | 500 | <a href="#">55120.035.006</a> | M5X25        | 200 | <a href="#">55120.050.025</a> |
| M2X16        | 500  | <a href="#">55120.020.016</a> | M3,5X8 *     | 500 | <a href="#">55120.035.008</a> | M5X30        | 200 | <a href="#">55120.050.030</a> |
| M2X20        | 500  | <a href="#">55120.020.020</a> | M3,5X10 *    | 500 | <a href="#">55120.035.010</a> | M5X35        | 200 | <a href="#">55120.050.035</a> |
| M2X25        | 500  | <a href="#">55120.020.025</a> | M3,5X20 *    | 500 | <a href="#">55120.035.020</a> | M5X40        | 200 | <a href="#">55120.050.040</a> |
|              |      |                               | M3,5X30 *    | 500 | <a href="#">55120.035.030</a> | M5X45        | 200 | <a href="#">55120.050.045</a> |
| M2,3X10 *    | 1000 | <a href="#">55120.023.010</a> | M3,5X35 *    | 500 | <a href="#">55120.035.035</a> | M5X50        | 200 | <a href="#">55120.050.050</a> |
| M2,5X5       | 500  | <a href="#">55120.025.005</a> | M3,5X40 *    | 500 | <a href="#">55120.035.040</a> | M5X55 *      | 200 | <a href="#">55120.050.055</a> |
| M2,5X6       | 500  | <a href="#">55120.025.006</a> |              |     |                               | M5X60        | 200 | <a href="#">55120.050.060</a> |
| M2,5X8       | 500  | <a href="#">55120.025.008</a> | M4X4 *       | 500 | <a href="#">55120.040.004</a> | M5X70        | 200 | <a href="#">55120.050.070</a> |
| M2,5X10      | 500  | <a href="#">55120.025.010</a> | M4X6         | 500 | <a href="#">55120.040.006</a> | M5X80        | 200 | <a href="#">55120.050.080</a> |
| M2,5X12      | 500  | <a href="#">55120.025.012</a> | M4X8         | 500 | <a href="#">55120.040.008</a> | M5X90        | 200 | <a href="#">55120.050.090</a> |
| M2,5X14 *    | 1000 | <a href="#">55120.025.014</a> | M4X10        | 500 | <a href="#">55120.040.010</a> | M5X100       | 200 | <a href="#">55120.050.100</a> |
| M2,5X16      | 500  | <a href="#">55120.025.016</a> | M4X12        | 500 | <a href="#">55120.040.012</a> |              |     |                               |
| M2,5X18 *    | 1000 | <a href="#">55120.025.018</a> | M4X14 *      | 500 | <a href="#">55120.040.014</a> | M6X8         | 200 | <a href="#">55120.060.008</a> |
| M2,5X20      | 500  | <a href="#">55120.025.020</a> | M4X16        | 500 | <a href="#">55120.040.016</a> | M6X10        | 200 | <a href="#">55120.060.010</a> |
| M2,5X25      | 500  | <a href="#">55120.025.025</a> | M4X18 *      | 500 | <a href="#">55120.040.018</a> | M6X12        | 200 | <a href="#">55120.060.012</a> |
|              |      |                               | M4X20        | 500 | <a href="#">55120.040.020</a> | M6X14 *      | 500 | <a href="#">55120.060.014</a> |
| M3X3 *       | 500  | <a href="#">55120.030.003</a> | M4X22 *      | 500 | <a href="#">55120.040.022</a> | M6X16        | 200 | <a href="#">55120.060.016</a> |
| M3X4 *       | 500  | <a href="#">55120.030.004</a> | M4X25        | 200 | <a href="#">55120.040.025</a> | M6X18 *      | 500 | <a href="#">55120.060.018</a> |
| M3X5         | 500  | <a href="#">55120.030.005</a> | M4X28 *      | 500 | <a href="#">55120.040.028</a> | M6X20        | 200 | <a href="#">55120.060.020</a> |
| M3X6         | 500  | <a href="#">55120.030.006</a> | M4X30        | 200 | <a href="#">55120.040.030</a> | M6X22 *      | 200 | <a href="#">55120.060.022</a> |
| M3X8         | 500  | <a href="#">55120.030.008</a> | M4X35        | 200 | <a href="#">55120.040.035</a> | M6X25        | 200 | <a href="#">55120.060.025</a> |
| M3X10        | 500  | <a href="#">55120.030.010</a> | M4X40        | 200 | <a href="#">55120.040.040</a> | M6X30        | 200 | <a href="#">55120.060.030</a> |

**55120 Slotted cheese head screw** ←

| d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|---------|----|-------------------------------|
| M6X35   | 100 | <a href="#">55120.060.035</a> | M8X25    | 100 | <a href="#">55120.080.025</a> | M10X25  | 50 | <a href="#">55120.100.025</a> |
| M6X40   | 100 | <a href="#">55120.060.040</a> | M8X30    | 100 | <a href="#">55120.080.030</a> | M10X30  | 50 | <a href="#">55120.100.030</a> |
| M6X45   | 100 | <a href="#">55120.060.045</a> | M8X35    | 100 | <a href="#">55120.080.035</a> | M10X35  | 50 | <a href="#">55120.100.035</a> |
| M6X50   | 100 | <a href="#">55120.060.050</a> | M8X40    | 100 | <a href="#">55120.080.040</a> | M10X40  | 50 | <a href="#">55120.100.040</a> |
| M6X55 * | 200 | <a href="#">55120.060.055</a> | M8X45    | 100 | <a href="#">55120.080.045</a> | M10X45  | 50 | <a href="#">55120.100.045</a> |
| M6X60   | 100 | <a href="#">55120.060.060</a> | M8X50    | 100 | <a href="#">55120.080.050</a> | M10X50  | 50 | <a href="#">55120.100.050</a> |
| M6X70   | 100 | <a href="#">55120.060.070</a> | M8X60    | 100 | <a href="#">55120.080.060</a> | M10X60  | 50 | <a href="#">55120.100.060</a> |
| M6X80   | 100 | <a href="#">55120.060.080</a> | M8X70    | 50  | <a href="#">55120.080.070</a> | M10X70  | 50 | <a href="#">55120.100.070</a> |
| M6X90   | 100 | <a href="#">55120.060.090</a> | M8X80    | 50  | <a href="#">55120.080.080</a> | M10X80  | 50 | <a href="#">55120.100.080</a> |
| M6X100  | 100 | <a href="#">55120.060.100</a> | M8X90    | 50  | <a href="#">55120.080.090</a> | M10X90  | 50 | <a href="#">55120.100.090</a> |
|         |     |                               | M8X100   | 50  | <a href="#">55120.080.100</a> | M10X100 | 50 | <a href="#">55120.100.100</a> |
| M8X10 * | 200 | <a href="#">55120.080.010</a> |          |     |                               |         |    |                               |
| M8X16   | 100 | <a href="#">55120.080.016</a> | M10X16 * | 100 | <a href="#">55120.100.016</a> |         |    |                               |
| M8X20   | 100 | <a href="#">55120.080.020</a> | M10X20   | 50  | <a href="#">55120.100.020</a> |         |    |                               |

**48020 Slotted cheese head screw** M05A

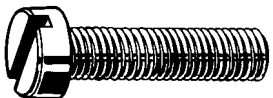
|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Brass Cu2/Cu3 |
| <b>Packaging</b> | Standard      |



| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M2X4    | 200 | <a href="#">48020.020.004</a> | M3X50 | 200 | <a href="#">48020.030.050</a> | M6X8   | 200 | <a href="#">48020.060.008</a> |
| M2X5    | 200 | <a href="#">48020.020.005</a> | M4X5  | 200 | <a href="#">48020.040.005</a> | M6X10  | 200 | <a href="#">48020.060.010</a> |
| M2X6    | 200 | <a href="#">48020.020.006</a> | M4X6  | 200 | <a href="#">48020.040.006</a> | M6X12  | 200 | <a href="#">48020.060.012</a> |
| M2X8    | 200 | <a href="#">48020.020.008</a> | M4X8  | 200 | <a href="#">48020.040.008</a> | M6X16  | 200 | <a href="#">48020.060.016</a> |
| M2X10   | 200 | <a href="#">48020.020.010</a> | M4X10 | 200 | <a href="#">48020.040.010</a> | M6X20  | 200 | <a href="#">48020.060.020</a> |
| M2X12   | 200 | <a href="#">48020.020.012</a> | M4X12 | 200 | <a href="#">48020.040.012</a> | M6X25  | 200 | <a href="#">48020.060.025</a> |
| M2X16   | 200 | <a href="#">48020.020.016</a> | M4X16 | 200 | <a href="#">48020.040.016</a> | M6X30  | 200 | <a href="#">48020.060.030</a> |
| M2X20   | 200 | <a href="#">48020.020.020</a> | M4X18 | 200 | <a href="#">48020.040.018</a> | M6X35  | 200 | <a href="#">48020.060.035</a> |
|         |     |                               | M4X20 | 200 | <a href="#">48020.040.020</a> | M6X40  | 200 | <a href="#">48020.060.040</a> |
| M2,5X5  | 200 | <a href="#">48020.025.005</a> | M4X25 | 200 | <a href="#">48020.040.025</a> | M6X45  | 200 | <a href="#">48020.060.045</a> |
| M2,5X6  | 200 | <a href="#">48020.025.006</a> | M4X30 | 200 | <a href="#">48020.040.030</a> | M6X50  | 200 | <a href="#">48020.060.050</a> |
| M2,5X8  | 200 | <a href="#">48020.025.008</a> | M4X35 | 200 | <a href="#">48020.040.035</a> | M6X60  | 100 | <a href="#">48020.060.060</a> |
| M2,5X10 | 200 | <a href="#">48020.025.010</a> | M4X40 | 200 | <a href="#">48020.040.040</a> | M6X70  | 100 | <a href="#">48020.060.070</a> |
| M2,5X12 | 200 | <a href="#">48020.025.012</a> | M4X50 | 200 | <a href="#">48020.040.050</a> |        |     |                               |
| M2,5X16 | 200 | <a href="#">48020.025.016</a> | M4X60 | 200 | <a href="#">48020.040.060</a> | M8X16  | 100 | <a href="#">48020.080.016</a> |
| M2,5X20 | 200 | <a href="#">48020.025.020</a> |       |     |                               | M8X20  | 100 | <a href="#">48020.080.020</a> |
| M2,5X25 | 200 | <a href="#">48020.025.025</a> | M5X6  | 200 | <a href="#">48020.050.006</a> | M8X25  | 100 | <a href="#">48020.080.025</a> |
|         |     |                               | M5X8  | 200 | <a href="#">48020.050.008</a> | M8X30  | 100 | <a href="#">48020.080.030</a> |
| M3X4    | 200 | <a href="#">48020.030.004</a> | M5X10 | 200 | <a href="#">48020.050.010</a> | M8X40  | 100 | <a href="#">48020.080.040</a> |
| M3X5    | 200 | <a href="#">48020.030.005</a> | M5X12 | 200 | <a href="#">48020.050.012</a> | M8X50  | 100 | <a href="#">48020.080.050</a> |
| M3X6    | 200 | <a href="#">48020.030.006</a> | M5X16 | 200 | <a href="#">48020.050.016</a> | M8X60  | 100 | <a href="#">48020.080.060</a> |
| M3X8    | 200 | <a href="#">48020.030.008</a> | M5X20 | 200 | <a href="#">48020.050.020</a> |        |     |                               |
| M3X10   | 200 | <a href="#">48020.030.010</a> | M5X25 | 200 | <a href="#">48020.050.025</a> | M10X20 | 100 | <a href="#">48020.100.020</a> |
| M3X12   | 200 | <a href="#">48020.030.012</a> | M5X30 | 200 | <a href="#">48020.050.030</a> | M10X25 | 100 | <a href="#">48020.100.025</a> |
| M3X16   | 200 | <a href="#">48020.030.016</a> | M5X35 | 200 | <a href="#">48020.050.035</a> | M10X30 | 100 | <a href="#">48020.100.030</a> |
| M3X20   | 200 | <a href="#">48020.030.020</a> | M5X40 | 200 | <a href="#">48020.050.040</a> | M10X40 | 100 | <a href="#">48020.100.040</a> |
| M3X25   | 200 | <a href="#">48020.030.025</a> | M5X45 | 200 | <a href="#">48020.050.045</a> | M10X50 | 100 | <a href="#">48020.100.050</a> |
| M3X30   | 200 | <a href="#">48020.030.030</a> | M5X50 | 200 | <a href="#">48020.050.050</a> |        |     |                               |
| M3X35   | 200 | <a href="#">48020.030.035</a> | M5X60 | 200 | <a href="#">48020.050.060</a> |        |     |                               |
| M3X40   | 200 | <a href="#">48020.030.040</a> |       |     |                               |        |     |                               |

**48520 Slotted cheese head screw** M05A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Brass Cu2/Cu3 |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |



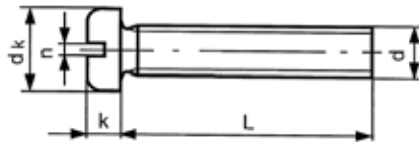
| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2,5X5  | 200 | <a href="#">48520.025.005</a> | M3X50 | 200 | <a href="#">48520.030.050</a> | M5X16 | 200 | <a href="#">48520.050.016</a> |
| M2,5X6  | 200 | <a href="#">48520.025.006</a> |       |     |                               | M5X20 | 200 | <a href="#">48520.050.020</a> |
| M2,5X8  | 200 | <a href="#">48520.025.008</a> | M4X5  | 200 | <a href="#">48520.040.005</a> | M5X25 | 200 | <a href="#">48520.050.025</a> |
| M2,5X10 | 200 | <a href="#">48520.025.010</a> | M4X6  | 200 | <a href="#">48520.040.006</a> | M5X30 | 200 | <a href="#">48520.050.030</a> |
| M2,5X16 | 200 | <a href="#">48520.025.016</a> | M4X8  | 200 | <a href="#">48520.040.008</a> | M5X35 | 200 | <a href="#">48520.050.035</a> |
| M2,5X20 | 200 | <a href="#">48520.025.020</a> | M4X10 | 200 | <a href="#">48520.040.010</a> | M5X40 | 200 | <a href="#">48520.050.040</a> |
| M2,5X25 | 200 | <a href="#">48520.025.025</a> | M4X12 | 200 | <a href="#">48520.040.012</a> | M5X50 | 200 | <a href="#">48520.050.050</a> |
|         |     |                               | M4X16 | 200 | <a href="#">48520.040.016</a> | M5X60 | 200 | <a href="#">48520.050.060</a> |
| M3X4    | 200 | <a href="#">48520.030.004</a> | M4X20 | 200 | <a href="#">48520.040.020</a> |       |     |                               |
| M3X5    | 200 | <a href="#">48520.030.005</a> | M4X25 | 200 | <a href="#">48520.040.025</a> | M6X8  | 200 | <a href="#">48520.060.008</a> |
| M3X6    | 200 | <a href="#">48520.030.006</a> | M4X30 | 200 | <a href="#">48520.040.030</a> | M6X10 | 200 | <a href="#">48520.060.010</a> |
| M3X8    | 200 | <a href="#">48520.030.008</a> | M4X35 | 200 | <a href="#">48520.040.035</a> | M6X12 | 200 | <a href="#">48520.060.012</a> |
| M3X10   | 200 | <a href="#">48520.030.010</a> | M4X40 | 200 | <a href="#">48520.040.040</a> | M6X16 | 200 | <a href="#">48520.060.016</a> |
| M3X12   | 200 | <a href="#">48520.030.012</a> | M4X50 | 200 | <a href="#">48520.040.050</a> | M6X20 | 200 | <a href="#">48520.060.020</a> |
| M3X16   | 200 | <a href="#">48520.030.016</a> | M4X60 | 200 | <a href="#">48520.040.060</a> | M6X25 | 200 | <a href="#">48520.060.025</a> |
| M3X20   | 200 | <a href="#">48520.030.020</a> |       |     |                               | M6X30 | 200 | <a href="#">48520.060.030</a> |
| M3X25   | 200 | <a href="#">48520.030.025</a> | M5X8  | 200 | <a href="#">48520.050.008</a> | M6X35 | 200 | <a href="#">48520.060.035</a> |
| M3X30   | 200 | <a href="#">48520.030.030</a> | M5X10 | 200 | <a href="#">48520.050.010</a> | M6X50 | 200 | <a href="#">48520.060.050</a> |
| M3X35   | 200 | <a href="#">48520.030.035</a> | M5X12 | 200 | <a href="#">48520.050.012</a> | M6X60 | 100 | <a href="#">48520.060.060</a> |

| 48520 Slotted cheese head screw |     |                               |            |     |                               |            |     |                               |
|---------------------------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| d x L (Lg)                      | ☒   | Art.number                    | d x L (Lg) | ☒   | Art.number                    | d x L (Lg) | ☒   | Art.number                    |
| M8X20                           | 100 | <a href="#">48520.080.020</a> | M8X35      | 100 | <a href="#">48520.080.035</a> | M8X60      | 100 | <a href="#">48520.080.060</a> |

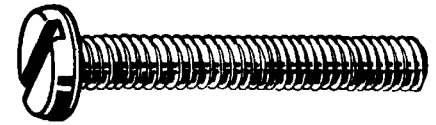
| 56410 Slotted cheese head screw |                           | W02A  |
|---------------------------------|---------------------------|---|
| <b>Thread</b>                   | Metric thread             |  |
| <b>Material</b>                 | Plastic Polyamide (nylon) |   |
| <b>Class</b>                    | PA 6.6                    |   |
| <b>Colour</b>                   | White                     |   |
| <b>Packaging</b>                | Standard                  |   |
|                                 | ISO ≈1207                 |   |
|                                 | DIN ≈84                   |   |
|                                 | NEN ≈1602                 |   |
|                                 | ANSI ≈B18.6.7M            |   |
|                                 | NF ≈E25-127               |   |
|                                 | BS ≈4183                  |   |

| d x L (Lg) | ☒   | Art.number                    | d x L (Lg) | ☒   | Art.number                    | d x L (Lg) | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|----|-------------------------------|
| M3X4       | 200 | <a href="#">56410.030.004</a> | M5X6       | 100 | <a href="#">56410.050.006</a> | M6X80      | 50 | <a href="#">56410.060.080</a> |
| M3X6       | 200 | <a href="#">56410.030.006</a> | M5X8       | 100 | <a href="#">56410.050.008</a> | M8X10      | 25 | <a href="#">56410.080.010</a> |
| M3X8       | 200 | <a href="#">56410.030.008</a> | M5X10      | 100 | <a href="#">56410.050.010</a> | M8X16      | 25 | <a href="#">56410.080.016</a> |
| M3X10      | 200 | <a href="#">56410.030.010</a> | M5X12      | 100 | <a href="#">56410.050.012</a> | M8X20      | 25 | <a href="#">56410.080.020</a> |
| M3X12      | 200 | <a href="#">56410.030.012</a> | M5X16      | 100 | <a href="#">56410.050.016</a> | M8X25      | 25 | <a href="#">56410.080.025</a> |
| M3X16      | 200 | <a href="#">56410.030.016</a> | M5X20      | 100 | <a href="#">56410.050.020</a> | M8X30      | 25 | <a href="#">56410.080.030</a> |
| M3X20      | 200 | <a href="#">56410.030.020</a> | M5X25      | 100 | <a href="#">56410.050.025</a> | M8X40      | 25 | <a href="#">56410.080.040</a> |
| M3X25      | 200 | <a href="#">56410.030.025</a> | M5X30      | 100 | <a href="#">56410.050.030</a> | M8X50      | 25 | <a href="#">56410.080.050</a> |
| M3X30      | 200 | <a href="#">56410.030.030</a> | M5X40      | 100 | <a href="#">56410.050.040</a> | M8X60      | 25 | <a href="#">56410.080.060</a> |
|            |     |                               | M5X50      | 100 | <a href="#">56410.050.050</a> | M8X80      | 25 | <a href="#">56410.080.080</a> |
| M4X6       | 200 | <a href="#">56410.040.006</a> | M6X10      | 50  | <a href="#">56410.060.010</a> | M10X20     | 25 | <a href="#">56410.100.020</a> |
| M4X8       | 200 | <a href="#">56410.040.008</a> | M6X12      | 50  | <a href="#">56410.060.012</a> | M10X30     | 25 | <a href="#">56410.100.030</a> |
| M4X10      | 200 | <a href="#">56410.040.010</a> | M6X16      | 50  | <a href="#">56410.060.016</a> | M10X40     | 25 | <a href="#">56410.100.040</a> |
| M4X12      | 200 | <a href="#">56410.040.012</a> | M6X20      | 50  | <a href="#">56410.060.020</a> |            |    |                               |
| M4X16      | 200 | <a href="#">56410.040.016</a> | M6X25      | 50  | <a href="#">56410.060.025</a> |            |    |                               |
| M4X20      | 200 | <a href="#">56410.040.020</a> | M6X30      | 50  | <a href="#">56410.060.030</a> |            |    |                               |
| M4X25      | 200 | <a href="#">56410.040.025</a> | M6X40      | 50  | <a href="#">56410.060.040</a> |            |    |                               |
| M4X30      | 200 | <a href="#">56410.040.030</a> | M6X50      | 50  | <a href="#">56410.060.050</a> |            |    |                               |
| M4X40      | 200 | <a href="#">56410.040.040</a> | M6X60      | 50  | <a href="#">56410.060.060</a> |            |    |                               |

## Slotted pan head screw



ISO 1580  
**DIN 85**  
 NEN 1603  
 ANSI B18.6.7M  
 NF E25-128  
 BS 4183



### Technical data

| d           | P    | dk | k   | n   | Full thread L ≤ |
|-------------|------|----|-----|-----|-----------------|
| M2 (#DIN)   | 0,4  | 4  | 1,3 | 0,5 | 16              |
| M2,5 (#DIN) | 0,45 | 5  | 1,5 | 0,6 | 16              |
| M3          | 0,5  | 6  | 1,8 | 0,8 | 30              |
| M3,5        | 0,6  | 7  | 2,1 | 1   | 38              |
| M4          | 0,7  | 8  | 2,4 | 1,2 | 40              |
| M5          | 0,8  | 10 | 3   | 1,2 | 40              |
| M6          | 1    | 12 | 3,6 | 1,6 | 40              |
| M8          | 1,25 | 16 | 4,8 | 2   | 40              |
| M10         | 1,5  | 20 | 6   | 2,5 | 40              |

### Article groups

| Thread | Driving features | Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|--------|------------------|------------|--------|-------------------|--------|-----------|-------|------|
| M      | slotted          | St         | 4.8    | Zipl              |        | Standard  | 24640 | 6-14 |
| M      | slotted          | St.St. A2  | 70     |                   |        | Standard  | 51140 | 6-14 |
| M      | slotted          | St.St. A4  | 70     |                   |        | Standard  | 55140 | 6-15 |
| M      | slotted          | Br Cu2/Cu3 |        |                   |        | Standard  | 48040 | 6-15 |
| M      | slotted          | Br Cu2/Cu3 |        | Ni.pl.            |        | Standard  | 48530 | 6-16 |
| M      | slotted          | Plastic PA | PA 6.6 |                   | White  | Standard  | 56420 | 6-16 |

6

#### 24640 Slotted pan head screw

H01A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 4.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 500 | <a href="#">24640.030.006</a> | M4X20 | 500 | <a href="#">24640.040.020</a> | M6X8  | 200 | <a href="#">24640.060.008</a> |
| M3X8  | 500 | <a href="#">24640.030.008</a> | M4X25 | 500 | <a href="#">24640.040.025</a> | M6X10 | 200 | <a href="#">24640.060.010</a> |
| M3X10 | 500 | <a href="#">24640.030.010</a> | M4X30 | 500 | <a href="#">24640.040.030</a> | M6X12 | 200 | <a href="#">24640.060.012</a> |
| M3X12 | 500 | <a href="#">24640.030.012</a> | M4X40 | 500 | <a href="#">24640.040.040</a> | M6X16 | 200 | <a href="#">24640.060.016</a> |
| M3X16 | 500 | <a href="#">24640.030.016</a> |       |     |                               | M6X20 | 200 | <a href="#">24640.060.020</a> |
| M3X20 | 500 | <a href="#">24640.030.020</a> | M5X6  | 500 | <a href="#">24640.050.006</a> | M6X25 | 200 | <a href="#">24640.060.025</a> |
| M3X25 | 500 | <a href="#">24640.030.025</a> | M5X8  | 500 | <a href="#">24640.050.008</a> | M6X30 | 200 | <a href="#">24640.060.030</a> |
| M3X30 | 500 | <a href="#">24640.030.030</a> | M5X10 | 500 | <a href="#">24640.050.010</a> | M6X40 | 200 | <a href="#">24640.060.040</a> |
| M3X40 | 500 | <a href="#">24640.030.040</a> | M5X12 | 500 | <a href="#">24640.050.012</a> | M6X50 | 200 | <a href="#">24640.060.050</a> |
|       |     |                               | M5X16 | 500 | <a href="#">24640.050.016</a> |       |     |                               |
| M4X5  | 500 | <a href="#">24640.040.005</a> | M5X20 | 500 | <a href="#">24640.050.020</a> |       |     |                               |
| M4X6  | 500 | <a href="#">24640.040.006</a> | M5X25 | 500 | <a href="#">24640.050.025</a> | M8X16 | 200 | <a href="#">24640.080.016</a> |
| M4X8  | 500 | <a href="#">24640.040.008</a> | M5X30 | 500 | <a href="#">24640.050.030</a> | M8X20 | 200 | <a href="#">24640.080.020</a> |
| M4X10 | 500 | <a href="#">24640.040.010</a> | M5X40 | 500 | <a href="#">24640.050.040</a> | M8X25 | 200 | <a href="#">24640.080.025</a> |
| M4X12 | 500 | <a href="#">24640.040.012</a> | M5X50 | 200 | <a href="#">24640.050.050</a> |       |     |                               |
| M4X16 | 500 | <a href="#">24640.040.016</a> | M5X60 | 200 | <a href="#">24640.050.060</a> |       |     |                               |

#### 51140 Slotted pan head screw

R02A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| d x L   | ☒    | Art.number                    | d x L     | ☒    | Art.number                    | d x L  | ☒   | Art.number                    |
|---------|------|-------------------------------|-----------|------|-------------------------------|--------|-----|-------------------------------|
| M2X3 *  | 1000 | <a href="#">51140.020.003</a> | M2,5X3 *  | 1000 | <a href="#">51140.025.003</a> | M3X4 * | 500 | <a href="#">51140.030.004</a> |
| M2X6    | 500  | <a href="#">51140.020.006</a> | M2,5X5    | 500  | <a href="#">51140.025.005</a> | M3X5   | 500 | <a href="#">51140.030.005</a> |
| M2X10 * | 1000 | <a href="#">51140.020.010</a> | M2,5X8    | 500  | <a href="#">51140.025.008</a> | M3X6   | 500 | <a href="#">51140.030.006</a> |
| M2X12 * | 1000 | <a href="#">51140.020.012</a> | M2,5X14 * | 1000 | <a href="#">51140.025.014</a> | M3X8   | 500 | <a href="#">51140.030.008</a> |
| M2X20 * | 1000 | <a href="#">51140.020.020</a> | M2,5X20 * | 1000 | <a href="#">51140.025.020</a> | M3X10  | 500 | <a href="#">51140.030.010</a> |
|         |      |                               | M2,5X25 * | 1000 | <a href="#">51140.025.025</a> |        |     |                               |

**51140 Slotted pan head screw**

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M3X12   | 500 | <a href="#">51140.030.012</a> | M4X60   | 200 | <a href="#">51140.040.060</a> | M6X25   | 200 | <a href="#">51140.060.025</a> |
| M3X16   | 500 | <a href="#">51140.030.016</a> |         |     |                               | M6X30   | 200 | <a href="#">51140.060.030</a> |
| M3X20   | 500 | <a href="#">51140.030.020</a> | M5X8    | 200 | <a href="#">51140.050.008</a> | M6X35   | 200 | <a href="#">51140.060.035</a> |
| M3X25   | 500 | <a href="#">51140.030.025</a> | M5X10   | 200 | <a href="#">51140.050.010</a> | M6X40   | 100 | <a href="#">51140.060.040</a> |
| M3X30   | 500 | <a href="#">51140.030.030</a> | M5X12   | 200 | <a href="#">51140.050.012</a> | M6X45   | 100 | <a href="#">51140.060.045</a> |
| M3X35 * | 500 | <a href="#">51140.030.035</a> | M5X16   | 200 | <a href="#">51140.050.016</a> | M6X50   | 100 | <a href="#">51140.060.050</a> |
| M3X40   | 500 | <a href="#">51140.030.040</a> | M5X18 * | 500 | <a href="#">51140.050.018</a> | M6X60   | 100 | <a href="#">51140.060.060</a> |
| M3X45 * | 500 | <a href="#">51140.030.045</a> | M5X20   | 200 | <a href="#">51140.050.020</a> | M6X70   | 100 | <a href="#">51140.060.070</a> |
| M3X50 * | 500 | <a href="#">51140.030.050</a> | M5X25   | 200 | <a href="#">51140.050.025</a> | M6X80   | 100 | <a href="#">51140.060.080</a> |
|         |     |                               | M5X30   | 200 | <a href="#">51140.050.030</a> | M6X90   | 100 | <a href="#">51140.060.090</a> |
| M4X5 *  | 500 | <a href="#">51140.040.005</a> | M5X35   | 200 | <a href="#">51140.050.035</a> |         |     |                               |
| M4X6    | 500 | <a href="#">51140.040.006</a> | M5X40   | 200 | <a href="#">51140.050.040</a> | M8X10   | 100 | <a href="#">51140.080.010</a> |
| M4X8    | 500 | <a href="#">51140.040.008</a> | M5X45   | 200 | <a href="#">51140.050.045</a> | M8X12   | 100 | <a href="#">51140.080.012</a> |
| M4X10   | 500 | <a href="#">51140.040.010</a> | M5X50   | 200 | <a href="#">51140.050.050</a> | M8X20   | 100 | <a href="#">51140.080.020</a> |
| M4X12   | 500 | <a href="#">51140.040.012</a> | M5X60   | 200 | <a href="#">51140.050.060</a> | M8X25   | 100 | <a href="#">51140.080.025</a> |
| M4X16   | 500 | <a href="#">51140.040.016</a> | M5X70   | 200 | <a href="#">51140.050.070</a> | M8X35   | 100 | <a href="#">51140.080.035</a> |
| M4X20   | 500 | <a href="#">51140.040.020</a> | M5X80   | 200 | <a href="#">51140.050.080</a> | M8X40   | 100 | <a href="#">51140.080.040</a> |
| M4X22 * | 500 | <a href="#">51140.040.022</a> | M5X100  | 200 | <a href="#">51140.050.100</a> | M8X50   | 100 | <a href="#">51140.080.050</a> |
| M4X25   | 200 | <a href="#">51140.040.025</a> |         |     |                               | M8X55 * | 100 | <a href="#">51140.080.055</a> |
| M4X30   | 200 | <a href="#">51140.040.030</a> | M6X8 *  | 100 | <a href="#">51140.060.008</a> | M8X60   | 50  | <a href="#">51140.080.060</a> |
| M4X35   | 200 | <a href="#">51140.040.035</a> | M6X10   | 200 | <a href="#">51140.060.010</a> | M8X90   | 50  | <a href="#">51140.080.090</a> |
| M4X40   | 200 | <a href="#">51140.040.040</a> | M6X12   | 200 | <a href="#">51140.060.012</a> | M8X100  | 50  | <a href="#">51140.080.100</a> |
| M4X45 * | 500 | <a href="#">51140.040.045</a> | M6X16   | 200 | <a href="#">51140.060.016</a> |         |     |                               |
| M4X50   | 200 | <a href="#">51140.040.050</a> | M6X20   | 200 | <a href="#">51140.060.020</a> |         |     |                               |

**55140 Slotted pan head screw**
**R42A**

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard



| d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X3 *    | 1000 | <a href="#">55140.020.003</a> | M4X8    | 500 | <a href="#">55140.040.008</a> | M6X8 *  | 500 | <a href="#">55140.060.008</a> |
| M2X5 *    | 1000 | <a href="#">55140.020.005</a> | M4X10   | 500 | <a href="#">55140.040.010</a> | M6X10   | 200 | <a href="#">55140.060.010</a> |
| M2X6 *    | 1000 | <a href="#">55140.020.006</a> | M4X16   | 500 | <a href="#">55140.040.016</a> | M6X12   | 200 | <a href="#">55140.060.012</a> |
| M2X8 *    | 1000 | <a href="#">55140.020.008</a> | M4X20   | 500 | <a href="#">55140.040.020</a> | M6X16   | 200 | <a href="#">55140.060.016</a> |
| M2X20 *   | 1000 | <a href="#">55140.020.020</a> | M4X25   | 200 | <a href="#">55140.040.025</a> | M6X20   | 200 | <a href="#">55140.060.020</a> |
|           |      |                               | M4X30   | 200 | <a href="#">55140.040.030</a> | M6X25   | 200 | <a href="#">55140.060.025</a> |
| M2,5X6 *  | 1000 | <a href="#">55140.025.006</a> | M4X35   | 200 | <a href="#">55140.040.035</a> | M6X30   | 200 | <a href="#">55140.060.030</a> |
| M2,5X8 *  | 1000 | <a href="#">55140.025.008</a> | M4X40   | 200 | <a href="#">55140.040.040</a> | M6X35   | 200 | <a href="#">55140.060.035</a> |
| M2,5X12 * | 1000 | <a href="#">55140.025.012</a> | M4X45 * | 500 | <a href="#">55140.040.045</a> | M6X40   | 100 | <a href="#">55140.060.040</a> |
|           |      |                               | M4X50 * | 500 | <a href="#">55140.040.050</a> | M6X45 * | 200 | <a href="#">55140.060.045</a> |
| M3X4 *    | 500  | <a href="#">55140.030.004</a> | M5X6 *  | 500 | <a href="#">55140.050.006</a> | M6X50   | 100 | <a href="#">55140.060.050</a> |
| M3X5      | 500  | <a href="#">55140.030.005</a> | M5X8    | 200 | <a href="#">55140.050.008</a> | M6X60   | 100 | <a href="#">55140.060.060</a> |
| M3X6      | 500  | <a href="#">55140.030.006</a> | M5X10   | 200 | <a href="#">55140.050.010</a> |         |     |                               |
| M3X8      | 500  | <a href="#">55140.030.008</a> | M5X12   | 200 | <a href="#">55140.050.012</a> | M8X10 * | 200 | <a href="#">55140.080.010</a> |
| M3X10     | 500  | <a href="#">55140.030.010</a> | M5X16   | 200 | <a href="#">55140.050.016</a> | M8X12   | 100 | <a href="#">55140.080.012</a> |
| M3X12     | 500  | <a href="#">55140.030.012</a> | M5X20   | 200 | <a href="#">55140.050.020</a> | M8X16   | 100 | <a href="#">55140.080.016</a> |
| M3X16     | 500  | <a href="#">55140.030.016</a> | M5X25   | 200 | <a href="#">55140.050.025</a> | M8X20   | 100 | <a href="#">55140.080.020</a> |
| M3X20     | 500  | <a href="#">55140.030.020</a> | M5X30   | 200 | <a href="#">55140.050.030</a> | M8X25   | 100 | <a href="#">55140.080.025</a> |
| M3X25     | 500  | <a href="#">55140.030.025</a> | M5X40   | 200 | <a href="#">55140.050.040</a> | M8X35   | 100 | <a href="#">55140.080.035</a> |
| M3X30     | 500  | <a href="#">55140.030.030</a> | M5X50   | 200 | <a href="#">55140.050.050</a> | M8X50   | 100 | <a href="#">55140.080.050</a> |
| M3X40 *   | 500  | <a href="#">55140.030.040</a> | M5X60   | 200 | <a href="#">55140.050.060</a> |         |     |                               |
|           |      |                               | M5X70 * | 200 | <a href="#">55140.050.070</a> |         |     |                               |
| M4X6      | 500  | <a href="#">55140.040.006</a> |         |     |                               |         |     |                               |

**48040 Slotted pan head screw**
**M05A**

**Thread** Metric thread  
**Material** Brass Cu2/Cu3  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X5  | 200 | <a href="#">48040.030.005</a> | M4X10 | 200 | <a href="#">48040.040.010</a> | M5X20 | 200 | <a href="#">48040.050.020</a> |
| M3X6  | 200 | <a href="#">48040.030.006</a> | M4X12 | 200 | <a href="#">48040.040.012</a> | M5X25 | 200 | <a href="#">48040.050.025</a> |
| M3X8  | 200 | <a href="#">48040.030.008</a> | M4X16 | 200 | <a href="#">48040.040.016</a> | M5X40 | 200 | <a href="#">48040.050.040</a> |
| M3X10 | 200 | <a href="#">48040.030.010</a> | M4X20 | 200 | <a href="#">48040.040.020</a> |       |     |                               |
| M3X12 | 200 | <a href="#">48040.030.012</a> | M4X25 | 200 | <a href="#">48040.040.025</a> | M6X10 | 200 | <a href="#">48040.060.010</a> |
| M3X16 | 200 | <a href="#">48040.030.016</a> | M4X40 | 200 | <a href="#">48040.040.040</a> | M6X12 | 200 | <a href="#">48040.060.012</a> |
| M3X20 | 200 | <a href="#">48040.030.020</a> |       |     |                               | M6X16 | 200 | <a href="#">48040.060.016</a> |
| M3X25 | 200 | <a href="#">48040.030.025</a> | M5X6  | 200 | <a href="#">48040.050.006</a> | M6X20 | 200 | <a href="#">48040.060.020</a> |
|       |     |                               | M5X8  | 200 | <a href="#">48040.050.008</a> | M6X25 | 200 | <a href="#">48040.060.025</a> |
| M4X5  | 200 | <a href="#">48040.040.005</a> | M5X10 | 200 | <a href="#">48040.050.010</a> |       |     |                               |
| M4X6  | 200 | <a href="#">48040.040.006</a> | M5X12 | 200 | <a href="#">48040.050.012</a> |       |     |                               |
| M4X8  | 200 | <a href="#">48040.040.008</a> | M5X16 | 200 | <a href="#">48040.050.016</a> |       |     |                               |

| 48530 Slotted pan head screw |               | M05A |
|------------------------------|---------------|------|
| <b>Thread</b>                | Metric thread |      |
| <b>Material</b>              | Brass Cu2/Cu3 |      |
| <b>Surface treatment</b>     | Nickel plated |      |
| <b>Packaging</b>             | Standard      |      |

| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2,5X10 | 200 | <a href="#">48530.025.010</a> | M3X30 | 200 | <a href="#">48530.030.030</a> | M5X10 | 200 | <a href="#">48530.050.010</a> |
| M2,5X20 | 200 | <a href="#">48530.025.020</a> | M4X6  | 200 | <a href="#">48530.040.006</a> | M5X12 | 200 | <a href="#">48530.050.012</a> |
| M2,5X25 | 200 | <a href="#">48530.025.025</a> | M4X8  | 200 | <a href="#">48530.040.008</a> | M5X25 | 200 | <a href="#">48530.050.025</a> |
| M3X5    | 200 | <a href="#">48530.030.005</a> | M4X10 | 200 | <a href="#">48530.040.010</a> | M6X10 | 200 | <a href="#">48530.060.010</a> |
| M3X6    | 200 | <a href="#">48530.030.006</a> | M4X12 | 200 | <a href="#">48530.040.012</a> | M6X12 | 200 | <a href="#">48530.060.012</a> |
| M3X8    | 200 | <a href="#">48530.030.008</a> | M4X16 | 200 | <a href="#">48530.040.016</a> | M6X16 | 200 | <a href="#">48530.060.016</a> |
| M3X10   | 200 | <a href="#">48530.030.010</a> | M4X20 | 200 | <a href="#">48530.040.020</a> | M6X20 | 200 | <a href="#">48530.060.020</a> |
| M3X12   | 200 | <a href="#">48530.030.012</a> | M4X25 | 200 | <a href="#">48530.040.025</a> |       |     |                               |
| M3X16   | 200 | <a href="#">48530.030.016</a> | M5X8  | 200 | <a href="#">48530.050.008</a> |       |     |                               |
| M3X25   | 200 | <a href="#">48530.030.025</a> |       |     |                               |       |     |                               |

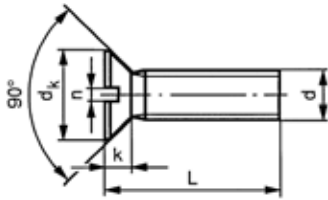
| 56420 Slotted pan head screw |                           | W02A |
|------------------------------|---------------------------|------|
| <b>Thread</b>                | Metric thread             |      |
| <b>Material</b>              | Plastic Polyamide (nylon) |      |
| <b>Class</b>                 | PA 6.6                    |      |
| <b>Colour</b>                | White                     |      |
| <b>Packaging</b>             | Standard                  |      |
|                              | ISO ≈1580                 |      |
|                              | <b>DIN ≈85</b>            |      |
|                              | NEN ≈1603                 |      |
|                              | ANSI ≈B18.6.7M            |      |
|                              | NF ≈E25-128               |      |
|                              | BS ≈4183                  |      |

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|----|-------------------------------|
| M3X4  | 200 | <a href="#">56420.030.004</a> | M4X10 | 200 | <a href="#">56420.040.010</a> | M6X12 | 50 | <a href="#">56420.060.012</a> |
| M3X6  | 200 | <a href="#">56420.030.006</a> | M4X12 | 200 | <a href="#">56420.040.012</a> | M6X16 | 50 | <a href="#">56420.060.016</a> |
| M3X8  | 200 | <a href="#">56420.030.008</a> | M4X16 | 200 | <a href="#">56420.040.016</a> | M6X20 | 50 | <a href="#">56420.060.020</a> |
| M3X10 | 200 | <a href="#">56420.030.010</a> | M4X20 | 200 | <a href="#">56420.040.020</a> | M6X25 | 50 | <a href="#">56420.060.025</a> |
| M3X12 | 200 | <a href="#">56420.030.012</a> | M5X10 | 100 | <a href="#">56420.050.010</a> | M6X30 | 50 | <a href="#">56420.060.030</a> |
| M3X16 | 200 | <a href="#">56420.030.016</a> | M5X12 | 100 | <a href="#">56420.050.012</a> | M8X10 | 25 | <a href="#">56420.080.010</a> |
| M3X20 | 200 | <a href="#">56420.030.020</a> | M5X16 | 100 | <a href="#">56420.050.016</a> | M8X16 | 25 | <a href="#">56420.080.016</a> |
| M3X25 | 200 | <a href="#">56420.030.025</a> | M5X20 | 100 | <a href="#">56420.050.020</a> | M8X20 | 25 | <a href="#">56420.080.020</a> |
| M4X6  | 200 | <a href="#">56420.040.006</a> | M6X10 | 50  | <a href="#">56420.060.010</a> |       |    |                               |
| M4X8  | 200 | <a href="#">56420.040.008</a> |       |     |                               |       |    |                               |

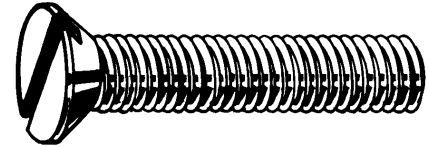
6



## Slotted countersunk head screw



ISO 2009  
**DIN 963**  
 NEN 2370  
 ANSI B18.6.7M  
 NF E25-123  
 BS 4183



### Technical data

| d    | P    | dk   | k (max.) | n    | Full thread L ≤ |
|------|------|------|----------|------|-----------------|
| M1   | 0,25 | 1,9  | 0,6      | 0,25 | 5               |
| M1,6 | 0,35 | 3    | 0,96     | 0,4  | 16              |
| M2   | 0,4  | 3,8  | 1,2      | 0,5  | 18              |
| M2,5 | 0,45 | 4,7  | 1,5      | 0,6  | 20              |
| M3   | 0,5  | 5,6  | 1,65     | 0,8  | 22              |
| M3,5 | 0,6  | 6,5  | 1,93     | 0,8  | 25              |
| M4   | 0,7  | 7,5  | 2,2      | 1    | 25              |
| M5   | 0,8  | 9,2  | 2,5      | 1,2  | 30              |
| M6   | 1    | 11   | 3        | 1,6  | 35              |
| M8   | 1,25 | 14,5 | 4        | 2    | 40              |
| M10  | 1,5  | 18   | 5        | 2,5  | 50              |
| M12  | 1,75 | 22   | 6        | 3    | 60              |
| M14  | 2    | 25   | 7        | 3    | 60              |
| M16  | 2    | 29   | 8        | 4    | 70              |
| M18  | 2,5  | 33   | 9        | 4    | 80              |
| M20  | 2,5  | 36   | 10       | 5    | 80              |

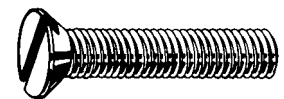
### Article groups

| Thread | Driving features | Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|--------|------------------|------------|--------|-------------------|--------|-----------|-------|------|
| M      | slotted          | St         | 4.8    | Zipl              |        | Standard  | 24540 | 6-17 |
| M      | slotted          | St         | 4.8    | Zipl yell.p.      |        | Standard  | 24560 | 6-18 |
| M      | slotted          | St         | 4.8    | Zipl blk p.       |        | Standard  | 24565 | 6-18 |
| M      | slotted          | St         | 8.8    | Zipl              |        | Standard  | 24412 | 6-19 |
| M      | slotted          | St.St. A2  | 70     |                   |        | Standard  | 51111 | 6-19 |
| M      | slotted          | St.St. A2  | 70     |                   |        | Large     | 51110 | 6-19 |
| M      | slotted          | St.St. A4  | 70     |                   |        | Standard  | 55110 | 6-20 |
| M      | slotted          | Br Cu2/Cu3 |        |                   |        | Standard  | 48170 | 6-21 |
| M      | slotted          | Br Cu2/Cu3 |        | Ni.pl.            |        | Standard  | 48550 | 6-21 |
| M      | slotted          | Plastic PA | PA 6.6 |                   | White  | Standard  | 56440 | 6-22 |

### 24540 Slotted countersunk head screw

H01A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X4    | 200 | <a href="#">24540.020.004</a> |         |     |                               | M3,5X16 | 200 | <a href="#">24540.035.016</a> |
| M2X5    | 200 | <a href="#">24540.020.005</a> | M3X4    |     | <a href="#">24540.030.004</a> | M3,5X20 | 200 | <a href="#">24540.035.020</a> |
| M2X6    | 200 | <a href="#">24540.020.006</a> | M3X5    | 200 | <a href="#">24540.030.005</a> | M3,5X25 | 200 | <a href="#">24540.035.025</a> |
| M2X8    | 200 | <a href="#">24540.020.008</a> | M3X6    | 200 | <a href="#">24540.030.006</a> | M3,5X30 | 200 | <a href="#">24540.035.030</a> |
| M2X10   | 200 | <a href="#">24540.020.010</a> | M3X8    | 200 | <a href="#">24540.030.008</a> | M3,5X40 | 200 | <a href="#">24540.035.040</a> |
| M2X12   | 200 | <a href="#">24540.020.012</a> | M3X10   | 200 | <a href="#">24540.030.010</a> |         |     |                               |
| M2X16   | 200 | <a href="#">24540.020.016</a> | M3X12   | 200 | <a href="#">24540.030.012</a> | M4X6    | 200 | <a href="#">24540.040.006</a> |
| M2X20   | 200 | <a href="#">24540.020.020</a> | M3X16   | 200 | <a href="#">24540.030.016</a> | M4X8    | 200 | <a href="#">24540.040.008</a> |
| M2X25   | 200 | <a href="#">24540.020.025</a> | M3X20   | 200 | <a href="#">24540.030.020</a> | M4X10   | 200 | <a href="#">24540.040.010</a> |
| M2X30   | 200 | <a href="#">24540.020.030</a> | M3X25   | 200 | <a href="#">24540.030.025</a> | M4X12   | 200 | <a href="#">24540.040.012</a> |
|         |     |                               | M3X30   | 200 | <a href="#">24540.030.030</a> | M4X16   | 200 | <a href="#">24540.040.016</a> |
| M2,5X4  | 200 | <a href="#">24540.025.004</a> | M3X35   | 200 | <a href="#">24540.030.035</a> | M4X20   | 200 | <a href="#">24540.040.020</a> |
| M2,5X5  | 200 | <a href="#">24540.025.005</a> | M3X40   | 200 | <a href="#">24540.030.040</a> | M4X25   | 200 | <a href="#">24540.040.025</a> |
| M2,5X6  | 200 | <a href="#">24540.025.006</a> | M3X45   | 200 | <a href="#">24540.030.045</a> | M4X30   | 200 | <a href="#">24540.040.030</a> |
| M2,5X8  | 200 | <a href="#">24540.025.008</a> | M3X50   | 200 | <a href="#">24540.030.050</a> | M4X35   | 200 | <a href="#">24540.040.035</a> |
| M2,5X10 | 200 | <a href="#">24540.025.010</a> | M3X60   | 200 | <a href="#">24540.030.060</a> | M4X40   | 200 | <a href="#">24540.040.040</a> |
| M2,5X12 | 200 | <a href="#">24540.025.012</a> | M3X100  | 200 | <a href="#">24540.030.100</a> | M4X45   | 200 | <a href="#">24540.040.045</a> |
| M2,5X14 | 200 | <a href="#">24540.025.014</a> |         |     |                               | M4X50   | 200 | <a href="#">24540.040.050</a> |
| M2,5X16 | 200 | <a href="#">24540.025.016</a> | M3,5X6  | 200 | <a href="#">24540.035.006</a> | M4X55   | 500 | <a href="#">24540.040.055</a> |
| M2,5X20 | 200 | <a href="#">24540.025.020</a> | M3,5X8  | 200 | <a href="#">24540.035.008</a> | M4X60   | 200 | <a href="#">24540.040.060</a> |
| M2,5X25 | 200 | <a href="#">24540.025.025</a> | M3,5X10 | 200 | <a href="#">24540.035.010</a> | M4X70   | 200 | <a href="#">24540.040.070</a> |
| M2,5X30 | 200 | <a href="#">24540.025.030</a> | M3,5X12 | 200 | <a href="#">24540.035.012</a> | M4X80   | 200 | <a href="#">24540.040.080</a> |
|         |     |                               |         |     |                               | M4X100  | 200 | <a href="#">24540.040.100</a> |

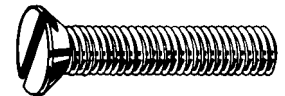
**24540 Slotted countersunk head screw** ←

| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M5X6   | 200 | <a href="#">24540.050.006</a> | M6X55  | 200 | <a href="#">24540.060.055</a> | M10X70  | 100 | <a href="#">24540.100.070</a> |
| M5X8   | 200 | <a href="#">24540.050.008</a> | M6X60  | 200 | <a href="#">24540.060.060</a> | M10X80  | 100 | <a href="#">24540.100.080</a> |
| M5X10  | 200 | <a href="#">24540.050.010</a> | M6X70  | 200 | <a href="#">24540.060.070</a> | M10X100 | 100 | <a href="#">24540.100.100</a> |
| M5X12  | 200 | <a href="#">24540.050.012</a> | M6X75  | 100 | <a href="#">24540.060.075</a> |         |     |                               |
| M5X16  | 200 | <a href="#">24540.050.016</a> | M6X80  | 100 | <a href="#">24540.060.080</a> | M12X20  | 100 | <a href="#">24540.120.020</a> |
| M5X20  | 200 | <a href="#">24540.050.020</a> | M6X90  | 100 | <a href="#">24540.060.090</a> | M12X25  | 100 | <a href="#">24540.120.025</a> |
| M5X25  | 200 | <a href="#">24540.050.025</a> | M6X100 | 100 | <a href="#">24540.060.100</a> | M12X30  | 100 | <a href="#">24540.120.030</a> |
| M5X30  | 200 | <a href="#">24540.050.030</a> |        |     |                               | M12X35  | 100 | <a href="#">24540.120.035</a> |
| M5X35  | 200 | <a href="#">24540.050.035</a> | M8X10  | 200 | <a href="#">24540.080.010</a> | M12X40  | 100 | <a href="#">24540.120.040</a> |
| M5X40  | 200 | <a href="#">24540.050.040</a> | M8X12  | 200 | <a href="#">24540.080.012</a> | M12X50  | 100 | <a href="#">24540.120.050</a> |
| M5X45  | 200 | <a href="#">24540.050.045</a> | M8X16  | 200 | <a href="#">24540.080.016</a> | M12X60  | 100 | <a href="#">24540.120.060</a> |
| M5X50  | 200 | <a href="#">24540.050.050</a> | M8X20  | 200 | <a href="#">24540.080.020</a> | M12X70  | 100 | <a href="#">24540.120.070</a> |
| M5X55  | 200 | <a href="#">24540.050.055</a> | M8X25  | 200 | <a href="#">24540.080.025</a> | M12X80  | 100 | <a href="#">24540.120.080</a> |
| M5X60  | 200 | <a href="#">24540.050.060</a> | M8X30  | 200 | <a href="#">24540.080.030</a> | M12X100 | 100 | <a href="#">24540.120.100</a> |
| M5X70  | 200 | <a href="#">24540.050.070</a> | M8X35  | 200 | <a href="#">24540.080.035</a> |         |     |                               |
| M5X80  | 100 | <a href="#">24540.050.080</a> | M8X40  | 200 | <a href="#">24540.080.040</a> | M16X30  | 50  | <a href="#">24540.160.030</a> |
| M5X90  | 100 | <a href="#">24540.050.090</a> | M8X45  | 200 | <a href="#">24540.080.045</a> | M16X35  | 50  | <a href="#">24540.160.035</a> |
| M5X100 | 100 | <a href="#">24540.050.100</a> | M8X50  | 200 | <a href="#">24540.080.050</a> | M16X40  | 50  | <a href="#">24540.160.040</a> |
|        |     |                               | M8X60  | 100 | <a href="#">24540.080.060</a> | M16X45  | 50  | <a href="#">24540.160.045</a> |
| M6X8   | 200 | <a href="#">24540.060.008</a> | M8X70  | 100 | <a href="#">24540.080.070</a> | M16X50  | 50  | <a href="#">24540.160.050</a> |
| M6X10  | 200 | <a href="#">24540.060.010</a> | M8X80  | 100 | <a href="#">24540.080.080</a> | M16X60  | 50  | <a href="#">24540.160.060</a> |
| M6X12  | 200 | <a href="#">24540.060.012</a> | M8X100 | 100 | <a href="#">24540.080.100</a> | M16X70  | 50  | <a href="#">24540.160.070</a> |
| M6X16  | 200 | <a href="#">24540.060.016</a> |        |     |                               | M16X80  | 50  | <a href="#">24540.160.080</a> |
| M6X18  | 200 | <a href="#">24540.060.018</a> | M10X16 | 200 | <a href="#">24540.100.016</a> | M16X90  | 50  | <a href="#">24540.160.090</a> |
| M6X20  | 200 | <a href="#">24540.060.020</a> | M10X20 | 200 | <a href="#">24540.100.020</a> | M16X100 | 50  | <a href="#">24540.160.100</a> |
| M6X25  | 200 | <a href="#">24540.060.025</a> | M10X25 | 200 | <a href="#">24540.100.025</a> |         |     |                               |
| M6X30  | 200 | <a href="#">24540.060.030</a> | M10X30 | 200 | <a href="#">24540.100.030</a> | M20X40  | 50  | <a href="#">24540.200.040</a> |
| M6X35  | 200 | <a href="#">24540.060.035</a> | M10X35 | 100 | <a href="#">24540.100.035</a> | M20X50  | 50  | <a href="#">24540.200.050</a> |
| M6X40  | 200 | <a href="#">24540.060.040</a> | M10X40 | 100 | <a href="#">24540.100.040</a> | M20X60  | 25  | <a href="#">24540.200.060</a> |
| M6X45  | 200 | <a href="#">24540.060.045</a> | M10X45 | 100 | <a href="#">24540.100.045</a> | M20X70  | 25  | <a href="#">24540.200.070</a> |
| M6X50  | 200 | <a href="#">24540.060.050</a> | M10X50 | 100 | <a href="#">24540.100.050</a> |         |     |                               |
|        |     |                               | M10X60 | 100 | <a href="#">24540.100.060</a> |         |     |                               |

**6**

**24560 Slotted countersunk head screw** H01A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 4.8                           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X5  | 500 | <a href="#">24560.030.005</a> | M4X25 | 500 | <a href="#">24560.040.025</a> | M6X16 | 200 | <a href="#">24560.060.016</a> |
| M3X6  | 500 | <a href="#">24560.030.006</a> | M4X30 | 500 | <a href="#">24560.040.030</a> | M6X20 | 200 | <a href="#">24560.060.020</a> |
| M3X8  | 500 | <a href="#">24560.030.008</a> | M4X40 | 500 | <a href="#">24560.040.040</a> | M6X25 | 200 | <a href="#">24560.060.025</a> |
| M3X10 | 500 | <a href="#">24560.030.010</a> | M4X50 | 500 | <a href="#">24560.040.050</a> | M6X30 | 200 | <a href="#">24560.060.030</a> |
| M3X12 | 500 | <a href="#">24560.030.012</a> | M4X60 | 500 | <a href="#">24560.040.060</a> | M6X40 | 200 | <a href="#">24560.060.040</a> |
| M3X16 | 500 | <a href="#">24560.030.016</a> |       |     |                               | M6X50 | 200 | <a href="#">24560.060.050</a> |
| M3X20 | 500 | <a href="#">24560.030.020</a> | M5X8  | 500 | <a href="#">24560.050.008</a> | M6X60 | 200 | <a href="#">24560.060.060</a> |
| M3X25 | 500 | <a href="#">24560.030.025</a> | M5X10 | 500 | <a href="#">24560.050.010</a> | M6X70 | 200 | <a href="#">24560.060.070</a> |
| M3X30 | 500 | <a href="#">24560.030.030</a> | M5X12 | 500 | <a href="#">24560.050.012</a> | M6X80 | 200 | <a href="#">24560.060.080</a> |
| M3X40 | 500 | <a href="#">24560.030.040</a> | M5X16 | 500 | <a href="#">24560.050.016</a> |       |     |                               |
| M3X50 | 500 | <a href="#">24560.030.050</a> | M5X20 | 500 | <a href="#">24560.050.020</a> | M8X16 | 200 | <a href="#">24560.080.016</a> |
| M3X60 | 500 | <a href="#">24560.030.060</a> | M5X25 | 500 | <a href="#">24560.050.025</a> | M8X20 | 200 | <a href="#">24560.080.020</a> |
|       |     |                               | M5X30 | 500 | <a href="#">24560.050.030</a> | M8X25 | 200 | <a href="#">24560.080.025</a> |
| M4X6  | 500 | <a href="#">24560.040.006</a> | M5X40 | 500 | <a href="#">24560.050.040</a> | M8X30 | 200 | <a href="#">24560.080.030</a> |
| M4X8  | 500 | <a href="#">24560.040.008</a> | M5X50 | 500 | <a href="#">24560.050.050</a> | M8X40 | 200 | <a href="#">24560.080.040</a> |
| M4X10 | 500 | <a href="#">24560.040.010</a> | M5X60 | 500 | <a href="#">24560.050.060</a> | M8X50 | 200 | <a href="#">24560.080.050</a> |
| M4X12 | 500 | <a href="#">24560.040.012</a> |       |     |                               |       |     |                               |
| M4X16 | 500 | <a href="#">24560.040.016</a> | M6X10 | 200 | <a href="#">24560.060.010</a> |       |     |                               |
| M4X20 | 500 | <a href="#">24560.040.020</a> | M6X12 | 200 | <a href="#">24560.060.012</a> |       |     |                               |

**24565 Slotted countersunk head screw** H01A

|                          |                              |
|--------------------------|------------------------------|
| <b>Thread</b>            | Metric thread                |
| <b>Material</b>          | Steel                        |
| <b>Class</b>             | 4.8                          |
| <b>Surface treatment</b> | Zinc plated black passivated |
| <b>Packaging</b>         | Standard                     |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X6  | 200 | <a href="#">24565.020.006</a> | M4X20 | 200 | <a href="#">24565.040.020</a> | M6X30 | 200 | <a href="#">24565.060.030</a> |
| M3X6  | 200 | <a href="#">24565.030.006</a> | M4X25 | 200 | <a href="#">24565.040.025</a> | M6X40 | 200 | <a href="#">24565.060.040</a> |
| M3X8  | 200 | <a href="#">24565.030.008</a> | M4X30 | 200 | <a href="#">24565.040.030</a> | M6X50 | 200 | <a href="#">24565.060.050</a> |
| M3X10 | 200 | <a href="#">24565.030.010</a> |       |     |                               |       |     |                               |
| M3X12 | 200 | <a href="#">24565.030.012</a> | M5X10 | 200 | <a href="#">24565.050.010</a> | M8X12 | 200 | <a href="#">24565.080.012</a> |
| M3X16 | 200 | <a href="#">24565.030.016</a> | M5X12 | 200 | <a href="#">24565.050.012</a> | M8X16 | 200 | <a href="#">24565.080.016</a> |
| M3X20 | 200 | <a href="#">24565.030.020</a> | M5X16 | 200 | <a href="#">24565.050.016</a> | M8X20 | 200 | <a href="#">24565.080.020</a> |
|       |     |                               | M5X20 | 200 | <a href="#">24565.050.020</a> | M8X25 | 200 | <a href="#">24565.080.025</a> |
| M4X6  | 200 | <a href="#">24565.040.006</a> | M5X25 | 200 | <a href="#">24565.050.025</a> | M8X30 | 200 | <a href="#">24565.080.030</a> |
| M4X8  | 200 | <a href="#">24565.040.008</a> | M5X35 | 200 | <a href="#">24565.050.035</a> | M8X35 | 200 | <a href="#">24565.080.035</a> |
| M4X10 | 200 | <a href="#">24565.040.010</a> |       |     |                               | M8X40 | 200 | <a href="#">24565.080.040</a> |
| M4X12 | 200 | <a href="#">24565.040.012</a> | M6X20 | 200 | <a href="#">24565.060.020</a> | M8X50 | 200 | <a href="#">24565.080.050</a> |
| M4X16 | 200 | <a href="#">24565.040.016</a> | M6X25 | 200 | <a href="#">24565.060.025</a> |       |     |                               |

| 24565 Slotted countersunk head screw |     |                               |        |     |                               |        |     |                               |
|--------------------------------------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| d x L                                | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
| M10X20                               | 200 | <a href="#">24565.100.020</a> | M10X40 | 100 | <a href="#">24565.100.040</a> | M10X50 | 100 | <a href="#">24565.100.050</a> |
| M10X30                               | 200 | <a href="#">24565.100.030</a> |        |     |                               |        |     |                               |

| 24412 Slotted countersunk head screw |               | H07A |
|--------------------------------------|---------------|------|
| <b>Thread</b>                        | Metric thread |      |
| <b>Material</b>                      | Steel         |      |
| <b>Class</b>                         | 8.8           |      |
| <b>Surface treatment</b>             | Zinc plated   |      |
| <b>Packaging</b>                     | Standard      |      |

| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X8    | 200 | <a href="#">24412.020.008</a> | M3X25 | 200 | <a href="#">24412.030.025</a> | M5X16 | 200 | <a href="#">24412.050.016</a> |
| M2,5X6  | 200 | <a href="#">24412.025.006</a> | M3X30 | 200 | <a href="#">24412.030.030</a> | M5X20 | 200 | <a href="#">24412.050.020</a> |
| M2,5X8  | 200 | <a href="#">24412.025.008</a> | M4X6  | 200 | <a href="#">24412.040.006</a> | M5X25 | 200 | <a href="#">24412.050.025</a> |
| M2,5X10 | 200 | <a href="#">24412.025.010</a> | M4X8  | 200 | <a href="#">24412.040.008</a> | M5X30 | 200 | <a href="#">24412.050.030</a> |
| M2,5X12 | 200 | <a href="#">24412.025.012</a> | M4X10 | 200 | <a href="#">24412.040.010</a> | M5X40 | 200 | <a href="#">24412.050.040</a> |
| M2,5X16 | 200 | <a href="#">24412.025.016</a> | M4X12 | 200 | <a href="#">24412.040.012</a> | M6X10 | 200 | <a href="#">24412.060.010</a> |
| M3X5    | 200 | <a href="#">24412.030.005</a> | M4X16 | 200 | <a href="#">24412.040.016</a> | M6X12 | 200 | <a href="#">24412.060.012</a> |
| M3X6    | 200 | <a href="#">24412.030.006</a> | M4X20 | 200 | <a href="#">24412.040.020</a> | M6X16 | 200 | <a href="#">24412.060.016</a> |
| M3X8    | 200 | <a href="#">24412.030.008</a> | M4X30 | 200 | <a href="#">24412.040.030</a> | M6X20 | 200 | <a href="#">24412.060.020</a> |
| M3X10   | 200 | <a href="#">24412.030.010</a> | M5X8  | 200 | <a href="#">24412.050.008</a> | M6X25 | 200 | <a href="#">24412.060.025</a> |
| M3X12   | 200 | <a href="#">24412.030.012</a> | M5X10 | 200 | <a href="#">24412.050.010</a> | M6X30 | 200 | <a href="#">24412.060.030</a> |
| M3X16   | 200 | <a href="#">24412.030.016</a> | M5X12 | 200 | <a href="#">24412.050.012</a> | M6X40 | 200 | <a href="#">24412.060.040</a> |
| M3X20   | 200 | <a href="#">24412.030.020</a> |       |     |                               |       |     |                               |

| 51111 Slotted countersunk head screw |                    | R02A |
|--------------------------------------|--------------------|------|
| <b>Thread</b>                        | Metric thread      |      |
| <b>Material</b>                      | Stainless steel A2 |      |
| <b>Class</b>                         | 70                 |      |
| <b>Packaging</b>                     | Standard           |      |

| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X10   | 200 | <a href="#">51111.020.010</a> | M3X6  | 200 | <a href="#">51111.030.006</a> | M4X6  | 200 | <a href="#">51111.040.006</a> |
| M2X16   | 200 | <a href="#">51111.020.016</a> | M3X8  | 200 | <a href="#">51111.030.008</a> | M4X8  | 200 | <a href="#">51111.040.008</a> |
| M2,5X4  | 200 | <a href="#">51111.025.004</a> | M3X10 | 200 | <a href="#">51111.030.010</a> | M4X10 | 200 | <a href="#">51111.040.010</a> |
| M2,5X5  | 200 | <a href="#">51111.025.005</a> | M3X12 | 200 | <a href="#">51111.030.012</a> | M4X12 | 200 | <a href="#">51111.040.012</a> |
| M2,5X16 | 200 | <a href="#">51111.025.016</a> | M3X16 | 200 | <a href="#">51111.030.016</a> | M4X16 | 200 | <a href="#">51111.040.016</a> |
| M2,5X20 | 200 | <a href="#">51111.025.020</a> | M3X20 | 200 | <a href="#">51111.030.020</a> | M4X20 | 200 | <a href="#">51111.040.020</a> |
| M3X4    | 200 | <a href="#">51111.030.004</a> | M3X25 | 200 | <a href="#">51111.030.025</a> |       |     |                               |
|         |     |                               | M3X30 | 200 | <a href="#">51111.030.030</a> |       |     |                               |
|         |     |                               | M3X40 | 200 | <a href="#">51111.030.040</a> |       |     |                               |

| 51110 Slotted countersunk head screw |                    | R02A |
|--------------------------------------|--------------------|------|
| <b>Thread</b>                        | Metric thread      |      |
| <b>Material</b>                      | Stainless steel A2 |      |
| <b>Class</b>                         | 70                 |      |
| <b>Packaging</b>                     | Large              |      |

| d x L     | ☒    | Art.number                    | d x L     | ☒    | Art.number                    | d x L     | ☒   | Art.number                    |
|-----------|------|-------------------------------|-----------|------|-------------------------------|-----------|-----|-------------------------------|
| M1,6X3 *  | 1000 | <a href="#">51110.016.003</a> | M2,5X12   | 500  | <a href="#">51110.025.012</a> | M3,5X8 *  | 500 | <a href="#">51110.035.008</a> |
| M1,6X4    | 100  | <a href="#">51110.016.004</a> | M2,5X14 * | 1000 | <a href="#">51110.025.014</a> | M3,5X10   | 500 | <a href="#">51110.035.010</a> |
| M1,6X5    | 100  | <a href="#">51110.016.005</a> | M2,5X16   | 500  | <a href="#">51110.025.016</a> | M3,5X12 * | 500 | <a href="#">51110.035.012</a> |
| M1,6X6    | 100  | <a href="#">51110.016.006</a> | M2,5X20   | 500  | <a href="#">51110.025.020</a> | M3,5X16 * | 500 | <a href="#">51110.035.016</a> |
| M1,6X8    | 100  | <a href="#">51110.016.008</a> | M2,5X25 * | 500  | <a href="#">51110.025.025</a> | M3,5X20 * | 500 | <a href="#">51110.035.020</a> |
| M1,6X10   | 100  | <a href="#">51110.016.010</a> | M2,5X30 * | 500  | <a href="#">51110.025.030</a> |           |     |                               |
| M1,6X12   | 100  | <a href="#">51110.016.012</a> |           |      |                               | M4X5 *    | 500 | <a href="#">51110.040.005</a> |
| M1,6X14 * | 1000 | <a href="#">51110.016.014</a> | M3X4      | 500  | <a href="#">51110.030.004</a> | M4X6      | 500 | <a href="#">51110.040.006</a> |
| M2X4      | 500  | <a href="#">51110.020.004</a> | M3X6      | 500  | <a href="#">51110.030.006</a> | M4X8      | 500 | <a href="#">51110.040.008</a> |
| M2X5      | 500  | <a href="#">51110.020.005</a> | M3X8      | 500  | <a href="#">51110.030.008</a> | M4X10     | 500 | <a href="#">51110.040.010</a> |
| M2X6      | 500  | <a href="#">51110.020.006</a> | M3X10     | 500  | <a href="#">51110.030.010</a> | M4X12     | 500 | <a href="#">51110.040.012</a> |
| M2X8      | 500  | <a href="#">51110.020.008</a> | M3X12     | 500  | <a href="#">51110.030.012</a> | M4X14 *   | 500 | <a href="#">51110.040.014</a> |
| M2X10     | 500  | <a href="#">51110.020.010</a> | M3X14 *   | 500  | <a href="#">51110.030.014</a> | M4X16     | 500 | <a href="#">51110.040.016</a> |
| M2X12     | 500  | <a href="#">51110.020.012</a> | M3X16     | 500  | <a href="#">51110.030.016</a> | M4X18 *   | 500 | <a href="#">51110.040.018</a> |
| M2X16     | 500  | <a href="#">51110.020.016</a> | M3X18 *   | 500  | <a href="#">51110.030.018</a> | M4X20     | 500 | <a href="#">51110.040.020</a> |
| M2X20     | 500  | <a href="#">51110.020.020</a> | M3X20     | 500  | <a href="#">51110.030.020</a> | M4X22 *   | 500 | <a href="#">51110.040.022</a> |
| M2X25     | 500  | <a href="#">51110.020.025</a> | M3X22 *   | 500  | <a href="#">51110.030.022</a> | M4X25     | 200 | <a href="#">51110.040.025</a> |
| M2X30 *   | 500  | <a href="#">51110.020.030</a> | M3X25     | 500  | <a href="#">51110.030.025</a> | M4X30     | 200 | <a href="#">51110.040.030</a> |
| M2,5X4    | 500  | <a href="#">51110.025.004</a> | M3X30     | 500  | <a href="#">51110.030.030</a> | M4X35     | 200 | <a href="#">51110.040.035</a> |
| M2,5X5    | 500  | <a href="#">51110.025.005</a> | M3X35     | 500  | <a href="#">51110.030.035</a> | M4X40     | 200 | <a href="#">51110.040.040</a> |
| M2,5X6    | 500  | <a href="#">51110.025.006</a> | M3X40     | 500  | <a href="#">51110.030.040</a> | M4X45     | 200 | <a href="#">51110.040.045</a> |
| M2,5X8    | 500  | <a href="#">51110.025.008</a> | M3X45 *   | 200  | <a href="#">51110.030.045</a> | M4X50     | 200 | <a href="#">51110.040.050</a> |
| M2,5X10   | 500  | <a href="#">51110.025.010</a> | M3X60 *   | 200  | <a href="#">51110.030.060</a> | M4X60     | 200 | <a href="#">51110.040.060</a> |
|           |      |                               | M3,5X6 *  | 500  | <a href="#">51110.035.006</a> | M4X70     | 200 | <a href="#">51110.040.070</a> |
|           |      |                               |           |      |                               | M4X80 *   | 200 | <a href="#">51110.040.080</a> |

**51110 Slotted countersunk head screw**

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| M5X8     | 200 | <a href="#">51110.050.008</a> | M6X60    | 100 | <a href="#">51110.060.060</a> | M10X45    | 50  | <a href="#">51110.100.045</a> |
| M5X10    | 200 | <a href="#">51110.050.010</a> | M6X70    | 100 | <a href="#">51110.060.070</a> | M10X50    | 50  | <a href="#">51110.100.050</a> |
| M5X12    | 200 | <a href="#">51110.050.012</a> | M6X80    | 100 | <a href="#">51110.060.080</a> | M10X55 *  | 100 | <a href="#">51110.100.055</a> |
| M5X14 *  | 500 | <a href="#">51110.050.014</a> | M6X90    | 100 | <a href="#">51110.060.090</a> | M10X60    | 50  | <a href="#">51110.100.060</a> |
| M5X16    | 200 | <a href="#">51110.050.016</a> | M6X100   | 100 | <a href="#">51110.060.100</a> | M10X70    | 50  | <a href="#">51110.100.070</a> |
| M5X18 *  | 500 | <a href="#">51110.050.018</a> | M6X110 * | 200 | <a href="#">51110.060.110</a> | M10X80    | 50  | <a href="#">51110.100.080</a> |
| M5X20    | 200 | <a href="#">51110.050.020</a> | M6X120 * | 200 | <a href="#">51110.060.120</a> | M10X90    | 50  | <a href="#">51110.100.090</a> |
| M5X22 *  | 500 | <a href="#">51110.050.022</a> | M8X12    | 100 | <a href="#">51110.080.012</a> | M10X100   | 50  | <a href="#">51110.100.100</a> |
| M5X25    | 200 | <a href="#">51110.050.025</a> | M8X14 *  | 200 | <a href="#">51110.080.014</a> | M10X110 * | 50  | <a href="#">51110.100.110</a> |
| M5X30    | 200 | <a href="#">51110.050.030</a> | M8X16    | 100 | <a href="#">51110.080.016</a> | M10X120 * | 50  | <a href="#">51110.100.120</a> |
| M5X35    | 200 | <a href="#">51110.050.035</a> | M8X18 *  | 200 | <a href="#">51110.080.018</a> | M12X25    | 100 | <a href="#">51110.120.025</a> |
| M5X40    | 200 | <a href="#">51110.050.040</a> | M8X20    | 100 | <a href="#">51110.080.020</a> | M12X35 *  | 50  | <a href="#">51110.120.035</a> |
| M5X45    | 200 | <a href="#">51110.050.045</a> | M8X22 *  | 200 | <a href="#">51110.080.022</a> | M12X45 *  | 50  | <a href="#">51110.120.045</a> |
| M5X50    | 200 | <a href="#">51110.050.050</a> | M8X25    | 100 | <a href="#">51110.080.025</a> | M12X55 *  | 50  | <a href="#">51110.120.055</a> |
| M5X60    | 200 | <a href="#">51110.050.060</a> | M8X30    | 100 | <a href="#">51110.080.030</a> | M12X90 *  | 50  | <a href="#">51110.120.090</a> |
| M5X65 *  | 200 | <a href="#">51110.050.065</a> | M8X35    | 100 | <a href="#">51110.080.035</a> | M12X100 * | 50  | <a href="#">51110.120.100</a> |
| M5X70    | 200 | <a href="#">51110.050.070</a> | M8X40    | 100 | <a href="#">51110.080.040</a> | M12X120 * | 50  | <a href="#">51110.120.120</a> |
| M5X80    | 200 | <a href="#">51110.050.080</a> | M8X45    | 100 | <a href="#">51110.080.045</a> | M14X110 * | 25  | <a href="#">51110.140.110</a> |
| M5X90 *  | 200 | <a href="#">51110.050.090</a> | M8X50    | 100 | <a href="#">51110.080.050</a> | M16X35 *  | 25  | <a href="#">51110.160.035</a> |
| M5X100   | 200 | <a href="#">51110.050.100</a> | M8X55 *  | 100 | <a href="#">51110.080.055</a> | M16X55 *  | 25  | <a href="#">51110.160.055</a> |
| M5X120 * | 200 | <a href="#">51110.050.120</a> | M8X60    | 100 | <a href="#">51110.080.060</a> | M16X60 *  | 25  | <a href="#">51110.160.060</a> |
| M6X8     | 200 | <a href="#">51110.060.008</a> | M8X70    | 100 | <a href="#">51110.080.070</a> | M16X70 *  | 25  | <a href="#">51110.160.070</a> |
| M6X10    | 200 | <a href="#">51110.060.010</a> | M8X80    | 100 | <a href="#">51110.080.080</a> | M16X120 * | 10  | <a href="#">51110.160.120</a> |
| M6X12    | 200 | <a href="#">51110.060.012</a> | M8X90    | 100 | <a href="#">51110.080.090</a> | M16X150 * | 10  | <a href="#">51110.160.150</a> |
| M6X16    | 200 | <a href="#">51110.060.016</a> | M8X100   | 100 | <a href="#">51110.080.100</a> | M18X60 *  | 25  | <a href="#">51110.180.060</a> |
| M6X18    | 200 | <a href="#">51110.060.018</a> | M8X110 * | 100 | <a href="#">51110.080.110</a> | M18X80 *  | 25  | <a href="#">51110.180.080</a> |
| M6X20    | 200 | <a href="#">51110.060.020</a> | M8X120 * | 100 | <a href="#">51110.080.120</a> | M20X110 * | 10  | <a href="#">51110.200.110</a> |
| M6X22 *  | 200 | <a href="#">51110.060.022</a> | M8X130 * | 100 | <a href="#">51110.080.130</a> | M20X120 * | 10  | <a href="#">51110.200.120</a> |
| M6X25    | 200 | <a href="#">51110.060.025</a> | M8X140 * | 100 | <a href="#">51110.080.140</a> | M20X130 * | 10  | <a href="#">51110.200.130</a> |
| M6X30    | 200 | <a href="#">51110.060.030</a> | M10X20   | 50  | <a href="#">51110.100.020</a> |           |     |                               |
| M6X35    | 100 | <a href="#">51110.060.035</a> | M10X25   | 50  | <a href="#">51110.100.025</a> |           |     |                               |
| M6X40    | 100 | <a href="#">51110.060.040</a> | M10X30   | 50  | <a href="#">51110.100.030</a> |           |     |                               |
| M6X45    | 100 | <a href="#">51110.060.045</a> | M10X35   | 50  | <a href="#">51110.100.035</a> |           |     |                               |
| M6X50    | 100 | <a href="#">51110.060.050</a> | M10X40   | 50  | <a href="#">51110.100.040</a> |           |     |                               |

**6**
**51110 Slotted countersunk head screw**
**R42A**

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |

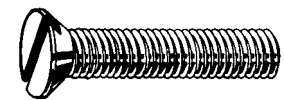


| d x L     | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|-----------|------|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| M1X3 *    | 1000 | <a href="#">55110.010.003</a> | M3X60 *  | 200 | <a href="#">55110.030.060</a> | M6X12    | 200 | <a href="#">55110.060.012</a> |
| M1X4 *    | 1000 | <a href="#">55110.010.004</a> | M3,5X8 * | 500 | <a href="#">55110.035.008</a> | M6X14 *  | 500 | <a href="#">55110.060.014</a> |
| M1X5 *    | 1000 | <a href="#">55110.010.005</a> | M4X8     | 500 | <a href="#">55110.040.008</a> | M6X16    | 200 | <a href="#">55110.060.016</a> |
| M1,6X4 *  | 1000 | <a href="#">55110.016.004</a> | M4X10    | 500 | <a href="#">55110.040.010</a> | M6X18 *  | 500 | <a href="#">55110.060.018</a> |
| M1,6X5 *  | 1000 | <a href="#">55110.016.005</a> | M4X12    | 500 | <a href="#">55110.040.012</a> | M6X20    | 200 | <a href="#">55110.060.020</a> |
| M1,6X6 *  | 1000 | <a href="#">55110.016.006</a> | M4X14 *  | 500 | <a href="#">55110.040.014</a> | M6X25    | 200 | <a href="#">55110.060.025</a> |
| M1,6X10 * | 1000 | <a href="#">55110.016.010</a> | M4X16    | 500 | <a href="#">55110.040.016</a> | M6X30    | 200 | <a href="#">55110.060.030</a> |
| M2X5      | 500  | <a href="#">55110.020.005</a> | M4X18 *  | 500 | <a href="#">55110.040.018</a> | M6X35    | 100 | <a href="#">55110.060.035</a> |
| M2X6      | 500  | <a href="#">55110.020.006</a> | M4X20    | 500 | <a href="#">55110.040.020</a> | M6X40    | 100 | <a href="#">55110.060.040</a> |
| M2X8      | 500  | <a href="#">55110.020.008</a> | M4X25    | 200 | <a href="#">55110.040.025</a> | M6X45    | 100 | <a href="#">55110.060.045</a> |
| M2X10     | 500  | <a href="#">55110.020.010</a> | M4X30    | 200 | <a href="#">55110.040.030</a> | M6X50    | 100 | <a href="#">55110.060.050</a> |
| M2X12     | 500  | <a href="#">55110.020.012</a> | M4X35    | 200 | <a href="#">55110.040.035</a> | M6X55 *  | 200 | <a href="#">55110.060.055</a> |
| M2X16     | 500  | <a href="#">55110.020.016</a> | M4X40    | 200 | <a href="#">55110.040.040</a> | M6X60    | 100 | <a href="#">55110.060.060</a> |
| M2X20     | 500  | <a href="#">55110.020.020</a> | M4X45    | 200 | <a href="#">55110.040.045</a> | M6X65 *  | 200 | <a href="#">55110.060.065</a> |
| M2,5X5    | 500  | <a href="#">55110.025.005</a> | M4X50    | 200 | <a href="#">55110.040.050</a> | M6X70    | 100 | <a href="#">55110.060.070</a> |
| M2,5X6    | 500  | <a href="#">55110.025.006</a> | M4X60    | 200 | <a href="#">55110.040.060</a> | M6X80    | 100 | <a href="#">55110.060.080</a> |
| M2,5X8    | 500  | <a href="#">55110.025.008</a> | M4X70 *  | 200 | <a href="#">55110.040.070</a> | M6X90    | 100 | <a href="#">55110.060.090</a> |
| M2,5X10   | 500  | <a href="#">55110.025.010</a> | M5X6     | 200 | <a href="#">55110.050.006</a> | M6X100   | 100 | <a href="#">55110.060.100</a> |
| M2,5X12   | 500  | <a href="#">55110.025.012</a> | M5X8     | 200 | <a href="#">55110.050.008</a> | M6X110 * | 200 | <a href="#">55110.060.110</a> |
| M2,5X14 * | 1000 | <a href="#">55110.025.014</a> | M5X10    | 200 | <a href="#">55110.050.010</a> | M6X120 * | 200 | <a href="#">55110.060.120</a> |
| M2,5X16   | 500  | <a href="#">55110.025.016</a> | M5X12    | 200 | <a href="#">55110.050.012</a> | M8X16    | 100 | <a href="#">55110.080.016</a> |
| M2,5X20   | 500  | <a href="#">55110.025.020</a> | M5X14 *  | 500 | <a href="#">55110.050.014</a> | M8X20    | 100 | <a href="#">55110.080.020</a> |
| M2,5X25 * | 500  | <a href="#">55110.025.025</a> | M5X16    | 200 | <a href="#">55110.050.016</a> | M8X25    | 100 | <a href="#">55110.080.025</a> |
| M3X6      | 500  | <a href="#">55110.030.006</a> | M5X18 *  | 500 | <a href="#">55110.050.018</a> | M8X30    | 100 | <a href="#">55110.080.030</a> |
| M3X8      | 500  | <a href="#">55110.030.008</a> | M5X20    | 200 | <a href="#">55110.050.020</a> | M8X35    | 100 | <a href="#">55110.080.035</a> |
| M3X10     | 500  | <a href="#">55110.030.010</a> | M5X25    | 200 | <a href="#">55110.050.025</a> | M8X40    | 100 | <a href="#">55110.080.040</a> |
| M3X12     | 500  | <a href="#">55110.030.012</a> | M5X30    | 200 | <a href="#">55110.050.030</a> | M8X45    | 100 | <a href="#">55110.080.045</a> |
| M3X14 *   | 500  | <a href="#">55110.030.014</a> | M5X35    | 200 | <a href="#">55110.050.035</a> | M8X50    | 100 | <a href="#">55110.080.050</a> |
| M3X16     | 500  | <a href="#">55110.030.016</a> | M5X40    | 200 | <a href="#">55110.050.040</a> | M8X55 *  | 100 | <a href="#">55110.080.055</a> |
| M3X18 *   | 500  | <a href="#">55110.030.018</a> | M5X45    | 200 | <a href="#">55110.050.045</a> | M8X60    | 100 | <a href="#">55110.080.060</a> |
| M3X20     | 500  | <a href="#">55110.030.020</a> | M5X50    | 200 | <a href="#">55110.050.050</a> | M8X70    | 100 | <a href="#">55110.080.070</a> |
| M3X25     | 500  | <a href="#">55110.030.025</a> | M5X55 *  | 200 | <a href="#">55110.050.055</a> | M8X80    | 100 | <a href="#">55110.080.080</a> |
| M3X30     | 500  | <a href="#">55110.030.030</a> | M5X60    | 200 | <a href="#">55110.050.060</a> | M8X90    | 100 | <a href="#">55110.080.090</a> |
| M3X35     | 500  | <a href="#">55110.030.035</a> | M5X70    | 200 | <a href="#">55110.050.070</a> | M8X100   | 100 | <a href="#">55110.080.100</a> |
| M3X40     | 500  | <a href="#">55110.030.040</a> | M5X80    | 200 | <a href="#">55110.050.080</a> | M8X110 * | 100 | <a href="#">55110.080.110</a> |
| M3X45 *   | 200  | <a href="#">55110.030.045</a> | M5X90 *  | 200 | <a href="#">55110.050.090</a> | M8X120 * | 100 | <a href="#">55110.080.120</a> |
| M3X50 *   | 200  | <a href="#">55110.030.050</a> | M5X100 * | 200 | <a href="#">55110.050.100</a> | M8X140 * | 100 | <a href="#">55110.080.140</a> |
|           |      |                               | M6X10    | 200 | <a href="#">55110.060.010</a> | M10X16 * | 100 | <a href="#">55110.100.016</a> |
|           |      |                               |          |     |                               | M10X20   | 50  | <a href="#">55110.100.020</a> |

**55110 Slotted countersunk head screw**

| d x L     | ☒   | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|-----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| M10X25    | 50  | <a href="#">55110.100.025</a> | M12X25 *  | 50 | <a href="#">55110.120.025</a> | M16X25 *  | 25 | <a href="#">55110.160.025</a> |
| M10X30    | 50  | <a href="#">55110.100.030</a> | M12X30    | 25 | <a href="#">55110.120.030</a> | M16X35 *  | 25 | <a href="#">55110.160.035</a> |
| M10X35    | 50  | <a href="#">55110.100.035</a> | M12X40    | 25 | <a href="#">55110.120.040</a> | M16X40 *  | 25 | <a href="#">55110.160.040</a> |
| M10X40    | 50  | <a href="#">55110.100.040</a> | M12X45 *  | 50 | <a href="#">55110.120.045</a> | M16X45 *  | 25 | <a href="#">55110.160.045</a> |
| M10X50    | 50  | <a href="#">55110.100.050</a> | M12X50    | 25 | <a href="#">55110.120.050</a> | M16X50 *  | 25 | <a href="#">55110.160.050</a> |
| M10X55 *  | 100 | <a href="#">55110.100.055</a> | M12X60    | 25 | <a href="#">55110.120.060</a> | M16X60 *  | 25 | <a href="#">55110.160.060</a> |
| M10X60    | 50  | <a href="#">55110.100.060</a> | M12X70    | 25 | <a href="#">55110.120.070</a> | M16X70 *  | 25 | <a href="#">55110.160.070</a> |
| M10X70    | 50  | <a href="#">55110.100.070</a> | M12X80    | 25 | <a href="#">55110.120.080</a> | M16X80 *  | 25 | <a href="#">55110.160.080</a> |
| M10X80    | 50  | <a href="#">55110.100.080</a> | M12X90    | 25 | <a href="#">55110.120.090</a> | M16X90 *  | 25 | <a href="#">55110.160.090</a> |
| M10X90    | 50  | <a href="#">55110.100.090</a> | M12X100 * | 50 | <a href="#">55110.120.100</a> | M16X100 * | 10 | <a href="#">55110.160.100</a> |
| M10X100   | 50  | <a href="#">55110.100.100</a> | M12X120 * | 50 | <a href="#">55110.120.120</a> |           |    |                               |
| M10X120 * | 50  | <a href="#">55110.100.120</a> |           |    |                               |           |    |                               |
| M10X140 * | 50  | <a href="#">55110.100.140</a> |           |    |                               |           |    |                               |

**48170 Slotted countersunk head screw**
**M05A**
**Thread**  
**Material**  
**Packaging**

 Metric thread  
 Brass Cu2/Cu3  
 Standard


| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M2X5    | 200 | <a href="#">48170.020.005</a> | M4X25 | 200 | <a href="#">48170.040.025</a> | M8X20  | 100 | <a href="#">48170.080.020</a> |
| M2X6    | 200 | <a href="#">48170.020.006</a> | M4X30 | 200 | <a href="#">48170.040.030</a> | M8X25  | 100 | <a href="#">48170.080.025</a> |
| M2X8    | 200 | <a href="#">48170.020.008</a> | M4X35 | 200 | <a href="#">48170.040.035</a> | M8X30  | 100 | <a href="#">48170.080.030</a> |
| M2X10   | 200 | <a href="#">48170.020.010</a> | M4X40 | 200 | <a href="#">48170.040.040</a> | M8X35  | 100 | <a href="#">48170.080.035</a> |
| M2X12   | 200 | <a href="#">48170.020.012</a> | M4X50 | 200 | <a href="#">48170.040.050</a> | M8X40  | 100 | <a href="#">48170.080.040</a> |
| M2X16   | 200 | <a href="#">48170.020.016</a> |       |     |                               | M8X50  | 100 | <a href="#">48170.080.050</a> |
| M2X20   | 200 | <a href="#">48170.020.020</a> | M5X8  | 200 | <a href="#">48170.050.008</a> | M8X60  | 100 | <a href="#">48170.080.060</a> |
|         |     |                               | M5X10 | 200 | <a href="#">48170.050.010</a> |        |     |                               |
| M2,5X6  | 200 | <a href="#">48170.025.006</a> | M5X12 | 200 | <a href="#">48170.050.012</a> | M10X16 | 100 | <a href="#">48170.100.016</a> |
| M2,5X8  | 200 | <a href="#">48170.025.008</a> | M5X16 | 200 | <a href="#">48170.050.016</a> | M10X20 | 100 | <a href="#">48170.100.020</a> |
| M2,5X10 | 200 | <a href="#">48170.025.010</a> | M5X20 | 200 | <a href="#">48170.050.020</a> | M10X25 | 100 | <a href="#">48170.100.025</a> |
| M2,5X12 | 200 | <a href="#">48170.025.012</a> | M5X25 | 200 | <a href="#">48170.050.025</a> | M10X30 | 100 | <a href="#">48170.100.030</a> |
| M2,5X16 | 200 | <a href="#">48170.025.016</a> | M5X30 | 200 | <a href="#">48170.050.030</a> | M10X35 | 100 | <a href="#">48170.100.035</a> |
| M2,5X20 | 200 | <a href="#">48170.025.020</a> | M5X35 | 200 | <a href="#">48170.050.035</a> | M10X40 | 100 | <a href="#">48170.100.040</a> |
|         |     |                               | M5X40 | 200 | <a href="#">48170.050.040</a> | M10X45 | 100 | <a href="#">48170.100.045</a> |
| M3X5    | 200 | <a href="#">48170.030.005</a> | M5X50 | 200 | <a href="#">48170.050.050</a> | M10X50 | 100 | <a href="#">48170.100.050</a> |
| M3X6    | 200 | <a href="#">48170.030.006</a> |       |     |                               | M10X60 | 100 | <a href="#">48170.100.060</a> |
| M3X8    | 200 | <a href="#">48170.030.008</a> | M6X8  | 200 | <a href="#">48170.060.008</a> | M10X70 | 100 | <a href="#">48170.100.070</a> |
| M3X10   | 200 | <a href="#">48170.030.010</a> | M6X10 | 200 | <a href="#">48170.060.010</a> | M10X80 | 100 | <a href="#">48170.100.080</a> |
| M3X12   | 200 | <a href="#">48170.030.012</a> | M6X12 | 200 | <a href="#">48170.060.012</a> |        |     |                               |
| M3X16   | 200 | <a href="#">48170.030.016</a> | M6X16 | 200 | <a href="#">48170.060.016</a> | M12X20 | 100 | <a href="#">48170.120.020</a> |
| M3X20   | 200 | <a href="#">48170.030.020</a> | M6X20 | 200 | <a href="#">48170.060.020</a> | M12X25 | 100 | <a href="#">48170.120.025</a> |
| M3X25   | 200 | <a href="#">48170.030.025</a> | M6X25 | 200 | <a href="#">48170.060.025</a> | M12X30 | 100 | <a href="#">48170.120.030</a> |
| M3X30   | 200 | <a href="#">48170.030.030</a> | M6X30 | 200 | <a href="#">48170.060.030</a> | M12X35 | 100 | <a href="#">48170.120.035</a> |
|         |     |                               | M6X35 | 200 | <a href="#">48170.060.035</a> | M12X40 | 100 | <a href="#">48170.120.040</a> |
| M4X6    | 200 | <a href="#">48170.040.006</a> | M6X40 | 200 | <a href="#">48170.060.040</a> | M12X50 | 100 | <a href="#">48170.120.050</a> |
| M4X8    | 200 | <a href="#">48170.040.008</a> | M6X50 | 200 | <a href="#">48170.060.050</a> | M12X60 | 100 | <a href="#">48170.120.060</a> |
| M4X10   | 200 | <a href="#">48170.040.010</a> | M6X60 | 100 | <a href="#">48170.060.060</a> | M12X70 | 100 | <a href="#">48170.120.070</a> |
| M4X12   | 200 | <a href="#">48170.040.012</a> | M6X70 | 100 | <a href="#">48170.060.070</a> | M12X80 | 100 | <a href="#">48170.120.080</a> |
| M4X16   | 200 | <a href="#">48170.040.016</a> |       |     |                               |        |     |                               |
| M4X20   | 200 | <a href="#">48170.040.020</a> | M8X16 | 100 | <a href="#">48170.080.016</a> |        |     |                               |

**48550 Slotted countersunk head screw**
**M05A**
**Thread**  
**Material**  
**Surface treatment**  
**Packaging**

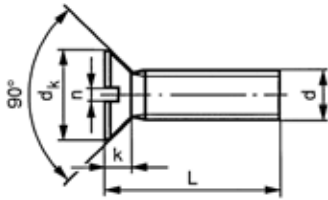
 Metric thread  
 Brass Cu2/Cu3  
 Nickel plated  
 Standard


| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2,5X10 | 200 | <a href="#">48550.025.010</a> | M4X25 | 200 | <a href="#">48550.040.025</a> | M6X16 | 200 | <a href="#">48550.060.016</a> |
| M2,5X20 | 200 | <a href="#">48550.025.020</a> | M4X30 | 200 | <a href="#">48550.040.030</a> | M6X20 | 200 | <a href="#">48550.060.020</a> |
|         |     |                               | M4X35 | 200 | <a href="#">48550.040.035</a> | M6X30 | 200 | <a href="#">48550.060.030</a> |
| M3X6    | 200 | <a href="#">48550.030.006</a> | M4X50 | 200 | <a href="#">48550.040.050</a> | M6X40 | 200 | <a href="#">48550.060.040</a> |
| M3X8    | 200 | <a href="#">48550.030.008</a> |       |     |                               | M6X50 | 200 | <a href="#">48550.060.050</a> |
| M3X10   | 200 | <a href="#">48550.030.010</a> | M5X8  | 200 | <a href="#">48550.050.008</a> | M6X60 | 100 | <a href="#">48550.060.060</a> |
| M3X12   | 200 | <a href="#">48550.030.012</a> | M5X10 | 200 | <a href="#">48550.050.010</a> | M6X80 | 100 | <a href="#">48550.060.080</a> |
| M3X16   | 200 | <a href="#">48550.030.016</a> | M5X12 | 200 | <a href="#">48550.050.012</a> |       |     |                               |
| M3X20   | 200 | <a href="#">48550.030.020</a> | M5X16 | 200 | <a href="#">48550.050.016</a> | M8X16 | 100 | <a href="#">48550.080.016</a> |
| M3X25   | 200 | <a href="#">48550.030.025</a> | M5X20 | 200 | <a href="#">48550.050.020</a> | M8X20 | 100 | <a href="#">48550.080.020</a> |
| M3X35   | 200 | <a href="#">48550.030.035</a> | M5X25 | 200 | <a href="#">48550.050.025</a> | M8X25 | 100 | <a href="#">48550.080.025</a> |
| M3X50   | 200 | <a href="#">48550.030.050</a> | M5X30 | 200 | <a href="#">48550.050.030</a> | M8X50 | 100 | <a href="#">48550.080.050</a> |
|         |     |                               | M5X35 | 200 | <a href="#">48550.050.035</a> | M8X70 | 100 | <a href="#">48550.080.070</a> |
| M4X8    | 200 | <a href="#">48550.040.008</a> | M5X40 | 200 | <a href="#">48550.050.040</a> | M8X80 | 100 | <a href="#">48550.080.080</a> |
| M4X10   | 200 | <a href="#">48550.040.010</a> | M5X60 | 200 | <a href="#">48550.050.060</a> |       |     |                               |
| M4X12   | 200 | <a href="#">48550.040.012</a> | M5X70 | 200 | <a href="#">48550.050.070</a> |       |     |                               |
| M4X16   | 200 | <a href="#">48550.040.016</a> |       |     |                               |       |     |                               |
| M4X20   | 200 | <a href="#">48550.040.020</a> | M6X10 | 200 | <a href="#">48550.060.010</a> |       |     |                               |

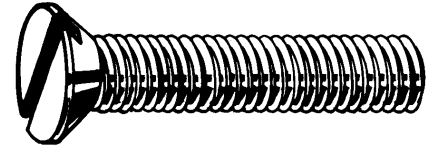
| 56440 Slotted countersunk head screw |                           | W02A |
|--------------------------------------|---------------------------|------|
| <b>Thread</b>                        | Metric thread             |      |
| <b>Material</b>                      | Plastic Polyamide (nylon) |      |
| <b>Class</b>                         | PA 6.6                    |      |
| <b>Colour</b>                        | White                     |      |
| <b>Packaging</b>                     | Standard                  |      |
|                                      | ISO ≈2009                 |      |
|                                      | <b>DIN</b> ≈963           |      |
|                                      | NEN ≈2370                 |      |
|                                      | ANSI ≈B18.6.7M            |      |
|                                      | NF ≈E25-123               |      |
|                                      | BS ≈4183                  |      |

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|----|-------------------------------|
| M3X4  | 200 | <a href="#">56440.030.004</a> | M4X20 | 200 | <a href="#">56440.040.020</a> | M6X10 | 50 | <a href="#">56440.060.010</a> |
| M3X6  | 200 | <a href="#">56440.030.006</a> | M4X25 | 200 | <a href="#">56440.040.025</a> | M6X16 | 50 | <a href="#">56440.060.016</a> |
| M3X8  | 200 | <a href="#">56440.030.008</a> | M4X30 | 200 | <a href="#">56440.040.030</a> | M6X20 | 50 | <a href="#">56440.060.020</a> |
| M3X10 | 200 | <a href="#">56440.030.010</a> | M4X35 | 200 | <a href="#">56440.040.035</a> | M6X25 | 50 | <a href="#">56440.060.025</a> |
| M3X12 | 200 | <a href="#">56440.030.012</a> |       |     |                               | M6X30 | 50 | <a href="#">56440.060.030</a> |
| M3X16 | 200 | <a href="#">56440.030.016</a> | M5X8  | 100 | <a href="#">56440.050.008</a> | M6X40 | 50 | <a href="#">56440.060.040</a> |
| M3X20 | 200 | <a href="#">56440.030.020</a> | M5X10 | 100 | <a href="#">56440.050.010</a> | M6X50 | 50 | <a href="#">56440.060.050</a> |
| M3X25 | 200 | <a href="#">56440.030.025</a> | M5X12 | 100 | <a href="#">56440.050.012</a> |       |    |                               |
| M3X30 | 200 | <a href="#">56440.030.030</a> | M5X16 | 100 | <a href="#">56440.050.016</a> | M8X20 | 25 | <a href="#">56440.080.020</a> |
|       |     |                               | M5X20 | 100 | <a href="#">56440.050.020</a> | M8X25 | 25 | <a href="#">56440.080.025</a> |
| M4X6  | 200 | <a href="#">56440.040.006</a> | M5X25 | 100 | <a href="#">56440.050.025</a> | M8X30 | 25 | <a href="#">56440.080.030</a> |
| M4X8  | 200 | <a href="#">56440.040.008</a> | M5X30 | 100 | <a href="#">56440.050.030</a> | M8X40 | 25 | <a href="#">56440.080.040</a> |
| M4X10 | 200 | <a href="#">56440.040.010</a> | M5X35 | 100 | <a href="#">56440.050.035</a> | M8X50 | 25 | <a href="#">56440.080.050</a> |
| M4X12 | 200 | <a href="#">56440.040.012</a> | M5X40 | 100 | <a href="#">56440.050.040</a> |       |    |                               |
| M4X16 | 200 | <a href="#">56440.040.016</a> |       |     |                               |       |    |                               |
| M4X18 | 200 | <a href="#">56440.040.018</a> | M6X8  | 100 | <a href="#">56440.060.008</a> |       |    |                               |

## Slotted countersunk head screw BSW



NEN ≈1780 A (1960)  
BS ≈450 (1958)



### Technical data

| d    | Threads per inch | d <sub>k</sub> | k   | n   |
|------|------------------|----------------|-----|-----|
| 1/8  | 40               | 5,5            | 1,4 | 0,8 |
| 5/32 | 32               | 7              | 1,8 | 0,9 |
| 3/16 | 24               | 8,3            | 2,2 | 1,1 |
| 1/4  | 20               | 11             | 2,8 | 1,3 |
| 5/16 | 18               | 13,5           | 3,4 | 1,5 |
| 3/8  | 16               | 16,5           | 4,2 | 1,8 |

- Whitworth thread (BSW) is not internationally recommended.
- It is advised to use metric (M).

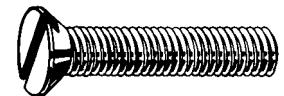
### Article groups

| Thread | Driving features | Material | Class | Packaging | Code  | Page |
|--------|------------------|----------|-------|-----------|-------|------|
| BSW    | slotted          | St       | 4.8   | Standard  | 24220 | 6-23 |
| BSW    | slotted          | Br Cu2   |       | Standard  | 48220 | 6-23 |

#### 24220 Slotted countersunk head screw BSW

X07A

**Thread** British Standard Whitworth  
**Material** Steel  
**Class** 4.8  
**Packaging** Standard



| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 5/32X1.2   | 100 | <a href="#">24220.039.012</a> | 3/16X1.1/2 | 100 | <a href="#">24220.047.038</a> | 5/16X5/8   | 100 | <a href="#">24220.079.015</a> |
| 5/32X5/8   | 100 | <a href="#">24220.039.015</a> | 3/16X2.IN. | 100 | <a href="#">24220.047.050</a> | 5/16X1.IN. | 100 | <a href="#">24220.079.025</a> |
| 5/32X3/4   | 100 | <a href="#">24220.039.019</a> | 1/4X3/8    | 100 | <a href="#">24220.063.009</a> | 5/16X1.3/4 | 50  | <a href="#">24220.079.044</a> |
| 5/32X1.IN. | 144 | <a href="#">24220.039.025</a> | 1/4X1/2    | 100 | <a href="#">24220.063.012</a> | 5/16X2.IN. | 50  | <a href="#">24220.079.050</a> |
| 5/32X1.1/4 | 100 | <a href="#">24220.039.031</a> | 1/4X5/8    | 100 | <a href="#">24220.063.015</a> | 5/16X2.1/2 | 50  | <a href="#">24220.079.063</a> |
| 5/32X1.1/2 | 100 | <a href="#">24220.039.038</a> | 1/4X3/4    | 100 | <a href="#">24220.063.019</a> |            |     |                               |
| 3/16X3/8   | 100 | <a href="#">24220.047.009</a> | 1/4X1.IN.  | 100 | <a href="#">24220.063.025</a> | 3/8X1.IN.  | 100 | <a href="#">24220.096.025</a> |
| 3/16X1/2   | 100 | <a href="#">24220.047.012</a> | 1/4X1.1/4  | 100 | <a href="#">24220.063.031</a> | 3/8X2.IN.  | 50  | <a href="#">24220.096.050</a> |
| 3/16X5/8   | 100 | <a href="#">24220.047.015</a> | 1/4X1.1/2  | 100 | <a href="#">24220.063.038</a> | 3/8X2.1/2  | 50  | <a href="#">24220.096.063</a> |
| 3/16X3/4   | 100 | <a href="#">24220.047.019</a> | 1/4X2.IN.  | 100 | <a href="#">24220.063.050</a> | 3/8X3.IN.  | 50  | <a href="#">24220.096.076</a> |
| 3/16X1.IN. | 100 | <a href="#">24220.047.025</a> | 1/4X2.1/2  | 100 | <a href="#">24220.063.063</a> |            |     |                               |
| 3/16X1.1/4 | 100 | <a href="#">24220.047.031</a> | 1/4X3.IN.  | 100 | <a href="#">24220.063.076</a> |            |     |                               |

#### 48220 Slotted countersunk head screw BSW

X07A

**Thread** British Standard Whitworth  
**Material** Brass Cu2  
**Packaging** Standard



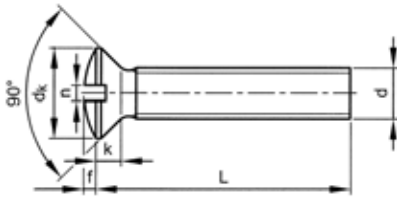
| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 1/8X3/8    | 100 | <a href="#">48220.031.009</a> | 3/16X1/2   | 100 | <a href="#">48220.047.012</a> | 1/4X2.IN.  | 100 | <a href="#">48220.063.050</a> |
| 1/8X1/2    | 100 | <a href="#">48220.031.012</a> | 3/16X5/8   | 100 | <a href="#">48220.047.015</a> | 1/4X2.1/2  | 50  | <a href="#">48220.063.063</a> |
| 1/8X5/8    | 100 | <a href="#">48220.031.015</a> | 3/16X3/4   | 100 | <a href="#">48220.047.019</a> | 1/4X3.IN.  | 50  | <a href="#">48220.063.076</a> |
| 1/8X3/4    | 100 | <a href="#">48220.031.019</a> | 3/16X1.IN. | 100 | <a href="#">48220.047.025</a> |            |     |                               |
| 1/8X1.IN.  | 100 | <a href="#">48220.031.025</a> | 3/16X1.1/4 | 100 | <a href="#">48220.047.031</a> | 5/16X5/8   | 100 | <a href="#">48220.079.015</a> |
| 1/8X1.1/4  | 100 | <a href="#">48220.031.031</a> | 3/16X1.1/2 | 100 | <a href="#">48220.047.038</a> | 5/16X3/4   | 100 | <a href="#">48220.079.019</a> |
|            |     |                               | 3/16X2.IN. | 100 | <a href="#">48220.047.050</a> | 5/16X1.IN. | 100 | <a href="#">48220.079.025</a> |
| 5/32X3/8   | 100 | <a href="#">48220.039.009</a> | 1/4X3/8    | 100 | <a href="#">48220.063.009</a> | 5/16X1.1/2 | 50  | <a href="#">48220.079.038</a> |
| 5/32X1/2   | 100 | <a href="#">48220.039.012</a> | 1/4X1/2    | 100 | <a href="#">48220.063.012</a> | 5/16X2.IN. | 50  | <a href="#">48220.079.050</a> |
| 5/32X3/4   | 100 | <a href="#">48220.039.019</a> | 1/4X5/8    | 100 | <a href="#">48220.063.015</a> | 5/16X2.1/2 | 50  | <a href="#">48220.079.063</a> |
| 5/32X1.IN. | 100 | <a href="#">48220.039.025</a> | 1/4X3/4    | 100 | <a href="#">48220.063.019</a> | 5/16X3.IN. | 50  | <a href="#">48220.079.076</a> |
| 5/32X1.1/4 | 100 | <a href="#">48220.039.031</a> | 1/4X1.IN.  | 100 | <a href="#">48220.063.025</a> | 3/8X3/4    | 50  | <a href="#">48220.096.019</a> |
|            |     |                               | 1/4X1.1/4  | 100 | <a href="#">48220.063.031</a> | 3/8X1.IN.  | 50  | <a href="#">48220.096.025</a> |
| 3/16X3/8   | 100 | <a href="#">48220.047.009</a> | 1/4X1.1/2  | 100 | <a href="#">48220.063.038</a> |            |     |                               |

| 48220 Slotted countersunk head screw BSW |    |                               |           |    |                               |           |    |                               |
|--|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| d x L                                    | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
| 3/8X1.1/2                                | 50 | <a href="#">48220.096.038</a> | 3/8X2.1/2 | 50 | <a href="#">48220.096.063</a> | 3/8X3.IN. | 50 | <a href="#">48220.096.076</a> |
| 3/8X2.IN.                                | 50 | <a href="#">48220.096.050</a> |           |    |                               |           |    |                               |

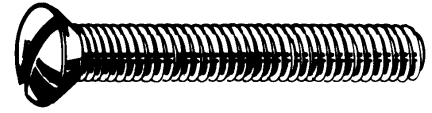
6



## Slotted raised countersunk head screw



ISO 2010  
**DIN 964**  
 NEN 2371  
 ANSI B18.6.7M  
 NF E25-124  
 BS 4183



### Technical data

| d    | P    | dk   | k (max.) | f ≈  | n   | Full thread L ≤ |
|------|------|------|----------|------|-----|-----------------|
| M2   | 0,4  | 3,8  | 1,2      | 0,5  | 0,5 | 16              |
| M2,5 | 0,45 | 4,7  | 1,5      | 0,6  | 0,6 | 16              |
| M3   | 0,5  | 5,6  | 1,65     | 0,75 | 0,8 | 20              |
| M4   | 0,7  | 7,5  | 2,2      | 1    | 1   | 25              |
| M5   | 0,8  | 9,2  | 2,5      | 1,25 | 1,2 | 30              |
| M6   | 1    | 11   | 3        | 1,5  | 1,6 | 35              |
| M8   | 1,25 | 14,5 | 4        | 2    | 2   | 40              |
| M10  | 1,5  | 18   | 5        | 2,5  | 2,5 | 50              |

### Article groups

| Thread | Driving features | Material   | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|------------|-------|-------------------|-----------|-------|------|
| M      | slotted          | St         | 4.8   | Zipl              | Standard  | 24570 | 6-25 |
| M      | slotted          | Br Cu2/Cu3 |       |                   | Standard  | 48180 | 6-25 |
| M      | slotted          | Br Cu2/Cu3 |       | Ni.pl.            | Standard  | 48570 | 6-26 |
| M      | slotted          | St.St. A2  |       |                   | Standard  | 51210 | 6-26 |
| M      | slotted          | St.St. A4  |       |                   | Standard  | 55210 | 6-27 |

6

#### 24570 Slotted raised countersunk head screw

H01A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 500 | <a href="#">24570.030.006</a> | M4X40 | 500 | <a href="#">24570.040.040</a> | M6X12 | 200 | <a href="#">24570.060.012</a> |
| M3X8  | 500 | <a href="#">24570.030.008</a> | M4X50 | 500 | <a href="#">24570.040.050</a> | M6X16 | 200 | <a href="#">24570.060.016</a> |
| M3X10 | 500 | <a href="#">24570.030.010</a> | M4X60 | 200 | <a href="#">24570.040.060</a> | M6X20 | 200 | <a href="#">24570.060.020</a> |
| M3X12 | 500 | <a href="#">24570.030.012</a> |       |     |                               | M6X25 | 200 | <a href="#">24570.060.025</a> |
| M3X16 | 500 | <a href="#">24570.030.016</a> | M5X8  | 500 | <a href="#">24570.050.008</a> | M6X30 | 200 | <a href="#">24570.060.030</a> |
| M3X20 | 500 | <a href="#">24570.030.020</a> | M5X10 | 500 | <a href="#">24570.050.010</a> | M6X35 | 200 | <a href="#">24570.060.035</a> |
| M3X25 | 500 | <a href="#">24570.030.025</a> | M5X12 | 500 | <a href="#">24570.050.012</a> | M6X40 | 200 | <a href="#">24570.060.040</a> |
| M3X30 | 500 | <a href="#">24570.030.030</a> | M5X16 | 500 | <a href="#">24570.050.016</a> | M6X50 | 200 | <a href="#">24570.060.050</a> |
| M3X40 | 500 | <a href="#">24570.030.040</a> | M5X20 | 500 | <a href="#">24570.050.020</a> | M6X60 | 200 | <a href="#">24570.060.060</a> |
|       |     |                               | M5X25 | 500 | <a href="#">24570.050.025</a> |       |     |                               |
| M4X6  | 500 | <a href="#">24570.040.006</a> | M5X30 | 500 | <a href="#">24570.050.030</a> | M8X16 | 200 | <a href="#">24570.080.016</a> |
| M4X8  | 500 | <a href="#">24570.040.008</a> | M5X35 | 500 | <a href="#">24570.050.035</a> | M8X20 | 200 | <a href="#">24570.080.020</a> |
| M4X10 | 500 | <a href="#">24570.040.010</a> | M5X40 | 500 | <a href="#">24570.050.040</a> | M8X25 | 200 | <a href="#">24570.080.025</a> |
| M4X12 | 500 | <a href="#">24570.040.012</a> | M5X45 | 200 | <a href="#">24570.050.045</a> | M8X30 | 200 | <a href="#">24570.080.030</a> |
| M4X16 | 500 | <a href="#">24570.040.016</a> | M5X50 | 200 | <a href="#">24570.050.050</a> | M8X40 | 200 | <a href="#">24570.080.040</a> |
| M4X20 | 500 | <a href="#">24570.040.020</a> | M5X60 | 200 | <a href="#">24570.050.060</a> | M8X50 | 200 | <a href="#">24570.080.050</a> |
| M4X25 | 500 | <a href="#">24570.040.025</a> |       |     |                               | M8X60 | 100 | <a href="#">24570.080.060</a> |
| M4X30 | 500 | <a href="#">24570.040.030</a> | M6X10 | 200 | <a href="#">24570.060.010</a> |       |     |                               |

#### 48180 Slotted raised countersunk head screw

M05A

**Thread** Metric thread  
**Material** Brass Cu2/Cu3  
**Packaging** Standard



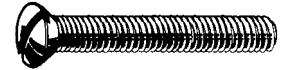
| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2,5X8  | 200 | <a href="#">48180.025.008</a> | M3X12 | 200 | <a href="#">48180.030.012</a> | M4X12 | 200 | <a href="#">48180.040.012</a> |
| M2,5X10 | 200 | <a href="#">48180.025.010</a> | M3X16 | 200 | <a href="#">48180.030.016</a> | M4X16 | 200 | <a href="#">48180.040.016</a> |
| M2,5X12 | 200 | <a href="#">48180.025.012</a> | M3X20 | 200 | <a href="#">48180.030.020</a> | M4X20 | 200 | <a href="#">48180.040.020</a> |
|         |     |                               |       |     |                               | M4X25 | 200 | <a href="#">48180.040.025</a> |
| M3X6    | 200 | <a href="#">48180.030.006</a> | M4X6  | 200 | <a href="#">48180.040.006</a> | M4X30 | 200 | <a href="#">48180.040.030</a> |
| M3X8    | 200 | <a href="#">48180.030.008</a> | M4X8  | 200 | <a href="#">48180.040.008</a> |       |     |                               |
| M3X10   | 200 | <a href="#">48180.030.010</a> | M4X10 | 200 | <a href="#">48180.040.010</a> | M5X8  | 200 | <a href="#">48180.050.008</a> |

**48180 Slotted raised countersunk head screw**

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M5X10 | 200 | <a href="#">48180.050.010</a> | M6X10 | 200 | <a href="#">48180.060.010</a> | M8X16 | 100 | <a href="#">48180.080.016</a> |
| M5X12 | 200 | <a href="#">48180.050.012</a> | M6X12 | 200 | <a href="#">48180.060.012</a> | M8X20 | 100 | <a href="#">48180.080.020</a> |
| M5X16 | 200 | <a href="#">48180.050.016</a> | M6X16 | 200 | <a href="#">48180.060.016</a> | M8X25 | 100 | <a href="#">48180.080.025</a> |
| M5X20 | 200 | <a href="#">48180.050.020</a> | M6X20 | 200 | <a href="#">48180.060.020</a> | M8X30 | 100 | <a href="#">48180.080.030</a> |
| M5X25 | 200 | <a href="#">48180.050.025</a> | M6X25 | 200 | <a href="#">48180.060.025</a> | M8X35 | 100 | <a href="#">48180.080.035</a> |
| M5X30 | 200 | <a href="#">48180.050.030</a> | M6X30 | 200 | <a href="#">48180.060.030</a> | M8X40 | 100 | <a href="#">48180.080.040</a> |
| M5X35 | 200 | <a href="#">48180.050.035</a> | M6X40 | 200 | <a href="#">48180.060.040</a> |       |     |                               |
| M5X40 | 200 | <a href="#">48180.050.040</a> | M6X50 | 200 | <a href="#">48180.060.050</a> |       |     |                               |
| M5X50 | 200 | <a href="#">48180.050.050</a> | M6X60 | 100 | <a href="#">48180.060.060</a> |       |     |                               |

**48570 Slotted raised countersunk head screw**
**M05A**

**Thread** Metric thread  
**Material** Brass Cu2/Cu3  
**Surface treatment** Nickel plated  
**Packaging** Standard



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">48570.030.006</a> | M4X25 | 200 | <a href="#">48570.040.025</a> | M5X50 | 200 | <a href="#">48570.050.050</a> |
| M3X8  | 200 | <a href="#">48570.030.008</a> | M4X30 | 200 | <a href="#">48570.040.030</a> |       |     |                               |
| M3X10 | 200 | <a href="#">48570.030.010</a> | M4X35 | 200 | <a href="#">48570.040.035</a> | M6X10 | 200 | <a href="#">48570.060.010</a> |
| M3X12 | 200 | <a href="#">48570.030.012</a> |       |     |                               | M6X12 | 200 | <a href="#">48570.060.012</a> |
| M3X16 | 200 | <a href="#">48570.030.016</a> | M5X8  | 200 | <a href="#">48570.050.008</a> | M6X16 | 200 | <a href="#">48570.060.016</a> |
| M3X20 | 200 | <a href="#">48570.030.020</a> | M5X10 | 200 | <a href="#">48570.050.010</a> | M6X20 | 200 | <a href="#">48570.060.020</a> |
|       |     |                               | M5X12 | 200 | <a href="#">48570.050.012</a> | M6X25 | 200 | <a href="#">48570.060.025</a> |
| M4X6  | 200 | <a href="#">48570.040.006</a> | M5X16 | 200 | <a href="#">48570.050.016</a> | M6X30 | 200 | <a href="#">48570.060.030</a> |
| M4X8  | 200 | <a href="#">48570.040.008</a> | M5X20 | 200 | <a href="#">48570.050.020</a> | M6X40 | 200 | <a href="#">48570.060.040</a> |
| M4X10 | 200 | <a href="#">48570.040.010</a> | M5X25 | 200 | <a href="#">48570.050.025</a> | M6X50 | 200 | <a href="#">48570.060.050</a> |
| M4X12 | 200 | <a href="#">48570.040.012</a> | M5X30 | 200 | <a href="#">48570.050.030</a> | M6X60 | 100 | <a href="#">48570.060.060</a> |
| M4X16 | 200 | <a href="#">48570.040.016</a> | M5X35 | 200 | <a href="#">48570.050.035</a> |       |     |                               |
| M4X20 | 200 | <a href="#">48570.040.020</a> | M5X40 | 200 | <a href="#">48570.050.040</a> |       |     |                               |

**51210 Slotted raised countersunk head screw**
**R02A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard

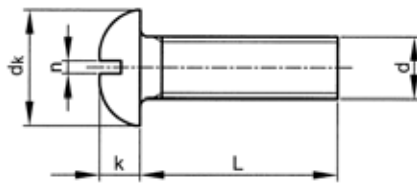


| d x L     | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|-----------|------|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| M2X5      | 100  | <a href="#">51210.020.005</a> | M4X25    | 200 | <a href="#">51210.040.025</a> | M6X30     | 200 | <a href="#">51210.060.030</a> |
| M2X6      | 100  | <a href="#">51210.020.006</a> | M4X30    | 200 | <a href="#">51210.040.030</a> | M6X35     | 100 | <a href="#">51210.060.035</a> |
| M2X12     | 100  | <a href="#">51210.020.012</a> | M4X35    | 200 | <a href="#">51210.040.035</a> | M6X40     | 100 | <a href="#">51210.060.040</a> |
| M2X20 *   | 1000 | <a href="#">51210.020.020</a> | M4X40    | 200 | <a href="#">51210.040.040</a> | M6X45     | 100 | <a href="#">51210.060.045</a> |
|           |      |                               | M4X45    | 200 | <a href="#">51210.040.045</a> | M6X50     | 100 | <a href="#">51210.060.050</a> |
| M2,5X6    | 100  | <a href="#">51210.025.006</a> | M4X50    | 200 | <a href="#">51210.040.050</a> | M6X55 *   | 200 | <a href="#">51210.060.055</a> |
| M2,5X8    | 100  | <a href="#">51210.025.008</a> | M4X60    | 200 | <a href="#">51210.040.060</a> | M6X60     | 100 | <a href="#">51210.060.060</a> |
| M2,5X10   | 100  | <a href="#">51210.025.010</a> | M4X70 *  | 200 | <a href="#">51210.040.070</a> | M6X70     | 100 | <a href="#">51210.060.070</a> |
| M2,5X12   | 100  | <a href="#">51210.025.012</a> | M4X80 *  | 200 | <a href="#">51210.040.080</a> | M6X80     | 100 | <a href="#">51210.060.080</a> |
| M2,5X16   | 100  | <a href="#">51210.025.016</a> |          |     |                               | M6X90     | 100 | <a href="#">51210.060.090</a> |
| M2,5X20 * | 1000 | <a href="#">51210.025.020</a> | M5X6     | 200 | <a href="#">51210.050.006</a> | M6X100    | 100 | <a href="#">51210.060.100</a> |
| M2,5X30 * | 500  | <a href="#">51210.025.030</a> | M5X8     | 200 | <a href="#">51210.050.008</a> |           |     |                               |
|           |      |                               | M5X8     | 200 | <a href="#">51210.050.010</a> | M8X16     | 100 | <a href="#">51210.080.016</a> |
| M3X6      | 500  | <a href="#">51210.030.006</a> | M5X10    | 200 | <a href="#">51210.050.010</a> | M8X20     | 100 | <a href="#">51210.080.020</a> |
| M3X8      | 500  | <a href="#">51210.030.008</a> | M5X12    | 200 | <a href="#">51210.050.012</a> | M8X25     | 100 | <a href="#">51210.080.025</a> |
| M3X10     | 500  | <a href="#">51210.030.010</a> | M5X14 *  | 500 | <a href="#">51210.050.014</a> | M8X30     | 100 | <a href="#">51210.080.030</a> |
| M3X12     | 500  | <a href="#">51210.030.012</a> | M5X16    | 200 | <a href="#">51210.050.016</a> | M8X35     | 100 | <a href="#">51210.080.035</a> |
| M3X14     | 500  | <a href="#">51210.030.014</a> | M5X18 *  | 500 | <a href="#">51210.050.018</a> | M8X40     | 100 | <a href="#">51210.080.040</a> |
| M3X16     | 500  | <a href="#">51210.030.016</a> | M5X20    | 200 | <a href="#">51210.050.020</a> | M8X45     | 100 | <a href="#">51210.080.045</a> |
| M3X18 *   | 500  | <a href="#">51210.030.018</a> | M5X22 *  | 200 | <a href="#">51210.050.022</a> | M8X50     | 100 | <a href="#">51210.080.050</a> |
| M3X20     | 500  | <a href="#">51210.030.020</a> | M5X25    | 200 | <a href="#">51210.050.025</a> | M8X60     | 100 | <a href="#">51210.080.060</a> |
| M3X25     | 500  | <a href="#">51210.030.025</a> | M5X30    | 200 | <a href="#">51210.050.030</a> | M8X70     | 100 | <a href="#">51210.080.070</a> |
| M3X30     | 500  | <a href="#">51210.030.030</a> | M5X35    | 200 | <a href="#">51210.050.035</a> | M8X80     | 100 | <a href="#">51210.080.080</a> |
| M3X35     | 500  | <a href="#">51210.030.035</a> | M5X40    | 200 | <a href="#">51210.050.040</a> | M8X90     | 100 | <a href="#">51210.080.090</a> |
| M3X40     | 500  | <a href="#">51210.030.040</a> | M5X45    | 200 | <a href="#">51210.050.045</a> | M8X100    | 100 | <a href="#">51210.080.100</a> |
| M3X45 *   | 200  | <a href="#">51210.030.045</a> | M5X50    | 200 | <a href="#">51210.050.050</a> |           |     |                               |
| M3X50     | 500  | <a href="#">51210.030.050</a> | M5X55 *  | 200 | <a href="#">51210.050.055</a> | M10X16 *  | 100 | <a href="#">51210.100.016</a> |
|           |      |                               | M5X60    | 100 | <a href="#">51210.050.060</a> | M10X25 *  | 100 | <a href="#">51210.100.025</a> |
| M4X5 *    | 500  | <a href="#">51210.040.005</a> | M5X70    | 100 | <a href="#">51210.050.070</a> | M10X30    | 100 | <a href="#">51210.100.030</a> |
| M4X6      | 500  | <a href="#">51210.040.006</a> | M5X80    | 100 | <a href="#">51210.050.080</a> | M10X35    | 100 | <a href="#">51210.100.035</a> |
| M4X8      | 500  | <a href="#">51210.040.008</a> | M5X90    | 100 | <a href="#">51210.050.090</a> | M10X40    | 100 | <a href="#">51210.100.040</a> |
| M4X10     | 500  | <a href="#">51210.040.010</a> | M5X100 * | 200 | <a href="#">51210.050.100</a> | M10X45 *  | 100 | <a href="#">51210.100.045</a> |
| M4X12     | 500  | <a href="#">51210.040.012</a> |          |     |                               | M10X50    | 100 | <a href="#">51210.100.050</a> |
| M4X14     | 500  | <a href="#">51210.040.014</a> | M6X10    | 200 | <a href="#">51210.060.010</a> | M10X60    | 100 | <a href="#">51210.100.060</a> |
| M4X16     | 500  | <a href="#">51210.040.016</a> | M6X12    | 200 | <a href="#">51210.060.012</a> | M10X70    | 50  | <a href="#">51210.100.070</a> |
| M4X18 *   | 500  | <a href="#">51210.040.018</a> | M6X16    | 200 | <a href="#">51210.060.016</a> | M10X100 * | 50  | <a href="#">51210.100.100</a> |
| M4X20     | 500  | <a href="#">51210.040.020</a> | M6X20    | 200 | <a href="#">51210.060.020</a> |           |     |                               |
|           |      |                               | M6X25    | 200 | <a href="#">51210.060.025</a> |           |     |                               |

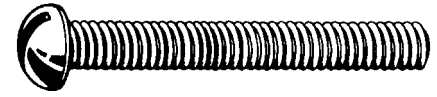
**55210 Slotted raised countersunk head screw**
**R42A**
**Thread** Metric thread  
**Material** Stainless steel A4  
**Packaging** Standard


| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M2X6    | 100 | <a href="#">55210.020.006</a> | M4X25   | 200 | <a href="#">55210.040.025</a> | M6X25    | 200 | <a href="#">55210.060.025</a> |
| M2X8    | 100 | <a href="#">55210.020.008</a> | M4X30   | 200 | <a href="#">55210.040.030</a> | M6X30    | 200 | <a href="#">55210.060.030</a> |
| M2X16   | 100 | <a href="#">55210.020.016</a> | M4X35   | 200 | <a href="#">55210.040.035</a> | M6X35    | 100 | <a href="#">55210.060.035</a> |
| M2X20   | 100 | <a href="#">55210.020.020</a> | M4X40   | 200 | <a href="#">55210.040.040</a> | M6X40    | 100 | <a href="#">55210.060.040</a> |
| M2,5X6  | 100 | <a href="#">55210.025.006</a> | M4X45   | 200 | <a href="#">55210.040.045</a> | M6X45    | 100 | <a href="#">55210.060.045</a> |
| M2,5X8  | 100 | <a href="#">55210.025.008</a> | M4X50   | 200 | <a href="#">55210.040.050</a> | M6X50    | 100 | <a href="#">55210.060.050</a> |
| M2,5X10 | 100 | <a href="#">55210.025.010</a> | M4X60   | 200 | <a href="#">55210.040.060</a> | M6X60    | 100 | <a href="#">55210.060.060</a> |
| M2,5X12 | 100 | <a href="#">55210.025.012</a> | M4X70 * | 200 | <a href="#">55210.040.070</a> | M6X70    | 100 | <a href="#">55210.060.070</a> |
| M2,5X16 | 100 | <a href="#">55210.025.016</a> | M4X80 * | 200 | <a href="#">55210.040.080</a> | M6X80    | 100 | <a href="#">55210.060.080</a> |
| M2,5X25 | 100 | <a href="#">55210.025.025</a> | M5X6    | 200 | <a href="#">55210.050.006</a> | M6X90    | 100 | <a href="#">55210.060.090</a> |
| M3X6    | 500 | <a href="#">55210.030.006</a> | M5X8    | 200 | <a href="#">55210.050.008</a> | M6X100   | 100 | <a href="#">55210.060.100</a> |
| M3X8    | 500 | <a href="#">55210.030.008</a> | M5X10   | 200 | <a href="#">55210.050.010</a> | M8X16    | 100 | <a href="#">55210.080.016</a> |
| M3X10   | 500 | <a href="#">55210.030.010</a> | M5X12   | 200 | <a href="#">55210.050.012</a> | M8X20    | 100 | <a href="#">55210.080.020</a> |
| M3X12   | 500 | <a href="#">55210.030.012</a> | M5X14   | 200 | <a href="#">55210.050.014</a> | M8X25    | 100 | <a href="#">55210.080.025</a> |
| M3X14   | 500 | <a href="#">55210.030.014</a> | M5X16   | 200 | <a href="#">55210.050.016</a> | M8X30    | 100 | <a href="#">55210.080.030</a> |
| M3X16   | 500 | <a href="#">55210.030.016</a> | M5X18   | 200 | <a href="#">55210.050.018</a> | M8X35    | 100 | <a href="#">55210.080.035</a> |
| M3X20   | 500 | <a href="#">55210.030.020</a> | M5X20   | 200 | <a href="#">55210.050.020</a> | M8X40    | 100 | <a href="#">55210.080.040</a> |
| M3X25   | 500 | <a href="#">55210.030.025</a> | M5X25   | 200 | <a href="#">55210.050.025</a> | M8X45 *  | 200 | <a href="#">55210.080.045</a> |
| M3X30   | 500 | <a href="#">55210.030.030</a> | M5X30   | 200 | <a href="#">55210.050.030</a> | M8X50    | 100 | <a href="#">55210.080.050</a> |
| M3X35   | 500 | <a href="#">55210.030.035</a> | M5X35   | 200 | <a href="#">55210.050.035</a> | M8X60    | 100 | <a href="#">55210.080.060</a> |
| M3X40   | 500 | <a href="#">55210.030.040</a> | M5X40   | 200 | <a href="#">55210.050.040</a> | M8X70 *  | 100 | <a href="#">55210.080.070</a> |
| M3X50   | 500 | <a href="#">55210.030.050</a> | M5X45   | 200 | <a href="#">55210.050.045</a> | M8X80 *  | 100 | <a href="#">55210.080.080</a> |
| M4X6    | 500 | <a href="#">55210.040.006</a> | M5X50   | 200 | <a href="#">55210.050.050</a> | M8X90 *  | 100 | <a href="#">55210.080.090</a> |
| M4X8    | 500 | <a href="#">55210.040.008</a> | M5X60   | 100 | <a href="#">55210.050.060</a> | M8X100 * | 100 | <a href="#">55210.080.100</a> |
| M4X10   | 500 | <a href="#">55210.040.010</a> | M5X70   | 100 | <a href="#">55210.050.070</a> | M10X20 * | 100 | <a href="#">55210.100.020</a> |
| M4X12   | 500 | <a href="#">55210.040.012</a> | M5X80   | 100 | <a href="#">55210.050.080</a> | M10X30 * | 100 | <a href="#">55210.100.030</a> |
| M4X14   | 500 | <a href="#">55210.040.014</a> | M5X100  | 100 | <a href="#">55210.050.100</a> | M10X35 * | 100 | <a href="#">55210.100.035</a> |
| M4X16   | 500 | <a href="#">55210.040.016</a> | M6X10   | 200 | <a href="#">55210.060.010</a> | M10X40 * | 100 | <a href="#">55210.100.040</a> |
| M4X18   | 500 | <a href="#">55210.040.018</a> | M6X12   | 200 | <a href="#">55210.060.012</a> | M10X45 * | 100 | <a href="#">55210.100.045</a> |
| M4X20   | 500 | <a href="#">55210.040.020</a> | M6X16   | 200 | <a href="#">55210.060.016</a> | M10X60 * | 100 | <a href="#">55210.100.060</a> |
|         |     |                               | M6X20   | 200 | <a href="#">55210.060.020</a> |          |     |                               |

## Slotted round head screw BSW



NEN ≈1779 A (1960)  
 BS ≈450 (1958)



### Technical data

| d    | Threads per inch | dk   | k   | n   |
|------|------------------|------|-----|-----|
| 1/8  | 40               | 5,5  | 2,1 | 0,8 |
| 5/32 | 32               | 7    | 2,7 | 0,9 |
| 3/16 | 24               | 8,3  | 3,2 | 1,1 |
| 1/4  | 20               | 11   | 4,3 | 1,3 |
| 5/16 | 18               | 13,5 | 5,4 | 1,5 |
| 3/8  | 16               | 16,5 | 6,5 | 1,8 |

- Whitworth thread (BSW) is not internationally recommended.
- It is advised to use metric (M).
- Lengths over 2 inch are partly threaded, min. threadlength is 1.3/4 inch.

### Article groups

| Thread | Driving features | Material | Class | Packaging | Code  | Page |
|--------|------------------|----------|-------|-----------|-------|------|
| BSW    | slotted          | St       | 4.8   | Standard  | 24210 | 6-28 |
| BSW    | slotted          | Br Cu2   |       | Standard  | 48210 | 6-28 |

6

| 24210 Slotted round head screw BSW |                            | X07A |
|------------------------------------|----------------------------|------|
| <b>Thread</b>                      | British Standard Whitworth |      |
| <b>Material</b>                    | Steel                      |      |
| <b>Class</b>                       | 4.8                        |      |
| <b>Packaging</b>                   | Standard                   |      |



| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 1/8X3/8    | 100 | <a href="#">24210.031.009</a> | 3/16X3/8   | 100 | <a href="#">24210.047.009</a> | 1/4X1.1/2  | 100 | <a href="#">24210.063.038</a> |
| 1/8X1/2    | 144 | <a href="#">24210.031.012</a> | 3/16X1/2   | 100 | <a href="#">24210.047.012</a> | 1/4X2IN    | 100 | <a href="#">24210.063.050</a> |
| 1/8X5/8    | 100 | <a href="#">24210.031.015</a> | 3/16X5/8   | 100 | <a href="#">24210.047.015</a> | 1/4X2.1/2  | 100 | <a href="#">24210.063.063</a> |
| 1/8X3/4    | 100 | <a href="#">24210.031.019</a> | 3/16X3/4   | 100 | <a href="#">24210.047.019</a> | 1/4X3.IN.  | 100 | <a href="#">24210.063.076</a> |
| 1/8X1.IN.  | 100 | <a href="#">24210.031.025</a> | 3/16X1.IN. | 100 | <a href="#">24210.047.025</a> |            |     |                               |
| 1/8X1.1/4  | 100 | <a href="#">24210.031.031</a> | 3/16X1.1/4 | 100 | <a href="#">24210.047.031</a> | 5/16X5/8   | 144 | <a href="#">24210.079.015</a> |
| 1/8X1.1/2  | 100 | <a href="#">24210.031.038</a> | 3/16X1.1/2 | 100 | <a href="#">24210.047.038</a> | 5/16X3/4   | 100 | <a href="#">24210.079.019</a> |
|            |     |                               | 3/16X2.IN. | 100 | <a href="#">24210.047.050</a> | 5/16X1.IN. | 144 | <a href="#">24210.079.025</a> |
| 5/32X1/2   | 100 | <a href="#">24210.039.012</a> |            |     |                               | 5/16X1.1/4 | 100 | <a href="#">24210.079.031</a> |
| 5/32X5/8   | 100 | <a href="#">24210.039.015</a> | 1/4X3/8    | 100 | <a href="#">24210.063.009</a> | 5/16X1.1/2 | 100 | <a href="#">24210.079.038</a> |
| 5/32X3/4   | 100 | <a href="#">24210.039.019</a> | 1/4X1/2    | 100 | <a href="#">24210.063.012</a> | 5/16X2.IN. | 50  | <a href="#">24210.079.050</a> |
| 5/32X1.IN. | 100 | <a href="#">24210.039.025</a> | 1/4X5/8    | 100 | <a href="#">24210.063.015</a> | 5/16X2.1/2 | 50  | <a href="#">24210.079.063</a> |
| 5/32X1.1/2 | 100 | <a href="#">24210.039.038</a> | 1/4X3/4    | 100 | <a href="#">24210.063.019</a> | 5/16X3.IN. | 50  | <a href="#">24210.079.076</a> |
|            |     |                               | 1/4X1.IN.  | 100 | <a href="#">24210.063.025</a> |            |     |                               |
| 3/16X1/4   | 100 | <a href="#">24210.047.006</a> | 1/4X1.1/4  | 100 | <a href="#">24210.063.031</a> |            |     |                               |

| 48210 Slotted round head screw BSW |                            | X07A |
|------------------------------------|----------------------------|------|
| <b>Thread</b>                      | British Standard Whitworth |      |
| <b>Material</b>                    | Brass Cu2                  |      |
| <b>Packaging</b>                   | Standard                   |      |

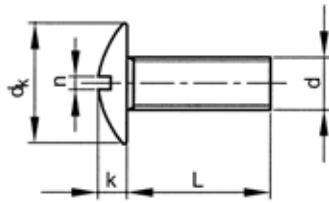


| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 1/8X3/8    | 100 | <a href="#">48210.031.009</a> | 3/16X3/8   | 100 | <a href="#">48210.047.009</a> | 1/4X5/8    | 100 | <a href="#">48210.063.015</a> |
| 1/8X1/2    | 100 | <a href="#">48210.031.012</a> | 3/16X1/2   | 100 | <a href="#">48210.047.012</a> | 1/4X3/4    | 100 | <a href="#">48210.063.019</a> |
| 1/8X5/8    | 100 | <a href="#">48210.031.015</a> | 3/16X5/8   | 100 | <a href="#">48210.047.015</a> | 1/4X1.IN.  | 100 | <a href="#">48210.063.025</a> |
| 1/8X3/4    | 100 | <a href="#">48210.031.019</a> | 3/16X3/4   | 100 | <a href="#">48210.047.019</a> | 1/4X1.1/4  | 100 | <a href="#">48210.063.031</a> |
| 1/8X1.IN.  | 100 | <a href="#">48210.031.025</a> | 3/16X1.IN. | 100 | <a href="#">48210.047.025</a> | 1/4X1.1/2  | 100 | <a href="#">48210.063.038</a> |
| 1/8X1.1/4  | 144 | <a href="#">48210.031.031</a> | 3/16X1.1/4 | 100 | <a href="#">48210.047.031</a> | 1/4X2.IN.  | 144 | <a href="#">48210.063.050</a> |
|            |     |                               | 3/16X1.1/2 | 100 | <a href="#">48210.047.038</a> | 1/4X2.1/2  | 100 | <a href="#">48210.063.063</a> |
| 5/32X1/2   | 100 | <a href="#">48210.039.012</a> | 3/16X2.IN. | 144 | <a href="#">48210.047.050</a> | 1/4X3.IN.  | 100 | <a href="#">48210.063.076</a> |
| 5/32X5/8   | 100 | <a href="#">48210.039.015</a> |            |     |                               | 5/16X5/8   | 100 | <a href="#">48210.079.015</a> |
| 5/32X3/4   | 100 | <a href="#">48210.039.019</a> | 1/4X3/8    | 100 | <a href="#">48210.063.009</a> | 5/16X3/4   | 100 | <a href="#">48210.079.019</a> |
| 5/32X1.IN. | 100 | <a href="#">48210.039.025</a> | 1/4X1/2    | 100 | <a href="#">48210.063.012</a> | 5/16X1.IN. | 144 | <a href="#">48210.079.025</a> |
| 5/32X1.1/4 | 100 | <a href="#">48210.039.031</a> |            |     |                               |            |     |                               |

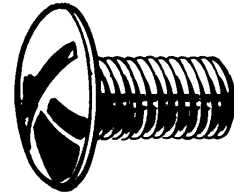
**48210 Slotted round head screw BSW**

| d x L      | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|------------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 5/16X1.1/4 | 50 | <a href="#">48210.079.031</a> | 3/8X3/4   | 50 | <a href="#">48210.096.019</a> | 3/8X3.IN. | 50 | <a href="#">48210.096.076</a> |
| 5/16X1.1/2 | 50 | <a href="#">48210.079.038</a> | 3/8X1.IN. | 50 | <a href="#">48210.096.025</a> |           |    |                               |
| 5/16X2.IN. | 50 | <a href="#">48210.079.050</a> | 3/8X1.1/4 | 50 | <a href="#">48210.096.031</a> |           |    |                               |
| 5/16X2.1/2 | 50 | <a href="#">48210.079.063</a> | 3/8X1.1/2 | 50 | <a href="#">48210.096.038</a> |           |    |                               |
| 5/16X3.IN. | 50 | <a href="#">48210.079.076</a> | 3/8X2.IN. | 50 | <a href="#">48210.096.050</a> |           |    |                               |
|            |    |                               | 3/8X2.1/2 | 50 | <a href="#">48210.096.063</a> |           |    |                               |

## Slotted mushroom head screw



NF ≈E25-129



### Technical data

|                       | M4  | M5   | M6  | M8   |
|-----------------------|-----|------|-----|------|
| d                     |     |      |     |      |
| P                     | 0,7 | 0,8  | 1   | 1,25 |
| d <sub>k</sub> (max.) | 10  | 12,5 | 15  | 20   |
| k (max.)              | 2,2 | 2,7  | 3,3 | 4,4  |
| n                     | 1,2 | 1,2  | 1,6 | 2,0  |

### Article groups

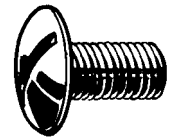
| Thread | Driving features | Material   | Class  | Colour | Packaging | Code  | Page |
|--------|------------------|------------|--------|--------|-----------|-------|------|
| M      | slotted          | St.St. A2  |        |        | Standard  | 51215 | 6-30 |
| M      | slotted          | Plastic PA | PA 6.6 | White  | Standard  | 56460 | 6-30 |

**6**

#### 51215 Slotted mushroom head screw

R02A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard

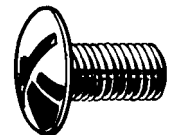


| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X8    | 200 | <a href="#">51215.040.008</a> | M5X10 | 200 | <a href="#">51215.050.010</a> | M6X16   | 200 | <a href="#">51215.060.016</a> |
| M4X10   | 200 | <a href="#">51215.040.010</a> | M5X12 | 200 | <a href="#">51215.050.012</a> | M6X20   | 100 | <a href="#">51215.060.020</a> |
| M4X12   | 200 | <a href="#">51215.040.012</a> | M5X16 | 200 | <a href="#">51215.050.016</a> | M6X25   | 100 | <a href="#">51215.060.025</a> |
| M4X16   | 200 | <a href="#">51215.040.016</a> | M5X20 | 200 | <a href="#">51215.050.020</a> | M6X30   | 100 | <a href="#">51215.060.030</a> |
| M4X20   | 200 | <a href="#">51215.040.020</a> | M5X25 | 200 | <a href="#">51215.050.025</a> | M8X20 * | 100 | <a href="#">51215.080.020</a> |
| M4X25   | 200 | <a href="#">51215.040.025</a> | M5X30 | 200 | <a href="#">51215.050.030</a> | M8X25 * | 100 | <a href="#">51215.080.025</a> |
| M4X30 * | 200 | <a href="#">51215.040.030</a> | M6X10 | 200 | <a href="#">51215.060.010</a> | M8X30 * | 100 | <a href="#">51215.080.030</a> |
| M5X8    | 200 | <a href="#">51215.050.008</a> | M6X12 | 200 | <a href="#">51215.060.012</a> |         |     |                               |

#### 56460 Slotted mushroom head screw

W02A

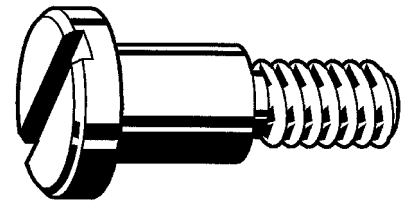
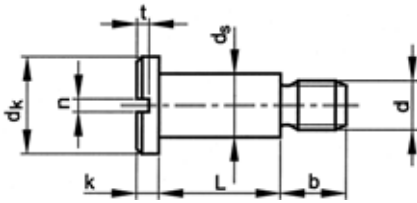
**Thread** Metric thread  
**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** White  
**Packaging** Standard



| d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M6X12 | 50 | <a href="#">56460.060.012</a> | M6X25 | 50 | <a href="#">56460.060.025</a> | M6X50 | 50 | <a href="#">56460.060.050</a> |
| M6X16 | 50 | <a href="#">56460.060.016</a> | M6X30 | 50 | <a href="#">56460.060.030</a> |       |    |                               |
| M6X20 | 50 | <a href="#">56460.060.020</a> | M6X40 | 50 | <a href="#">56460.060.040</a> |       |    |                               |

**Slotted pan head screw with shoulder**

DIN 923



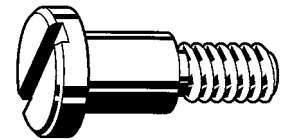
**Technical data**

|                  | M2  | M3  | M4  | M5  | M6  | M8   |
|------------------|-----|-----|-----|-----|-----|------|
| <b>d</b>         | M2  | M3  | M4  | M5  | M6  | M8   |
| <b>P</b>         | 0,4 | 0,5 | 0,7 | 0,8 | 1   | 1,25 |
| <b>b</b>         | 3   | 4,5 | 6   | 7   | 9   | 11   |
| <b>dk (max.)</b> | 4,5 | 7   | 8,5 | 11  | 13  | 16   |
| <b>ds (h9)</b>   | 2,8 | 4   | 5,5 | 7   | 8   | 10   |
| <b>k</b>         | 1,2 | 1,8 | 2,4 | 2,7 | 3,1 | 3,8  |
| <b>n</b>         | 0,5 | 0,8 | 1   | 1,2 | 1,6 | 2    |
| <b>t (min.)</b>  | 0,6 | 0,9 | 1,2 | 1,3 | 1,5 | 1,9  |

**24992 Slotted pan head screw with shoulder**

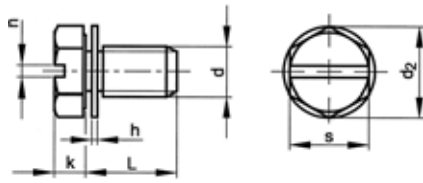
H07A

**Thread** Metric thread  
**Material** Steel  
**Class** 5.8  
**Surface treatment** Zinc plated  
**Packaging** Standard

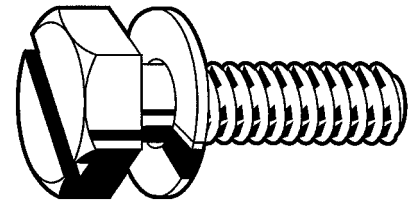


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X8  | 100 | <a href="#">24992.030.008</a> | M5X8  | 100 | <a href="#">24992.050.008</a> | M6X25 | 100 | <a href="#">24992.060.025</a> |
| M3X10 | 100 | <a href="#">24992.030.010</a> | M5X12 | 100 | <a href="#">24992.050.012</a> | M8X8  | 100 | <a href="#">24992.080.008</a> |
| M3X12 | 100 | <a href="#">24992.030.012</a> | M5X16 | 100 | <a href="#">24992.050.016</a> | M8X10 | 100 | <a href="#">24992.080.010</a> |
| M4X6  | 100 | <a href="#">24992.040.006</a> | M5X20 | 100 | <a href="#">24992.050.020</a> | M8X12 | 100 | <a href="#">24992.080.012</a> |
| M4X8  | 100 | <a href="#">24992.040.008</a> | M5X25 | 100 | <a href="#">24992.050.025</a> | M8X16 | 100 | <a href="#">24992.080.016</a> |
| M4X10 | 100 | <a href="#">24992.040.010</a> | M6X8  | 100 | <a href="#">24992.060.008</a> | M8X20 | 50  | <a href="#">24992.080.020</a> |
| M4X12 | 100 | <a href="#">24992.040.012</a> | M6X10 | 100 | <a href="#">24992.060.010</a> | M8X25 | 50  | <a href="#">24992.080.025</a> |
| M4X16 | 100 | <a href="#">24992.040.016</a> | M6X12 | 100 | <a href="#">24992.060.012</a> |       |     |                               |
| M5X6  | 100 | <a href="#">24992.050.006</a> | M6X16 | 100 | <a href="#">24992.060.016</a> |       |     |                               |
|       |     |                               | M6X20 | 100 | <a href="#">24992.060.020</a> |       |     |                               |

**Slotted screw and washer assembly with plain washer**



ISO ≈10644  
DIN ≈6900



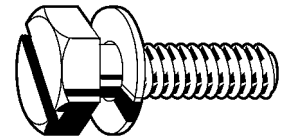
**Technical data**

|                | M4  | M5  | M6  |
|----------------|-----|-----|-----|
| d              | M4  | M5  | M6  |
| P              | 0,7 | 0,8 | 1   |
| k              | 2,8 | 3,5 | 4   |
| s              | 7   | 8   | 10  |
| n              | 1,2 | 1,2 | 1,6 |
| d <sub>2</sub> | 8   | 10  | 12  |
| h              | 0,8 | 1   | 1,2 |

**24904 Slotted screw and washer assembly with plain washer**

H05A

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Steel                         |
| <b>Class</b>             | 5.8                           |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |

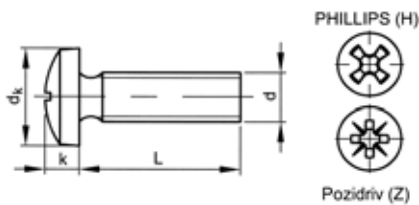


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| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M4X10 | 1000 | <a href="#">24904.040.010</a> | M5X12 | 1000 | <a href="#">24904.050.012</a> | M6X12 | 500 | <a href="#">24904.060.012</a> |
| M4X16 | 1000 | <a href="#">24904.040.016</a> | M5X18 | 500  | <a href="#">24904.050.018</a> | M6X18 | 500 | <a href="#">24904.060.018</a> |



## Cross recessed raised cheese head screw


 ISO 7045  
 DIN 7985


### Technical data

| d    | P    | dk  | k   | Full thread L ≤ | No. cross recess |
|------|------|-----|-----|-----------------|------------------|
| M1,6 | 0,35 | 3,2 | 1,3 | 16              | 0                |
| M2   | 0,4  | 4   | 1,6 | 16              | 1                |
| M2,5 | 0,45 | 5   | 2   | 20              | 1                |
| M3   | 0,5  | 6   | 2,4 | 20              | 1                |
| M4   | 0,7  | 8   | 3,1 | 25              | 2                |
| M5   | 0,8  | 10  | 3,8 | 25              | 2                |
| M6   | 1    | 12  | 4,6 | 35              | 3                |
| M8   | 1,25 | 16  | 6   | 40              | 4                |
| M10  | 1,5  | 20  | 7,5 | 40              | 4                |

### Article groups

| Thread | Driving features | Material      | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|---------------|-------|-------------------|-----------|-------|------|
| M      | Phillips         | St            | 4.8   | Zipl              | Standard  | 24665 | 6-33 |
| M      | Phillips         | St            | 4.8   | Zipl              | Large     | 24660 | 6-34 |
| M      | Pozidriv         | St            | 4.8   | Zipl              | Standard  | 24662 | 6-34 |
| M      | Phillips         | St            | 4.8   | Zipl yell.p.      | Standard  | 24800 | 6-34 |
| M      | Phillips         | St            | 4.8   | Zipl blk p.       | Standard  | 24810 | 6-35 |
| M      | Phillips         | St.St. A2     | 70    |                   | Standard  | 51340 | 6-35 |
| M      | Pozidriv         | St.St. A2     | 70    |                   | Standard  | 51342 | 6-36 |
| M      | Phillips         | St.St. A4     | 70    |                   | Standard  | 55340 | 6-36 |
| M      | Pozidriv         | Al Sopral P65 |       |                   | Standard  | 45445 | 6-37 |

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### 24665 Cross recessed raised cheese head screw Phillips

H05A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7045-H  
 DIN 7985-H



| d x L   | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X4    | 200 | <a href="#">24665.020.004</a> | M4X5  | 200 | <a href="#">24665.040.005</a> | M5X60 | 100 | <a href="#">24665.050.060</a> |
| M2X5    | 200 | <a href="#">24665.020.005</a> | M4X6  | 200 | <a href="#">24665.040.006</a> |       |     |                               |
| M2X6    | 200 | <a href="#">24665.020.006</a> | M4X8  | 200 | <a href="#">24665.040.008</a> | M6X8  | 200 | <a href="#">24665.060.008</a> |
| M2X8    | 200 | <a href="#">24665.020.008</a> | M4X10 | 200 | <a href="#">24665.040.010</a> | M6X10 | 200 | <a href="#">24665.060.010</a> |
| M2X10   | 200 | <a href="#">24665.020.010</a> | M4X12 | 200 | <a href="#">24665.040.012</a> | M6X12 | 200 | <a href="#">24665.060.012</a> |
|         |     |                               | M4X16 | 200 | <a href="#">24665.040.016</a> | M6X16 | 200 | <a href="#">24665.060.016</a> |
| M2,5X4  | 200 | <a href="#">24665.025.004</a> | M4X20 | 200 | <a href="#">24665.040.020</a> | M6X20 | 100 | <a href="#">24665.060.020</a> |
| M2,5X5  | 200 | <a href="#">24665.025.005</a> | M4X25 | 200 | <a href="#">24665.040.025</a> | M6X25 | 100 | <a href="#">24665.060.025</a> |
| M2,5X6  | 200 | <a href="#">24665.025.006</a> | M4X30 | 200 | <a href="#">24665.040.030</a> | M6X30 | 100 | <a href="#">24665.060.030</a> |
| M2,5X8  | 200 | <a href="#">24665.025.008</a> | M4X35 | 200 | <a href="#">24665.040.035</a> | M6X35 | 100 | <a href="#">24665.060.035</a> |
| M2,5X10 | 200 | <a href="#">24665.025.010</a> | M4X40 | 200 | <a href="#">24665.040.040</a> | M6X40 | 100 | <a href="#">24665.060.040</a> |
| M2,5X12 | 200 | <a href="#">24665.025.012</a> | M4X45 | 200 | <a href="#">24665.040.045</a> | M6X45 | 100 | <a href="#">24665.060.045</a> |
|         |     |                               | M4X50 | 200 | <a href="#">24665.040.050</a> | M6X50 | 100 | <a href="#">24665.060.050</a> |
| M3X4    | 200 | <a href="#">24665.030.004</a> |       |     |                               | M6X60 | 100 | <a href="#">24665.060.060</a> |
| M3X5    | 200 | <a href="#">24665.030.005</a> | M5X8  | 200 | <a href="#">24665.050.008</a> |       |     |                               |
| M3X6    | 200 | <a href="#">24665.030.006</a> | M5X10 | 200 | <a href="#">24665.050.010</a> | M8X12 | 100 | <a href="#">24665.080.012</a> |
| M3X8    | 200 | <a href="#">24665.030.008</a> | M5X12 | 200 | <a href="#">24665.050.012</a> | M8X16 | 100 | <a href="#">24665.080.016</a> |
| M3X10   | 200 | <a href="#">24665.030.010</a> | M5X16 | 200 | <a href="#">24665.050.016</a> | M8X20 | 100 | <a href="#">24665.080.020</a> |
| M3X12   | 200 | <a href="#">24665.030.012</a> | M5X20 | 200 | <a href="#">24665.050.020</a> | M8X25 | 100 | <a href="#">24665.080.025</a> |
| M3X16   | 200 | <a href="#">24665.030.016</a> | M5X25 | 200 | <a href="#">24665.050.025</a> | M8X30 | 100 | <a href="#">24665.080.030</a> |
| M3X20   | 200 | <a href="#">24665.030.020</a> | M5X30 | 100 | <a href="#">24665.050.030</a> | M8X35 | 100 | <a href="#">24665.080.035</a> |
| M3X25   | 200 | <a href="#">24665.030.025</a> | M5X35 | 100 | <a href="#">24665.050.035</a> |       |     |                               |
| M3X30   | 200 | <a href="#">24665.030.030</a> | M5X40 | 100 | <a href="#">24665.050.040</a> |       |     |                               |
| M3X40   | 200 | <a href="#">24665.030.040</a> | M5X45 | 100 | <a href="#">24665.050.045</a> |       |     |                               |
|         |     |                               | M5X50 | 100 | <a href="#">24665.050.050</a> |       |     |                               |


| 24660 Cross recessed raised cheese head screw Phillips |                                 | H05A  |
|--|---------------------------------|---|
| <b>Thread</b>  | Metric thread                   |  |
| <b>Material</b>  | Steel                           |   |
| <b>Class</b>   | 4.8                             |   |
| <b>Surface treatment</b>                               | Zinc plated                     |   |
| <b>Packaging</b>                                       | Large                           |   |
|  | ISO 7045-H<br><b>DIN 7985-H</b> |   |

| d x L   | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L  | ☒    | Art.number                    |
|---------|------|-------------------------------|-------|------|-------------------------------|--------|------|-------------------------------|
| M2X4    | 2000 | <a href="#">24660.020.004</a> | M4X6  | 1000 | <a href="#">24660.040.006</a> | M6X12  | 1000 | <a href="#">24660.060.012</a> |
| M2X5    | 2000 | <a href="#">24660.020.005</a> | M4X8  | 1000 | <a href="#">24660.040.008</a> | M6X16  | 500  | <a href="#">24660.060.016</a> |
| M2X6    | 2000 | <a href="#">24660.020.006</a> | M4X10 | 1000 | <a href="#">24660.040.010</a> | M6X20  | 250  | <a href="#">24660.060.020</a> |
| M2X8    | 2000 | <a href="#">24660.020.008</a> | M4X12 | 1000 | <a href="#">24660.040.012</a> | M6X25  | 250  | <a href="#">24660.060.025</a> |
| M2X10   | 2000 | <a href="#">24660.020.010</a> | M4X16 | 1000 | <a href="#">24660.040.016</a> | M6X30  | 250  | <a href="#">24660.060.030</a> |
| M2X20   | 2000 | <a href="#">24660.020.020</a> | M4X20 | 1000 | <a href="#">24660.040.020</a> | M6X35  | 250  | <a href="#">24660.060.035</a> |
|         |      |                               | M4X25 | 1000 | <a href="#">24660.040.025</a> | M6X40  | 250  | <a href="#">24660.060.040</a> |
| M2,5X4  | 2000 | <a href="#">24660.025.004</a> | M4X30 | 1000 | <a href="#">24660.040.030</a> | M6X45  | 250  | <a href="#">24660.060.045</a> |
| M2,5X5  | 2000 | <a href="#">24660.025.005</a> | M4X35 | 500  | <a href="#">24660.040.035</a> | M6X50  | 250  | <a href="#">24660.060.050</a> |
| M2,5X6  | 2000 | <a href="#">24660.025.006</a> | M4X40 | 500  | <a href="#">24660.040.040</a> | M6X60  | 250  | <a href="#">24660.060.060</a> |
| M2,5X8  | 2000 | <a href="#">24660.025.008</a> | M4X45 | 500  | <a href="#">24660.040.045</a> |        |      |                               |
| M2,5X10 | 2000 | <a href="#">24660.025.010</a> | M4X50 | 500  | <a href="#">24660.040.050</a> | M8X12  | 250  | <a href="#">24660.080.012</a> |
| M2,5X12 | 2000 | <a href="#">24660.025.012</a> |       |      |                               | M8X16  | 250  | <a href="#">24660.080.016</a> |
|         |      |                               | M5X8  | 1000 | <a href="#">24660.050.008</a> | M8X20  | 250  | <a href="#">24660.080.020</a> |
| M3X4    | 2000 | <a href="#">24660.030.004</a> | M5X10 | 1000 | <a href="#">24660.050.010</a> | M8X25  | 250  | <a href="#">24660.080.025</a> |
| M3X5    | 2000 | <a href="#">24660.030.005</a> | M5X12 | 1000 | <a href="#">24660.050.012</a> | M8X30  | 250  | <a href="#">24660.080.030</a> |
| M3X6    | 2000 | <a href="#">24660.030.006</a> | M5X16 | 1000 | <a href="#">24660.050.016</a> | M8X35  | 250  | <a href="#">24660.080.035</a> |
| M3X8    | 2000 | <a href="#">24660.030.008</a> | M5X20 | 500  | <a href="#">24660.050.020</a> | M8X40  | 100  | <a href="#">24660.080.040</a> |
| M3X10   | 2000 | <a href="#">24660.030.010</a> | M5X25 | 500  | <a href="#">24660.050.025</a> | M8X45  | 100  | <a href="#">24660.080.045</a> |
| M3X12   | 2000 | <a href="#">24660.030.012</a> | M5X30 | 250  | <a href="#">24660.050.030</a> | M8X50  | 100  | <a href="#">24660.080.050</a> |
| M3X14   | 2000 | <a href="#">24660.030.014</a> | M5X35 | 250  | <a href="#">24660.050.035</a> | M8X60  | 100  | <a href="#">24660.080.060</a> |
| M3X16   | 2000 | <a href="#">24660.030.016</a> | M5X40 | 250  | <a href="#">24660.050.040</a> |        |      |                               |
| M3X20   | 2000 | <a href="#">24660.030.020</a> | M5X45 | 250  | <a href="#">24660.050.045</a> | M10X25 | 100  | <a href="#">24660.100.025</a> |
| M3X25   | 1000 | <a href="#">24660.030.025</a> | M5X50 | 250  | <a href="#">24660.050.050</a> | M10X30 | 100  | <a href="#">24660.100.030</a> |
| M3X30   | 1000 | <a href="#">24660.030.030</a> | M5X60 | 250  | <a href="#">24660.050.060</a> | M10X40 | 100  | <a href="#">24660.100.040</a> |
| M3X40   | 1000 | <a href="#">24660.030.040</a> |       |      |                               | M10X50 | 100  | <a href="#">24660.100.050</a> |
|         |      |                               | M6X8  | 1000 | <a href="#">24660.060.008</a> | M10X60 | 100  | <a href="#">24660.100.060</a> |
| M4X5    | 1000 | <a href="#">24660.040.005</a> | M6X10 | 1000 | <a href="#">24660.060.010</a> |        |      |                               |

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| 24662 Cross recessed raised cheese head screw Pozidriv |                                 | H05A  |
|--|---------------------------------|---|
| <b>Thread</b>  | Metric thread                   |  |
| <b>Material</b>  | Steel                           |   |
| <b>Class</b>   | 4.8                             |   |
| <b>Surface treatment</b>                               | Zinc plated                     |   |
| <b>Packaging</b>                                       | Standard                        |   |
|  | ISO 7045-Z<br><b>DIN 7985-Z</b> |   |

| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|
| M3X6  | 2000 | <a href="#">24662.030.006</a> | M4X30 | 1000 | <a href="#">24662.040.030</a> | M6X12 | 1000 | <a href="#">24662.060.012</a> |
| M3X8  | 2000 | <a href="#">24662.030.008</a> | M4X35 | 500  | <a href="#">24662.040.035</a> | M6X16 | 500  | <a href="#">24662.060.016</a> |
| M3X10 | 2000 | <a href="#">24662.030.010</a> | M4X40 | 500  | <a href="#">24662.040.040</a> | M6X20 | 250  | <a href="#">24662.060.020</a> |
| M3X12 | 2000 | <a href="#">24662.030.012</a> |       |      |                               | M6X25 | 250  | <a href="#">24662.060.025</a> |
| M3X16 | 2000 | <a href="#">24662.030.016</a> | M5X8  | 1000 | <a href="#">24662.050.008</a> | M6X30 | 250  | <a href="#">24662.060.030</a> |
| M3X20 | 2000 | <a href="#">24662.030.020</a> | M5X10 | 1000 | <a href="#">24662.050.010</a> | M6X35 | 250  | <a href="#">24662.060.035</a> |
| M3X25 | 1000 | <a href="#">24662.030.025</a> | M5X12 | 1000 | <a href="#">24662.050.012</a> | M6X40 | 250  | <a href="#">24662.060.040</a> |
| M3X30 | 1000 | <a href="#">24662.030.030</a> | M5X16 | 1000 | <a href="#">24662.050.016</a> | M6X50 | 250  | <a href="#">24662.060.050</a> |
|       |      |                               | M5X20 | 500  | <a href="#">24662.050.020</a> | M6X60 | 250  | <a href="#">24662.060.060</a> |
| M4X5  | 1000 | <a href="#">24662.040.005</a> | M5X25 | 500  | <a href="#">24662.050.025</a> |       |      |                               |
| M4X6  | 1000 | <a href="#">24662.040.006</a> | M5X30 | 250  | <a href="#">24662.050.030</a> | M8X16 | 250  | <a href="#">24662.080.016</a> |
| M4X8  | 1000 | <a href="#">24662.040.008</a> | M5X35 | 250  | <a href="#">24662.050.035</a> | M8X20 | 250  | <a href="#">24662.080.020</a> |
| M4X10 | 1000 | <a href="#">24662.040.010</a> | M5X40 | 250  | <a href="#">24662.050.040</a> | M8X25 | 250  | <a href="#">24662.080.025</a> |
| M4X12 | 1000 | <a href="#">24662.040.012</a> | M5X45 | 250  | <a href="#">24662.050.045</a> | M8X30 | 250  | <a href="#">24662.080.030</a> |
| M4X16 | 1000 | <a href="#">24662.040.016</a> | M5X50 | 250  | <a href="#">24662.050.050</a> | M8X40 | 100  | <a href="#">24662.080.040</a> |
| M4X20 | 1000 | <a href="#">24662.040.020</a> |       |      |                               | M8X50 | 100  | <a href="#">24662.080.050</a> |
| M4X25 | 1000 | <a href="#">24662.040.025</a> | M6X10 | 1000 | <a href="#">24662.060.010</a> |       |      |                               |

| 24800 Cross recessed raised cheese head screw Phillips |                                 | H07A  |
|--|---------------------------------|---|
| <b>Thread</b>  | Metric thread                   |  |
| <b>Material</b>  | Steel                           |   |
| <b>Class</b>   | 4.8                             |   |
| <b>Surface treatment</b>                               | Zinc plated yellow passivated   |   |
| <b>Packaging</b>                                       | Standard                        |   |
|  | ISO 7045-H<br><b>DIN 7985-H</b> |   |

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 500 | <a href="#">24800.030.006</a> | M3X30 | 200 | <a href="#">24800.030.030</a> | M4X20 | 200 | <a href="#">24800.040.020</a> |
| M3X8  | 500 | <a href="#">24800.030.008</a> |       |     |                               | M4X25 | 200 | <a href="#">24800.040.025</a> |
| M3X10 | 500 | <a href="#">24800.030.010</a> | M4X6  | 200 | <a href="#">24800.040.006</a> | M4X30 | 200 | <a href="#">24800.040.030</a> |
| M3X12 | 500 | <a href="#">24800.030.012</a> | M4X8  | 200 | <a href="#">24800.040.008</a> |       |     |                               |
| M3X16 | 500 | <a href="#">24800.030.016</a> | M4X10 | 200 | <a href="#">24800.040.010</a> | M5X10 | 200 | <a href="#">24800.050.010</a> |
| M3X20 | 500 | <a href="#">24800.030.020</a> | M4X12 | 200 | <a href="#">24800.040.012</a> | M5X12 | 200 | <a href="#">24800.050.012</a> |
| M3X25 | 200 | <a href="#">24800.030.025</a> | M4X16 | 200 | <a href="#">24800.040.016</a> | M5X16 | 200 | <a href="#">24800.050.016</a> |

**24800 Cross recessed raised cheese head screw Phillips**

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M5X20 | 200 | <a href="#">24800.050.020</a> | M6X10 | 200 | <a href="#">24800.060.010</a> | M6X30 | 100 | <a href="#">24800.060.030</a> |
| M5X25 | 200 | <a href="#">24800.050.025</a> | M6X12 | 200 | <a href="#">24800.060.012</a> | M6X40 | 100 | <a href="#">24800.060.040</a> |
| M5X30 | 200 | <a href="#">24800.050.030</a> | M6X16 | 200 | <a href="#">24800.060.016</a> | M6X50 | 100 | <a href="#">24800.060.050</a> |
| M5X40 | 200 | <a href="#">24800.050.040</a> | M6X20 | 200 | <a href="#">24800.060.020</a> | M6X60 | 100 | <a href="#">24800.060.060</a> |
|       |     |                               | M6X25 | 200 | <a href="#">24800.060.025</a> |       |     |                               |

**24810 Cross recessed raised cheese head screw Phillips**

H07A

**Thread** Metric thread  
**Material** Steel  
**Class** 4,8  
**Surface treatment** Zinc plated black passivated  
**Packaging** Standard  
 ISO 7045-H  
 DIN 7985-H



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">24810.030.006</a> | M5X6  | 200 | <a href="#">24810.050.006</a> | M6X30 | 100 | <a href="#">24810.060.030</a> |
| M3X8  | 200 | <a href="#">24810.030.008</a> | M5X8  | 200 | <a href="#">24810.050.008</a> | M6X35 | 100 | <a href="#">24810.060.035</a> |
| M3X10 | 200 | <a href="#">24810.030.010</a> | M5X10 | 200 | <a href="#">24810.050.010</a> | M6X40 | 100 | <a href="#">24810.060.040</a> |
| M3X12 | 200 | <a href="#">24810.030.012</a> | M5X12 | 200 | <a href="#">24810.050.012</a> | M6X45 | 100 | <a href="#">24810.060.045</a> |
| M3X16 | 200 | <a href="#">24810.030.016</a> | M5X16 | 200 | <a href="#">24810.050.016</a> | M6X50 | 100 | <a href="#">24810.060.050</a> |
| M3X20 | 200 | <a href="#">24810.030.020</a> | M5X20 | 200 | <a href="#">24810.050.020</a> | M6X55 | 100 | <a href="#">24810.060.055</a> |
| M3X25 | 200 | <a href="#">24810.030.025</a> | M5X25 | 200 | <a href="#">24810.050.025</a> | M6X60 | 100 | <a href="#">24810.060.060</a> |
| M3X30 | 200 | <a href="#">24810.030.030</a> | M5X30 | 100 | <a href="#">24810.050.030</a> |       |     |                               |
| M4X6  | 200 | <a href="#">24810.040.006</a> | M5X35 | 100 | <a href="#">24810.050.035</a> | M8X12 | 100 | <a href="#">24810.080.012</a> |
| M4X8  | 200 | <a href="#">24810.040.008</a> | M5X40 | 100 | <a href="#">24810.050.040</a> | M8X16 | 100 | <a href="#">24810.080.016</a> |
| M4X10 | 200 | <a href="#">24810.040.010</a> | M5X45 | 100 | <a href="#">24810.050.045</a> | M8X20 | 100 | <a href="#">24810.080.020</a> |
| M4X12 | 200 | <a href="#">24810.040.012</a> | M5X50 | 100 | <a href="#">24810.050.050</a> | M8X25 | 100 | <a href="#">24810.080.025</a> |
| M4X16 | 200 | <a href="#">24810.040.016</a> | M5X60 | 100 | <a href="#">24810.050.060</a> | M8X30 | 100 | <a href="#">24810.080.030</a> |
| M4X20 | 200 | <a href="#">24810.040.020</a> |       |     |                               | M8X35 | 100 | <a href="#">24810.080.035</a> |
| M4X25 | 200 | <a href="#">24810.040.025</a> | M6X10 | 200 | <a href="#">24810.060.010</a> | M8X40 | 100 | <a href="#">24810.080.040</a> |
| M4X30 | 200 | <a href="#">24810.040.030</a> | M6X12 | 200 | <a href="#">24810.060.012</a> | M8X50 | 100 | <a href="#">24810.080.050</a> |
| M4X35 | 200 | <a href="#">24810.040.035</a> | M6X16 | 200 | <a href="#">24810.060.016</a> | M8X60 | 100 | <a href="#">24810.080.060</a> |
| M4X40 | 200 | <a href="#">24810.040.040</a> | M6X20 | 100 | <a href="#">24810.060.020</a> |       |     |                               |
| M4X50 | 200 | <a href="#">24810.040.050</a> | M6X25 | 100 | <a href="#">24810.060.025</a> |       |     |                               |

6

**51340 Cross recessed raised cheese head screw Phillips**

R01A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard  
 ISO 7045-H  
 DIN 7985-H



| d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|-----------|------|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M1,6X3 *  | 1000 | <a href="#">51340.016.003</a> | M3X40   | 200 | <a href="#">51340.030.040</a> | M5X55 *  | 200 | <a href="#">51340.050.055</a> |
| M1,6X8 *  | 1000 | <a href="#">51340.016.008</a> | M3X45 * | 200 | <a href="#">51340.030.045</a> | M5X60    | 100 | <a href="#">51340.050.060</a> |
|           |      |                               | M3X50   | 200 | <a href="#">51340.030.050</a> | M5X70 *  | 200 | <a href="#">51340.050.070</a> |
| M2X4      | 100  | <a href="#">51340.020.004</a> | M4X5 *  | 200 | <a href="#">51340.040.005</a> | M5X90 *  | 200 | <a href="#">51340.050.090</a> |
| M2X5      | 100  | <a href="#">51340.020.005</a> | M4X6    | 200 | <a href="#">51340.040.006</a> | M5X100 * | 200 | <a href="#">51340.050.100</a> |
| M2X6      | 100  | <a href="#">51340.020.006</a> | M4X8    | 200 | <a href="#">51340.040.008</a> |          |     |                               |
| M2X8      | 100  | <a href="#">51340.020.008</a> | M4X10   | 200 | <a href="#">51340.040.010</a> | M6X8     | 100 | <a href="#">51340.060.008</a> |
| M2X10     | 100  | <a href="#">51340.020.010</a> | M4X12   | 200 | <a href="#">51340.040.012</a> | M6X10    | 100 | <a href="#">51340.060.010</a> |
| M2X12     | 100  | <a href="#">51340.020.012</a> | M4X14 * | 500 | <a href="#">51340.040.014</a> | M6X12    | 100 | <a href="#">51340.060.012</a> |
| M2X14 *   | 1000 | <a href="#">51340.020.014</a> | M4X16   | 200 | <a href="#">51340.040.016</a> | M6X14 *  | 500 | <a href="#">51340.060.014</a> |
| M2X16     | 100  | <a href="#">51340.020.016</a> | M4X18 * | 500 | <a href="#">51340.040.018</a> | M6X16    | 100 | <a href="#">51340.060.016</a> |
| M2X18 *   | 1000 | <a href="#">51340.020.018</a> | M4X20   | 200 | <a href="#">51340.040.020</a> | M6X18 *  | 500 | <a href="#">51340.060.018</a> |
| M2X20 *   | 1000 | <a href="#">51340.020.020</a> | M4X22 * | 500 | <a href="#">51340.040.022</a> | M6X20    | 100 | <a href="#">51340.060.020</a> |
|           |      |                               | M4X25   | 200 | <a href="#">51340.040.025</a> | M6X25    | 100 | <a href="#">51340.060.025</a> |
| M2,5X5    | 100  | <a href="#">51340.025.005</a> | M4X30   | 200 | <a href="#">51340.040.030</a> | M6X30    | 100 | <a href="#">51340.060.030</a> |
| M2,5X6    | 100  | <a href="#">51340.025.006</a> | M4X35   | 200 | <a href="#">51340.040.035</a> | M6X35    | 100 | <a href="#">51340.060.035</a> |
| M2,5X8    | 100  | <a href="#">51340.025.008</a> | M4X40   | 200 | <a href="#">51340.040.040</a> | M6X40    | 100 | <a href="#">51340.060.040</a> |
| M2,5X10   | 100  | <a href="#">51340.025.010</a> | M4X45   | 200 | <a href="#">51340.040.045</a> | M6X45    | 100 | <a href="#">51340.060.045</a> |
| M2,5X12   | 100  | <a href="#">51340.025.012</a> | M4X50   | 200 | <a href="#">51340.040.050</a> | M6X50    | 100 | <a href="#">51340.060.050</a> |
| M2,5X14 * | 1000 | <a href="#">51340.025.014</a> | M4X55 * | 500 | <a href="#">51340.040.055</a> | M6X55 *  | 200 | <a href="#">51340.060.055</a> |
| M2,5X16   | 100  | <a href="#">51340.025.016</a> | M4X60   | 100 | <a href="#">51340.040.060</a> | M6X60    | 100 | <a href="#">51340.060.060</a> |
| M2,5X20   | 100  | <a href="#">51340.025.020</a> |         |     |                               | M6X90 *  | 200 | <a href="#">51340.060.090</a> |
| M2,5X22 * | 500  | <a href="#">51340.025.022</a> | M5X6    | 100 | <a href="#">51340.050.006</a> |          |     |                               |
| M2,5X25 * | 500  | <a href="#">51340.025.025</a> | M5X7 *  | 500 | <a href="#">51340.050.007</a> | M8X10 *  | 200 | <a href="#">51340.080.010</a> |
|           |      |                               | M5X8    | 100 | <a href="#">51340.050.008</a> | M8X12    | 100 | <a href="#">51340.080.012</a> |
| M3X5      | 200  | <a href="#">51340.030.005</a> | M5X10   | 100 | <a href="#">51340.050.010</a> | M8X16    | 100 | <a href="#">51340.080.016</a> |
| M3X6      | 200  | <a href="#">51340.030.006</a> | M5X12   | 100 | <a href="#">51340.050.012</a> | M8X20    | 100 | <a href="#">51340.080.020</a> |
| M3X8      | 200  | <a href="#">51340.030.008</a> | M5X16   | 100 | <a href="#">51340.050.016</a> | M8X25    | 100 | <a href="#">51340.080.025</a> |
| M3X10     | 200  | <a href="#">51340.030.010</a> | M5X18 * | 500 | <a href="#">51340.050.018</a> | M8X30    | 100 | <a href="#">51340.080.030</a> |
| M3X12     | 200  | <a href="#">51340.030.012</a> | M5X20   | 100 | <a href="#">51340.050.020</a> | M8X35    | 100 | <a href="#">51340.080.035</a> |
| M3X14 *   | 500  | <a href="#">51340.030.014</a> | M5X22 * | 500 | <a href="#">51340.050.022</a> | M8X40    | 100 | <a href="#">51340.080.040</a> |
| M3X16     | 200  | <a href="#">51340.030.016</a> | M5X25   | 100 | <a href="#">51340.050.025</a> | M8X45    | 100 | <a href="#">51340.080.045</a> |
| M3X18 *   | 500  | <a href="#">51340.030.018</a> | M5X30   | 100 | <a href="#">51340.050.030</a> | M8X50    | 100 | <a href="#">51340.080.050</a> |
| M3X20     | 200  | <a href="#">51340.030.020</a> | M5X35   | 100 | <a href="#">51340.050.035</a> | M8X60    | 100 | <a href="#">51340.080.060</a> |
| M3X22 *   | 500  | <a href="#">51340.030.022</a> | M5X40   | 100 | <a href="#">51340.050.040</a> | M8X70 *  | 100 | <a href="#">51340.080.070</a> |
| M3X25     | 200  | <a href="#">51340.030.025</a> | M5X45   | 100 | <a href="#">51340.050.045</a> | M8X80 *  | 100 | <a href="#">51340.080.080</a> |
| M3X30     | 200  | <a href="#">51340.030.030</a> | M5X50   | 100 | <a href="#">51340.050.050</a> |          |     |                               |
| M3X35     | 200  | <a href="#">51340.030.035</a> |         |     |                               |          |     |                               |

**51342 Cross recessed raised cheese head screw Pozidriv**
**R01A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Class** 70  
**Packaging** Standard  
 ISO 7045-Z  
 DIN 7985-Z



| d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M1,6X3 *  | 1000 | <a href="#">51342.016.003</a> | M3X10   | 200 | <a href="#">51342.030.010</a> | M5X8    | 100 | <a href="#">51342.050.008</a> |
| M1,6X5 *  | 1000 | <a href="#">51342.016.005</a> | M3X12   | 200 | <a href="#">51342.030.012</a> | M5X10   | 100 | <a href="#">51342.050.010</a> |
| M1,6X8 *  | 1000 | <a href="#">51342.016.008</a> | M3X14   | 200 | <a href="#">51342.030.014</a> | M5X12   | 100 | <a href="#">51342.050.012</a> |
| M2X3      | 100  | <a href="#">51342.020.003</a> | M3X16   | 200 | <a href="#">51342.030.016</a> | M5X14 * | 500 | <a href="#">51342.050.014</a> |
| M2X4      | 100  | <a href="#">51342.020.004</a> | M3X18 * | 500 | <a href="#">51342.030.018</a> | M5X16   | 100 | <a href="#">51342.050.016</a> |
| M2X5      | 100  | <a href="#">51342.020.005</a> | M3X20   | 200 | <a href="#">51342.030.020</a> | M5X18 * | 500 | <a href="#">51342.050.018</a> |
| M2X6      | 100  | <a href="#">51342.020.006</a> | M3X25   | 200 | <a href="#">51342.030.025</a> | M5X20   | 100 | <a href="#">51342.050.020</a> |
| M2X8      | 100  | <a href="#">51342.020.008</a> | M3X30   | 200 | <a href="#">51342.030.030</a> | M5X25   | 100 | <a href="#">51342.050.025</a> |
| M2X10     | 100  | <a href="#">51342.020.010</a> | M3X35   | 200 | <a href="#">51342.030.035</a> | M5X30   | 100 | <a href="#">51342.050.030</a> |
| M2X12     | 100  | <a href="#">51342.020.012</a> | M3X40   | 200 | <a href="#">51342.030.040</a> | M5X35   | 100 | <a href="#">51342.050.035</a> |
| M2X16     | 100  | <a href="#">51342.020.016</a> | M3X50   | 200 | <a href="#">51342.030.050</a> | M5X40   | 100 | <a href="#">51342.050.040</a> |
| M2,5X3    | 100  | <a href="#">51342.025.003</a> | M4X4    | 200 | <a href="#">51342.040.004</a> | M5X45   | 100 | <a href="#">51342.050.045</a> |
| M2,5X4    | 100  | <a href="#">51342.025.004</a> | M4X5    | 200 | <a href="#">51342.040.005</a> | M5X50   | 100 | <a href="#">51342.050.050</a> |
| M2,5X5    | 100  | <a href="#">51342.025.005</a> | M4X6    | 200 | <a href="#">51342.040.006</a> | M5X60 * | 200 | <a href="#">51342.050.060</a> |
| M2,5X6    | 100  | <a href="#">51342.025.006</a> | M4X8    | 200 | <a href="#">51342.040.008</a> | M6X8    | 100 | <a href="#">51342.060.008</a> |
| M2,5X8    | 100  | <a href="#">51342.025.008</a> | M4X10   | 200 | <a href="#">51342.040.010</a> | M6X10   | 100 | <a href="#">51342.060.010</a> |
| M2,5X10   | 100  | <a href="#">51342.025.010</a> | M4X12   | 200 | <a href="#">51342.040.012</a> | M6X12   | 100 | <a href="#">51342.060.012</a> |
| M2,5X12   | 100  | <a href="#">51342.025.012</a> | M4X14   | 200 | <a href="#">51342.040.014</a> | M6X16   | 100 | <a href="#">51342.060.016</a> |
| M2,5X14   | 100  | <a href="#">51342.025.014</a> | M4X16   | 200 | <a href="#">51342.040.016</a> | M6X20   | 100 | <a href="#">51342.060.020</a> |
| M2,5X16   | 100  | <a href="#">51342.025.016</a> | M4X18 * | 500 | <a href="#">51342.040.018</a> | M6X25   | 100 | <a href="#">51342.060.025</a> |
| M2,5X18   | 100  | <a href="#">51342.025.018</a> | M4X20   | 200 | <a href="#">51342.040.020</a> | M6X30   | 100 | <a href="#">51342.060.030</a> |
| M2,5X20   | 100  | <a href="#">51342.025.020</a> | M4X25   | 200 | <a href="#">51342.040.025</a> | M6X35   | 100 | <a href="#">51342.060.035</a> |
| M2,5X25 * | 500  | <a href="#">51342.025.025</a> | M4X30   | 200 | <a href="#">51342.040.030</a> | M6X40   | 100 | <a href="#">51342.060.040</a> |
| M3X4      | 200  | <a href="#">51342.030.004</a> | M4X35   | 200 | <a href="#">51342.040.035</a> | M6X45   | 100 | <a href="#">51342.060.045</a> |
| M3X5      | 200  | <a href="#">51342.030.005</a> | M4X40   | 200 | <a href="#">51342.040.040</a> | M6X50   | 100 | <a href="#">51342.060.050</a> |
| M3X6      | 200  | <a href="#">51342.030.006</a> | M4X45 * | 500 | <a href="#">51342.040.045</a> | M6X60 * | 200 | <a href="#">51342.060.060</a> |
| M3X8      | 200  | <a href="#">51342.030.008</a> | M4X50   | 200 | <a href="#">51342.040.050</a> |         |     |                               |
| M3X10     | 200  | <a href="#">51342.030.010</a> | M5X6    | 100 | <a href="#">51342.050.006</a> |         |     |                               |

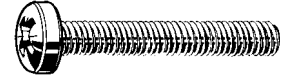
**6**
**55340 Cross recessed raised cheese head screw Phillips**
**R41A**

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard  
 ISO 7045-H  
 DIN 7985-H



| d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M1,6X3 *  | 1000 | <a href="#">55340.016.003</a> | M3X12   | 200 | <a href="#">55340.030.012</a> | M5X35   | 100 | <a href="#">55340.050.035</a> |
| M1,6X4 *  | 1000 | <a href="#">55340.016.004</a> | M3X14 * | 500 | <a href="#">55340.030.014</a> | M5X40   | 100 | <a href="#">55340.050.040</a> |
| M1,6X5 *  | 1000 | <a href="#">55340.016.005</a> | M3X16   | 200 | <a href="#">55340.030.016</a> | M5X45   | 100 | <a href="#">55340.050.045</a> |
| M1,6X6 *  | 1000 | <a href="#">55340.016.006</a> | M3X20   | 200 | <a href="#">55340.030.020</a> | M5X50   | 100 | <a href="#">55340.050.050</a> |
| M1,6X8 *  | 1000 | <a href="#">55340.016.008</a> | M3X25   | 200 | <a href="#">55340.030.025</a> | M5X60 * | 200 | <a href="#">55340.050.060</a> |
| M1,6X10 * | 1000 | <a href="#">55340.016.010</a> | M3X30   | 200 | <a href="#">55340.030.030</a> | M5X70 * | 200 | <a href="#">55340.050.070</a> |
| M1,6X12 * | 1000 | <a href="#">55340.016.012</a> | M3X35 * | 500 | <a href="#">55340.030.035</a> | M5X80 * | 200 | <a href="#">55340.050.080</a> |
| M2X3 *    | 1000 | <a href="#">55340.020.003</a> | M3X45 * | 200 | <a href="#">55340.030.045</a> | M6X8    | 100 | <a href="#">55340.060.008</a> |
| M2X4      | 100  | <a href="#">55340.020.004</a> | M4X5    | 200 | <a href="#">55340.040.005</a> | M6X10   | 100 | <a href="#">55340.060.010</a> |
| M2X5      | 100  | <a href="#">55340.020.005</a> | M4X6    | 200 | <a href="#">55340.040.006</a> | M6X12   | 100 | <a href="#">55340.060.012</a> |
| M2X6      | 100  | <a href="#">55340.020.006</a> | M4X8    | 200 | <a href="#">55340.040.008</a> | M6X16   | 100 | <a href="#">55340.060.016</a> |
| M2X8      | 100  | <a href="#">55340.020.008</a> | M4X10   | 200 | <a href="#">55340.040.010</a> | M6X20   | 100 | <a href="#">55340.060.020</a> |
| M2X10     | 100  | <a href="#">55340.020.010</a> | M4X12   | 200 | <a href="#">55340.040.012</a> | M6X25   | 100 | <a href="#">55340.060.025</a> |
| M2X12     | 100  | <a href="#">55340.020.012</a> | M4X14 * | 500 | <a href="#">55340.040.014</a> | M6X30   | 100 | <a href="#">55340.060.030</a> |
| M2X16     | 100  | <a href="#">55340.020.016</a> | M4X16   | 200 | <a href="#">55340.040.016</a> | M6X35   | 100 | <a href="#">55340.060.035</a> |
| M2,5X4    | 100  | <a href="#">55340.025.004</a> | M4X20   | 200 | <a href="#">55340.040.020</a> | M6X40   | 100 | <a href="#">55340.060.040</a> |
| M2,5X5    | 100  | <a href="#">55340.025.005</a> | M4X25   | 200 | <a href="#">55340.040.025</a> | M6X45   | 100 | <a href="#">55340.060.045</a> |
| M2,5X6    | 100  | <a href="#">55340.025.006</a> | M4X30   | 200 | <a href="#">55340.040.030</a> | M6X50   | 100 | <a href="#">55340.060.050</a> |
| M2,5X8    | 100  | <a href="#">55340.025.008</a> | M4X35   | 200 | <a href="#">55340.040.035</a> | M6X60 * | 200 | <a href="#">55340.060.060</a> |
| M2,5X10   | 100  | <a href="#">55340.025.010</a> | M4X40   | 200 | <a href="#">55340.040.040</a> | M6X70 * | 200 | <a href="#">55340.060.070</a> |
| M2,5X12   | 100  | <a href="#">55340.025.012</a> | M4X45 * | 500 | <a href="#">55340.040.045</a> | M6X80 * | 200 | <a href="#">55340.060.080</a> |
| M2,5X16   | 100  | <a href="#">55340.025.016</a> | M4X50   | 200 | <a href="#">55340.040.050</a> | M8X16   | 100 | <a href="#">55340.080.016</a> |
| M2,5X18 * | 1000 | <a href="#">55340.025.018</a> | M5X6 *  | 500 | <a href="#">55340.050.006</a> | M8X20   | 100 | <a href="#">55340.080.020</a> |
| M2,5X20   | 100  | <a href="#">55340.025.020</a> | M5X8    | 100 | <a href="#">55340.050.008</a> | M8X25   | 100 | <a href="#">55340.080.025</a> |
| M2,5X25 * | 500  | <a href="#">55340.025.025</a> | M5X10   | 100 | <a href="#">55340.050.010</a> | M8X30   | 100 | <a href="#">55340.080.030</a> |
| M3X4      | 200  | <a href="#">55340.030.004</a> | M5X12   | 100 | <a href="#">55340.050.012</a> | M8X35 * | 200 | <a href="#">55340.080.035</a> |
| M3X5 *    | 500  | <a href="#">55340.030.005</a> | M5X16   | 100 | <a href="#">55340.050.016</a> | M8X40   | 100 | <a href="#">55340.080.040</a> |
| M3X6      | 200  | <a href="#">55340.030.006</a> | M5X18 * | 500 | <a href="#">55340.050.018</a> | M8X45 * | 200 | <a href="#">55340.080.045</a> |
| M3X8      | 200  | <a href="#">55340.030.008</a> | M5X20   | 100 | <a href="#">55340.050.020</a> | M8X50   | 100 | <a href="#">55340.080.050</a> |
| M3X10     | 200  | <a href="#">55340.030.010</a> | M5X25   | 100 | <a href="#">55340.050.025</a> | M8X60 * | 100 | <a href="#">55340.080.060</a> |
|           |      |                               | M5X30   | 100 | <a href="#">55340.050.030</a> |         |     |                               |

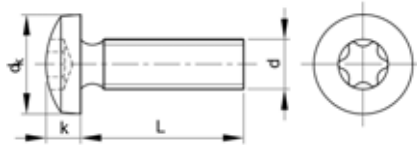
|                  |                      |   |  |             |  |
|------------------|----------------------|---|--|-------------|--|
| <b>45445</b>     |                      | <b>Cross recessed raised cheese head screw Pozidriv</b> |  | <b>W010</b> |  |
| <b>Thread</b>    | Metric thread        |   |  |             |  |
| <b>Material</b>  | Aluminium Sopral P65 |   |  |             |  |
| <b>Packaging</b> | Standard             |   |  |             |  |
|                  | ISO ≈7045            |   |  |             |  |
|                  | <b>DIN ≈7985</b>     |   |  |             |  |



| <b>d x L</b> | ✉   | <b>Art.number</b>             | <b>d x L</b> | ✉   | <b>Art.number</b>             | <b>d x L</b> | ✉   | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M3X10        | 200 | <a href="#">45445.030.010</a> | M4X30        | 200 | <a href="#">45445.040.030</a> | M6X12        | 200 | <a href="#">45445.060.012</a> |
| M3X12        | 200 | <a href="#">45445.030.012</a> | M5X10        | 200 | <a href="#">45445.050.010</a> | M6X16        | 200 | <a href="#">45445.060.016</a> |
| M3X16        | 200 | <a href="#">45445.030.016</a> | M5X12        | 200 | <a href="#">45445.050.012</a> | M6X20        | 200 | <a href="#">45445.060.020</a> |
| M3X20        | 200 | <a href="#">45445.030.020</a> | M5X16        | 200 | <a href="#">45445.050.016</a> | M6X30        | 200 | <a href="#">45445.060.030</a> |
| M4X12        | 200 | <a href="#">45445.040.012</a> | M5X20        | 200 | <a href="#">45445.050.020</a> | M6X35        | 200 | <a href="#">45445.060.035</a> |
| M4X16        | 200 | <a href="#">45445.040.016</a> | M5X25        | 200 | <a href="#">45445.050.025</a> | M6X40        | 200 | <a href="#">45445.060.040</a> |
| M4X20        | 200 | <a href="#">45445.040.020</a> | M5X30        | 200 | <a href="#">45445.050.030</a> |              |     |                               |
| M4X25        | 200 | <a href="#">45445.040.025</a> | M5X40        | 200 | <a href="#">45445.050.040</a> |              |     |                               |

## Hexalobular socket raised cheese head screw

ISO 14583



### Technical data

| d    | P    | dk  | k   | Socket |
|------|------|-----|-----|--------|
| M2   | 0,4  | 4   | 1,6 | No.6   |
| M2,5 | 0,45 | 5   | 2,1 | No.8   |
| M3   | 0,5  | 5,6 | 2,4 | No.10  |
| M3,5 | 0,6  | 7   | 2,6 | No.15  |
| M4   | 0,7  | 8   | 3,1 | No.20  |
| M5   | 0,8  | 9,5 | 3,7 | No.25  |
| M6   | 1    | 12  | 4,6 | No.30  |
| M8   | 1,25 | 16  | 6   | No.45  |
| M10  | 1,5  | 20  | 7,5 | No.50  |

### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | hexalobular      | St        | 8.8   | Zipl              | Standard  | 24422 | 6-38 |
| M      | hexalobular      | St.St. A2 | 70    |                   | Standard  | 51345 | 6-38 |

**6**

| 24422 Hexalobular socket raised cheese head screw |               | H07A |
|---|---------------|------|
| <b>Thread</b>                                     | Metric thread |      |
| <b>Material</b>                                   | Steel         |      |
| <b>Class</b>                                      | 8.8           |      |
| <b>Surface treatment</b>                          | Zinc plated   |      |
| <b>Packaging</b>                                  | Standard      |      |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M4X8  | 200 | <a href="#">24422.040.008</a> | M5X8  | 200 | <a href="#">24422.050.008</a> | M6X10 | 200 | <a href="#">24422.060.010</a> |
| M4X10 | 200 | <a href="#">24422.040.010</a> | M5X10 | 200 | <a href="#">24422.050.010</a> | M6X12 | 200 | <a href="#">24422.060.012</a> |
| M4X12 | 200 | <a href="#">24422.040.012</a> | M5X12 | 200 | <a href="#">24422.050.012</a> | M6X16 | 200 | <a href="#">24422.060.016</a> |
| M4X16 | 200 | <a href="#">24422.040.016</a> | M5X16 | 200 | <a href="#">24422.050.016</a> | M6X20 | 200 | <a href="#">24422.060.020</a> |
| M4X20 | 200 | <a href="#">24422.040.020</a> | M5X20 | 200 | <a href="#">24422.050.020</a> |       |     |                               |

| 51345 Hexalobular socket raised cheese head screw |                    | R01A |
|---|--------------------|------|
| <b>Thread</b>                                     | Metric thread      |      |
| <b>Material</b>                                   | Stainless steel A2 |      |
| <b>Class</b>                                      | 70                 |      |
| <b>Packaging</b>                                  | Standard           |      |

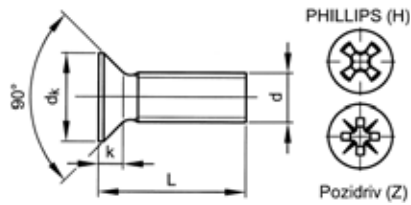


| d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X3 *    | 1000 | <a href="#">51345.020.003</a> | M3X5 *  | 500 | <a href="#">51345.030.005</a> | M4X30   | 200 | <a href="#">51345.040.030</a> |
| M2X4 *    | 1000 | <a href="#">51345.020.004</a> | M3X6    | 200 | <a href="#">51345.030.006</a> | M4X35   | 200 | <a href="#">51345.040.035</a> |
| M2X5 *    | 1000 | <a href="#">51345.020.005</a> | M3X8    | 200 | <a href="#">51345.030.008</a> | M4X40   | 200 | <a href="#">51345.040.040</a> |
| M2X6 *    | 1000 | <a href="#">51345.020.006</a> | M3X10   | 200 | <a href="#">51345.030.010</a> | M4X45 * | 500 | <a href="#">51345.040.045</a> |
| M2X8 *    | 1000 | <a href="#">51345.020.008</a> | M3X12   | 200 | <a href="#">51345.030.012</a> | M4X50 * | 500 | <a href="#">51345.040.050</a> |
| M2X10 *   | 1000 | <a href="#">51345.020.010</a> | M3X14 * | 500 | <a href="#">51345.030.014</a> | M4X60 * | 500 | <a href="#">51345.040.060</a> |
| M2X12 *   | 1000 | <a href="#">51345.020.012</a> | M3X16   | 200 | <a href="#">51345.030.016</a> |         |     |                               |
| M2X16 *   | 1000 | <a href="#">51345.020.016</a> | M3X20   | 200 | <a href="#">51345.030.020</a> | M5X6 *  | 500 | <a href="#">51345.050.006</a> |
| M2X20 *   | 1000 | <a href="#">51345.020.020</a> | M3X25 * | 500 | <a href="#">51345.030.025</a> | M5X8    | 200 | <a href="#">51345.050.008</a> |
|           |      |                               | M3X30 * | 500 | <a href="#">51345.030.030</a> | M5X10   | 200 | <a href="#">51345.050.010</a> |
| M2,5X3 *  | 1000 | <a href="#">51345.025.003</a> | M3X35 * | 500 | <a href="#">51345.030.035</a> | M5X12   | 200 | <a href="#">51345.050.012</a> |
| M2,5X4 *  | 1000 | <a href="#">51345.025.004</a> | M3X40 * | 500 | <a href="#">51345.030.040</a> | M5X14 * | 500 | <a href="#">51345.050.014</a> |
| M2,5X5 *  | 1000 | <a href="#">51345.025.005</a> |         |     |                               | M5X16   | 200 | <a href="#">51345.050.016</a> |
| M2,5X6 *  | 1000 | <a href="#">51345.025.006</a> | M4X5 *  | 500 | <a href="#">51345.040.005</a> | M5X20   | 200 | <a href="#">51345.050.020</a> |
| M2,5X8 *  | 1000 | <a href="#">51345.025.008</a> | M4X6 *  | 500 | <a href="#">51345.040.006</a> | M5X30   | 100 | <a href="#">51345.050.030</a> |
| M2,5X10 * | 1000 | <a href="#">51345.025.010</a> | M4X8    | 200 | <a href="#">51345.040.008</a> | M5X35   | 100 | <a href="#">51345.050.035</a> |
| M2,5X12 * | 1000 | <a href="#">51345.025.012</a> | M4X10   | 200 | <a href="#">51345.040.010</a> | M5X40   | 100 | <a href="#">51345.050.040</a> |
| M2,5X16 * | 1000 | <a href="#">51345.025.016</a> | M4X12   | 200 | <a href="#">51345.040.012</a> | M5X45 * | 200 | <a href="#">51345.050.045</a> |
| M2,5X20 * | 1000 | <a href="#">51345.025.020</a> | M4X14 * | 500 | <a href="#">51345.040.014</a> | M5X50 * | 200 | <a href="#">51345.050.050</a> |
| M2,5X25 * | 500  | <a href="#">51345.025.025</a> | M4X16   | 200 | <a href="#">51345.040.016</a> | M5X55 * | 200 | <a href="#">51345.050.055</a> |
|           |      |                               | M4X20   | 200 | <a href="#">51345.040.020</a> | M5X60 * | 200 | <a href="#">51345.050.060</a> |
| M3X4 *    | 500  | <a href="#">51345.030.004</a> | M4X25   | 200 | <a href="#">51345.040.025</a> |         |     |                               |

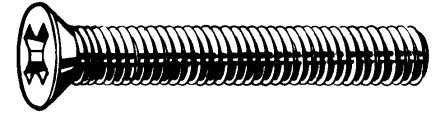
**51345 Hexalobular socket raised cheese head screw**

| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M6X8 * | 500 | <a href="#">51345.060.008</a> | M6X35   | 50  | <a href="#">51345.060.035</a> | M8X12 * | 200 | <a href="#">51345.080.012</a> |
| M6X10  | 100 | <a href="#">51345.060.010</a> | M6X40   | 50  | <a href="#">51345.060.040</a> | M8X16 * | 200 | <a href="#">51345.080.016</a> |
| M6X12  | 100 | <a href="#">51345.060.012</a> | M6X45 * | 200 | <a href="#">51345.060.045</a> | M8X20 * | 200 | <a href="#">51345.080.020</a> |
| M6X16  | 100 | <a href="#">51345.060.016</a> | M6X50 * | 200 | <a href="#">51345.060.050</a> | M8X25 * | 200 | <a href="#">51345.080.025</a> |
| M6X20  | 100 | <a href="#">51345.060.020</a> | M6X55 * | 200 | <a href="#">51345.060.055</a> | M8X30 * | 200 | <a href="#">51345.080.030</a> |
| M6X25  | 100 | <a href="#">51345.060.025</a> | M6X60 * | 200 | <a href="#">51345.060.060</a> |         |     |                               |
| M6X30  | 100 | <a href="#">51345.060.030</a> |         |     |                               |         |     |                               |

## Cross recessed countersunk head screw



ISO 7046-1  
 DIN 965  
 NF E25-119-1



### Technical data

| d    | P    | dk   | k (max.) | Full thread L ≤ | No. cross recess |
|------|------|------|----------|-----------------|------------------|
| M1,6 | 0,35 | 3    | 0,96     | 12              | 0                |
| M2   | 0,4  | 3,8  | 1,2      | 16              | 1                |
| M2,5 | 0,45 | 4,7  | 1,5      | 16              | 1                |
| M3   | 0,5  | 5,6  | 1,65     | 20              | 1                |
| M4   | 0,7  | 7,5  | 2,2      | 25              | 2                |
| M5   | 0,8  | 9,2  | 2,5      | 30              | 2                |
| M6   | 1    | 11   | 3        | 35              | 3                |
| M8   | 1,25 | 14,5 | 4        | 40              | 4                |
| M10  | 1,5  | 18   | 5        | 50              | 4                |

### Article groups

| Thread | Driving features | Material      | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|---------------|-------|-------------------|-----------|-------|------|
| M      | Phillips         | St            | 4.8   | Zipl              | Standard  | 24671 | 6-40 |
| M      | Phillips         | St            | 4.8   | Zipl              | Large     | 24670 | 6-40 |
| M      | Pozidriv         | St            | 4.8   | Zipl              | Standard  | 24672 | 6-41 |
| M      | Phillips         | St            | 4.8   | Zipl blk p.       | Standard  | 24840 | 6-41 |
| M      | Phillips         | St.St. A2     | 70    |                   | Standard  | 51300 | 6-41 |
| M      | Pozidriv         | St.St. A2     | 70    |                   | Standard  | 51302 | 6-42 |
| M      | Phillips         | St.St. A4     | 70    |                   | Standard  | 55300 | 6-43 |
| M      | Pozidriv         | St.St. A4     | 70    |                   | Standard  | 55302 | 6-43 |
| M      | Pozidriv         | Al Sopral P65 |       |                   | Standard  | 45425 | 6-44 |

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#### 24671 Cross recessed countersunk head screw Phillips

H05A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7046-1-H  
 DIN 965-H



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X5  | 200 | <a href="#">24671.030.005</a> | M4X30 | 200 | <a href="#">24671.040.030</a> | M6X16 | 200 | <a href="#">24671.060.016</a> |
| M3X6  | 200 | <a href="#">24671.030.006</a> |       |     |                               | M6X20 | 100 | <a href="#">24671.060.020</a> |
| M3X8  | 200 | <a href="#">24671.030.008</a> | M5X8  | 200 | <a href="#">24671.050.008</a> | M6X25 | 100 | <a href="#">24671.060.025</a> |
| M3X10 | 200 | <a href="#">24671.030.010</a> | M5X10 | 200 | <a href="#">24671.050.010</a> | M6X30 | 100 | <a href="#">24671.060.030</a> |
| M3X12 | 200 | <a href="#">24671.030.012</a> | M5X12 | 200 | <a href="#">24671.050.012</a> | M6X35 | 100 | <a href="#">24671.060.035</a> |
| M3X16 | 200 | <a href="#">24671.030.016</a> | M5X16 | 200 | <a href="#">24671.050.016</a> | M6X40 | 100 | <a href="#">24671.060.040</a> |
| M3X20 | 200 | <a href="#">24671.030.020</a> | M5X20 | 200 | <a href="#">24671.050.020</a> | M6X50 | 100 | <a href="#">24671.060.050</a> |
|       |     |                               | M5X25 | 200 | <a href="#">24671.050.025</a> |       |     |                               |
| M4X6  | 200 | <a href="#">24671.040.006</a> | M5X30 | 100 | <a href="#">24671.050.030</a> | M8X16 | 100 | <a href="#">24671.080.016</a> |
| M4X8  | 200 | <a href="#">24671.040.008</a> | M5X35 | 100 | <a href="#">24671.050.035</a> | M8X20 | 100 | <a href="#">24671.080.020</a> |
| M4X10 | 200 | <a href="#">24671.040.010</a> | M5X40 | 100 | <a href="#">24671.050.040</a> | M8X25 | 100 | <a href="#">24671.080.025</a> |
| M4X12 | 200 | <a href="#">24671.040.012</a> | M5X50 | 200 | <a href="#">24671.050.050</a> | M8X30 | 100 | <a href="#">24671.080.030</a> |
| M4X16 | 200 | <a href="#">24671.040.016</a> |       |     |                               | M8X35 | 100 | <a href="#">24671.080.035</a> |
| M4X20 | 200 | <a href="#">24671.040.020</a> | M6X10 | 200 | <a href="#">24671.060.010</a> |       |     |                               |
| M4X25 | 200 | <a href="#">24671.040.025</a> | M6X12 | 200 | <a href="#">24671.060.012</a> |       |     |                               |

#### 24670 Cross recessed countersunk head screw Phillips

H05A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Large  
 ISO 7046-1-H  
 DIN 965-H



| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|
| M3X5  | 2000 | <a href="#">24670.030.005</a> | M3X12 | 2000 | <a href="#">24670.030.012</a> | M4X6  | 1000 | <a href="#">24670.040.006</a> |
| M3X6  | 2000 | <a href="#">24670.030.006</a> | M3X16 | 2000 | <a href="#">24670.030.016</a> | M4X8  | 1000 | <a href="#">24670.040.008</a> |
| M3X8  | 2000 | <a href="#">24670.030.008</a> | M3X20 | 2000 | <a href="#">24670.030.020</a> | M4X10 | 1000 | <a href="#">24670.040.010</a> |
| M3X10 | 2000 | <a href="#">24670.030.010</a> |       |      |                               | M4X12 | 1000 | <a href="#">24670.040.012</a> |



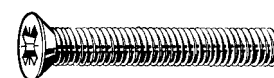
**24670 Cross recessed countersunk head screw Phillips**

| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M4X16 | 1000 | <a href="#">24670.040.016</a> | M5X30 | 250  | <a href="#">24670.050.030</a> | M6X40 | 250 | <a href="#">24670.060.040</a> |
| M4X20 | 1000 | <a href="#">24670.040.020</a> | M5X35 | 250  | <a href="#">24670.050.035</a> | M6X50 | 250 | <a href="#">24670.060.050</a> |
| M4X25 | 1000 | <a href="#">24670.040.025</a> | M5X40 | 250  | <a href="#">24670.050.040</a> |       |     |                               |
| M4X30 | 1000 | <a href="#">24670.040.030</a> | M5X45 | 250  | <a href="#">24670.050.045</a> | M8X16 | 250 | <a href="#">24670.080.016</a> |
| M4X40 | 1000 | <a href="#">24670.040.040</a> | M5X50 | 250  | <a href="#">24670.050.050</a> | M8X20 | 250 | <a href="#">24670.080.020</a> |
| M4X50 | 1000 | <a href="#">24670.040.050</a> |       |      |                               | M8X25 | 250 | <a href="#">24670.080.025</a> |
| M5X8  | 1000 | <a href="#">24670.050.008</a> | M6X10 | 1000 | <a href="#">24670.060.010</a> | M8X30 | 250 | <a href="#">24670.080.030</a> |
| M5X10 | 1000 | <a href="#">24670.050.010</a> | M6X12 | 1000 | <a href="#">24670.060.012</a> | M8X35 | 250 | <a href="#">24670.080.035</a> |
| M5X12 | 1000 | <a href="#">24670.050.012</a> | M6X16 | 500  | <a href="#">24670.060.016</a> | M8X40 | 100 | <a href="#">24670.080.040</a> |
| M5X16 | 1000 | <a href="#">24670.050.016</a> | M6X20 | 250  | <a href="#">24670.060.020</a> | M8X50 | 100 | <a href="#">24670.080.050</a> |
| M5X20 | 500  | <a href="#">24670.050.020</a> | M6X25 | 250  | <a href="#">24670.060.025</a> |       |     |                               |
| M5X25 | 500  | <a href="#">24670.050.025</a> | M6X30 | 250  | <a href="#">24670.060.030</a> |       |     |                               |
|       |      |                               | M6X35 | 250  | <a href="#">24670.060.035</a> |       |     |                               |

**24672 Cross recessed countersunk head screw Pozidriv**

H05A

Thread Metric thread  
Material Steel  
Class 4.8  
Surface treatment Zinc plated  
Packaging Standard  
ISO 7046-1-Z  
DIN 965-Z



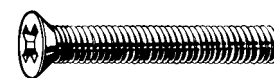
| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 2000 | <a href="#">24672.030.006</a> | M5X8  | 1000 | <a href="#">24672.050.008</a> | M6X30 | 250 | <a href="#">24672.060.030</a> |
| M3X8  | 2000 | <a href="#">24672.030.008</a> | M5X10 | 1000 | <a href="#">24672.050.010</a> | M6X35 | 250 | <a href="#">24672.060.035</a> |
| M3X10 | 2000 | <a href="#">24672.030.010</a> | M5X12 | 1000 | <a href="#">24672.050.012</a> | M6X40 | 250 | <a href="#">24672.060.040</a> |
| M3X12 | 2000 | <a href="#">24672.030.012</a> | M5X16 | 1000 | <a href="#">24672.050.016</a> | M6X50 | 250 | <a href="#">24672.060.050</a> |
| M3X16 | 2000 | <a href="#">24672.030.016</a> | M5X20 | 500  | <a href="#">24672.050.020</a> |       |     |                               |
| M3X20 | 2000 | <a href="#">24672.030.020</a> | M5X25 | 500  | <a href="#">24672.050.025</a> | M8X16 | 250 | <a href="#">24672.080.016</a> |
| M4X6  | 1000 | <a href="#">24672.040.006</a> | M5X30 | 250  | <a href="#">24672.050.030</a> | M8X20 | 250 | <a href="#">24672.080.020</a> |
| M4X8  | 1000 | <a href="#">24672.040.008</a> | M5X35 | 250  | <a href="#">24672.050.035</a> | M8X25 | 250 | <a href="#">24672.080.025</a> |
| M4X10 | 1000 | <a href="#">24672.040.010</a> | M5X40 | 250  | <a href="#">24672.050.040</a> | M8X30 | 250 | <a href="#">24672.080.030</a> |
| M4X12 | 1000 | <a href="#">24672.040.012</a> | M5X50 | 250  | <a href="#">24672.050.050</a> | M8X35 | 250 | <a href="#">24672.080.035</a> |
| M4X16 | 1000 | <a href="#">24672.040.016</a> | M6X10 | 1000 | <a href="#">24672.060.010</a> | M8X40 | 100 | <a href="#">24672.080.040</a> |
| M4X20 | 1000 | <a href="#">24672.040.020</a> | M6X12 | 1000 | <a href="#">24672.060.012</a> | M8X50 | 100 | <a href="#">24672.080.050</a> |
| M4X25 | 1000 | <a href="#">24672.040.025</a> | M6X16 | 500  | <a href="#">24672.060.016</a> |       |     |                               |
| M4X30 | 1000 | <a href="#">24672.040.030</a> | M6X20 | 250  | <a href="#">24672.060.020</a> |       |     |                               |
|       |      |                               | M6X25 | 250  | <a href="#">24672.060.025</a> |       |     |                               |

6

**24840 Cross recessed countersunk head screw Phillips**

H07A

Thread Metric thread  
Material Steel  
Class 4.8  
Surface treatment Zinc plated black passivated  
Packaging Standard  
ISO 7046-1-H  
DIN 965-H

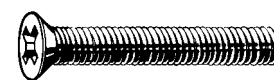


| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M2X4  | 200 | <a href="#">24840.020.004</a> | M4X30 | 200 | <a href="#">24840.040.030</a> | M6X12 | 200 | <a href="#">24840.060.012</a> |
| M3X6  | 200 | <a href="#">24840.030.006</a> | M4X35 | 200 | <a href="#">24840.040.035</a> | M6X16 | 200 | <a href="#">24840.060.016</a> |
| M3X8  | 200 | <a href="#">24840.030.008</a> | M4X40 | 200 | <a href="#">24840.040.040</a> | M6X20 | 100 | <a href="#">24840.060.020</a> |
| M3X10 | 200 | <a href="#">24840.030.010</a> | M4X50 | 200 | <a href="#">24840.040.050</a> | M6X25 | 100 | <a href="#">24840.060.025</a> |
| M3X12 | 200 | <a href="#">24840.030.012</a> |       |     |                               | M6X30 | 100 | <a href="#">24840.060.030</a> |
| M3X16 | 200 | <a href="#">24840.030.016</a> | M5X8  | 200 | <a href="#">24840.050.008</a> | M6X35 | 100 | <a href="#">24840.060.035</a> |
| M3X20 | 200 | <a href="#">24840.030.020</a> | M5X10 | 200 | <a href="#">24840.050.010</a> | M6X40 | 100 | <a href="#">24840.060.040</a> |
| M3X25 | 200 | <a href="#">24840.030.025</a> | M5X12 | 200 | <a href="#">24840.050.012</a> | M6X50 | 100 | <a href="#">24840.060.050</a> |
| M3X30 | 200 | <a href="#">24840.030.030</a> | M5X16 | 200 | <a href="#">24840.050.016</a> |       |     |                               |
| M4X6  | 200 | <a href="#">24840.040.006</a> | M5X20 | 200 | <a href="#">24840.050.020</a> | M8X16 | 100 | <a href="#">24840.080.016</a> |
| M4X8  | 200 | <a href="#">24840.040.008</a> | M5X25 | 200 | <a href="#">24840.050.025</a> | M8X20 | 100 | <a href="#">24840.080.020</a> |
| M4X10 | 200 | <a href="#">24840.040.010</a> | M5X30 | 100 | <a href="#">24840.050.030</a> | M8X25 | 100 | <a href="#">24840.080.025</a> |
| M4X12 | 200 | <a href="#">24840.040.012</a> | M5X35 | 100 | <a href="#">24840.050.035</a> | M8X30 | 100 | <a href="#">24840.080.030</a> |
| M4X16 | 200 | <a href="#">24840.040.016</a> | M5X40 | 100 | <a href="#">24840.050.040</a> | M8X35 | 100 | <a href="#">24840.080.035</a> |
| M4X20 | 200 | <a href="#">24840.040.020</a> | M5X50 | 100 | <a href="#">24840.050.050</a> | M8X40 | 100 | <a href="#">24840.080.040</a> |
| M4X25 | 200 | <a href="#">24840.040.025</a> | M6X10 | 200 | <a href="#">24840.060.010</a> | M8X50 | 100 | <a href="#">24840.080.050</a> |

**51300 Cross recessed countersunk head screw Phillips**

R01A

Thread Metric thread  
Material Stainless steel A2  
Class 70  
Packaging Standard  
ISO 7046-2-H  
DIN 965-H  
NF E25-119-2



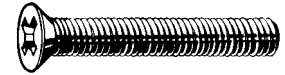
| d x L     | ☒    | Art.number                    | d x L     | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-----------|------|-------------------------------|-----------|------|-------------------------------|-------|-----|-------------------------------|
| M1,6X3 *  | 1000 | <a href="#">51300.016.003</a> | M1,6X12 * | 1000 | <a href="#">51300.016.012</a> | M2X6  | 100 | <a href="#">51300.020.006</a> |
| M1,6X4 *  | 1000 | <a href="#">51300.016.004</a> |           |      |                               | M2X8  | 100 | <a href="#">51300.020.008</a> |
| M1,6X6 *  | 1000 | <a href="#">51300.016.006</a> | M2X3 *    | 1000 | <a href="#">51300.020.003</a> | M2X10 | 100 | <a href="#">51300.020.010</a> |
| M1,6X8 *  | 1000 | <a href="#">51300.016.008</a> | M2X4      | 100  | <a href="#">51300.020.004</a> | M2X12 | 100 | <a href="#">51300.020.012</a> |
| M1,6X10 * | 1000 | <a href="#">51300.016.010</a> | M2X5      | 100  | <a href="#">51300.020.005</a> | M2X16 | 100 | <a href="#">51300.020.016</a> |



**55300 Cross recessed countersunk head screw Phillips**

R41A

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard  
ISO 7046-2-H  
**DIN 965-H**  
NF E25-119-2



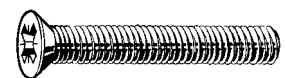
| d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|-----------|------|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M1,6X3 *  | 1000 | <a href="#">55300.016.003</a> |         |     |                               | M6X8     | 100 | <a href="#">55300.060.008</a> |
| M1,6X4 *  | 1000 | <a href="#">55300.016.004</a> | M4X5 *  | 500 | <a href="#">55300.040.005</a> | M6X10    | 100 | <a href="#">55300.060.010</a> |
| M1,6X6 *  | 1000 | <a href="#">55300.016.006</a> | M4X6    | 200 | <a href="#">55300.040.006</a> | M6X12    | 100 | <a href="#">55300.060.012</a> |
| M1,6X8 *  | 1000 | <a href="#">55300.016.008</a> | M4X8    | 200 | <a href="#">55300.040.008</a> | M6X16    | 100 | <a href="#">55300.060.016</a> |
|           |      |                               | M4X10   | 200 | <a href="#">55300.040.010</a> | M6X20    | 100 | <a href="#">55300.060.020</a> |
| M1,6X10 * | 1000 | <a href="#">55300.016.010</a> | M4X12   | 200 | <a href="#">55300.040.012</a> | M6X25    | 100 | <a href="#">55300.060.025</a> |
| M1,6X12 * | 1000 | <a href="#">55300.016.012</a> | M4X14 * | 500 | <a href="#">55300.040.014</a> | M6X30    | 100 | <a href="#">55300.060.030</a> |
| M2X4      | 100  | <a href="#">55300.020.004</a> | M4X16   | 200 | <a href="#">55300.040.016</a> | M6X35    | 100 | <a href="#">55300.060.035</a> |
| M2X5      | 100  | <a href="#">55300.020.005</a> | M4X18 * | 500 | <a href="#">55300.040.018</a> | M6X40    | 100 | <a href="#">55300.060.040</a> |
| M2X6      | 100  | <a href="#">55300.020.006</a> | M4X20   | 200 | <a href="#">55300.040.020</a> | M6X45 *  | 200 | <a href="#">55300.060.045</a> |
| M2X8      | 100  | <a href="#">55300.020.008</a> | M4X25   | 200 | <a href="#">55300.040.025</a> | M6X50    | 100 | <a href="#">55300.060.050</a> |
| M2X10     | 100  | <a href="#">55300.020.010</a> | M4X30   | 200 | <a href="#">55300.040.030</a> | M6X60    | 100 | <a href="#">55300.060.060</a> |
| M2X12     | 100  | <a href="#">55300.020.012</a> | M4X35   | 200 | <a href="#">55300.040.035</a> | M6X80 *  | 200 | <a href="#">55300.060.080</a> |
| M2X16     | 100  | <a href="#">55300.020.016</a> | M4X40   | 200 | <a href="#">55300.040.040</a> | M6X90 *  | 200 | <a href="#">55300.060.090</a> |
|           |      |                               | M4X45 * | 500 | <a href="#">55300.040.045</a> |          |     |                               |
| M2,5X5    | 100  | <a href="#">55300.025.005</a> | M5X6 *  | 500 | <a href="#">55300.050.006</a> | M8X12 *  | 200 | <a href="#">55300.080.012</a> |
| M2,5X6    | 100  | <a href="#">55300.025.006</a> | M5X8    | 100 | <a href="#">55300.050.008</a> | M8X16    | 100 | <a href="#">55300.080.016</a> |
| M2,5X8    | 100  | <a href="#">55300.025.008</a> | M5X10   | 100 | <a href="#">55300.050.010</a> | M8X20    | 100 | <a href="#">55300.080.020</a> |
| M2,5X10   | 100  | <a href="#">55300.025.010</a> | M5X12   | 100 | <a href="#">55300.050.012</a> | M8X25    | 100 | <a href="#">55300.080.025</a> |
| M2,5X12   | 100  | <a href="#">55300.025.012</a> | M5X14 * | 500 | <a href="#">55300.050.014</a> | M8X30    | 100 | <a href="#">55300.080.030</a> |
| M2,5X16   | 100  | <a href="#">55300.025.016</a> | M5X16   | 100 | <a href="#">55300.050.016</a> | M8X35    | 100 | <a href="#">55300.080.035</a> |
| M2,5X20   | 100  | <a href="#">55300.025.020</a> | M5X18 * | 500 | <a href="#">55300.050.018</a> | M8X40    | 100 | <a href="#">55300.080.040</a> |
|           |      |                               | M5X20   | 100 | <a href="#">55300.050.020</a> | M8X45 *  | 200 | <a href="#">55300.080.045</a> |
| M3X4 *    | 500  | <a href="#">55300.030.004</a> | M5X22 * | 500 | <a href="#">55300.050.022</a> | M8X50    | 100 | <a href="#">55300.080.050</a> |
| M3X5 *    | 500  | <a href="#">55300.030.005</a> | M5X25   | 100 | <a href="#">55300.050.025</a> | M8X80 *  | 100 | <a href="#">55300.080.080</a> |
| M3X6      | 200  | <a href="#">55300.030.006</a> | M5X30   | 100 | <a href="#">55300.050.030</a> |          |     |                               |
| M3X8      | 200  | <a href="#">55300.030.008</a> | M5X35   | 100 | <a href="#">55300.050.035</a> | M10X16 * | 100 | <a href="#">55300.100.016</a> |
| M3X10     | 200  | <a href="#">55300.030.010</a> | M5X40   | 100 | <a href="#">55300.050.040</a> | M10X20 * | 100 | <a href="#">55300.100.020</a> |
| M3X12     | 200  | <a href="#">55300.030.012</a> | M5X45 * | 200 | <a href="#">55300.050.045</a> | M10X25 * | 100 | <a href="#">55300.100.025</a> |
| M3X14 *   | 500  | <a href="#">55300.030.014</a> | M5X50   | 100 | <a href="#">55300.050.050</a> | M10X30 * | 100 | <a href="#">55300.100.030</a> |
| M3X16     | 200  | <a href="#">55300.030.016</a> | M5X60   | 100 | <a href="#">55300.050.060</a> | M10X35 * | 100 | <a href="#">55300.100.035</a> |
| M3X20     | 200  | <a href="#">55300.030.020</a> | M5X70 * | 200 | <a href="#">55300.050.070</a> | M10X40 * | 100 | <a href="#">55300.100.040</a> |
| M3X25     | 200  | <a href="#">55300.030.025</a> | M5X80 * | 200 | <a href="#">55300.050.080</a> | M10X70 * | 50  | <a href="#">55300.100.070</a> |
| M3X30     | 200  | <a href="#">55300.030.030</a> |         |     |                               | M10X80 * | 50  | <a href="#">55300.100.080</a> |
| M3X35 *   | 500  | <a href="#">55300.030.035</a> |         |     |                               |          |     |                               |

6

**55302 Cross recessed countersunk head screw Pozidriv**

R41A

**Thread** Metric thread  
**Material** Stainless steel A4  
**Class** 70  
**Packaging** Standard  
ISO 7046-2-Z  
**DIN 965-Z**  
NF E25-119-2

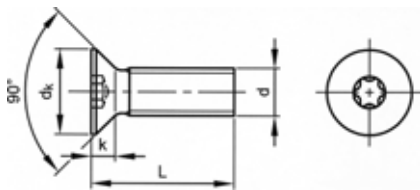


| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M1,6X3  | 100 | <a href="#">55302.016.003</a> | M3X4    | 200 | <a href="#">55302.030.004</a> | M5X6    | 100 | <a href="#">55302.050.006</a> |
| M1,6X4  | 100 | <a href="#">55302.016.004</a> | M3X5    | 200 | <a href="#">55302.030.005</a> | M5X8    | 100 | <a href="#">55302.050.008</a> |
| M1,6X5  | 100 | <a href="#">55302.016.005</a> | M3X6    | 200 | <a href="#">55302.030.006</a> | M5X10   | 100 | <a href="#">55302.050.010</a> |
| M1,6X6  | 100 | <a href="#">55302.016.006</a> | M3X8    | 200 | <a href="#">55302.030.008</a> | M5X12   | 100 | <a href="#">55302.050.012</a> |
| M1,6X8  | 100 | <a href="#">55302.016.008</a> | M3X10   | 200 | <a href="#">55302.030.010</a> | M5X14 * | 500 | <a href="#">55302.050.014</a> |
| M1,6X10 | 100 | <a href="#">55302.016.010</a> | M3X12   | 200 | <a href="#">55302.030.012</a> | M5X16   | 100 | <a href="#">55302.050.016</a> |
| M1,6X12 | 100 | <a href="#">55302.016.012</a> | M3X14 * | 500 | <a href="#">55302.030.014</a> | M5X20   | 100 | <a href="#">55302.050.020</a> |
|         |     |                               | M3X16   | 200 | <a href="#">55302.030.016</a> | M5X25   | 100 | <a href="#">55302.050.025</a> |
| M2X3    | 100 | <a href="#">55302.020.003</a> | M3X18 * | 500 | <a href="#">55302.030.018</a> | M5X30   | 100 | <a href="#">55302.050.030</a> |
| M2X4    | 100 | <a href="#">55302.020.004</a> | M3X20   | 200 | <a href="#">55302.030.020</a> | M5X35   | 100 | <a href="#">55302.050.035</a> |
| M2X5    | 100 | <a href="#">55302.020.005</a> | M3X25   | 200 | <a href="#">55302.030.025</a> | M5X40   | 100 | <a href="#">55302.050.040</a> |
| M2X6    | 100 | <a href="#">55302.020.006</a> | M3X30   | 200 | <a href="#">55302.030.030</a> | M5X50   | 100 | <a href="#">55302.050.050</a> |
| M2X8    | 100 | <a href="#">55302.020.008</a> | M3X40   | 200 | <a href="#">55302.030.040</a> | M5X60   | 100 | <a href="#">55302.050.060</a> |
| M2X12   | 100 | <a href="#">55302.020.012</a> |         |     |                               |         |     |                               |
| M2X14   | 100 | <a href="#">55302.020.014</a> | M4X5    | 200 | <a href="#">55302.040.005</a> | M6X8    | 100 | <a href="#">55302.060.008</a> |
| M2X16   | 100 | <a href="#">55302.020.016</a> | M4X6    | 200 | <a href="#">55302.040.006</a> | M6X10   | 100 | <a href="#">55302.060.010</a> |
| M2X20   | 100 | <a href="#">55302.020.020</a> | M4X8    | 200 | <a href="#">55302.040.008</a> | M6X12   | 100 | <a href="#">55302.060.012</a> |
|         |     |                               | M4X10   | 200 | <a href="#">55302.040.010</a> | M6X16   | 100 | <a href="#">55302.060.016</a> |
| M2,5X4  | 100 | <a href="#">55302.025.004</a> | M4X12   | 200 | <a href="#">55302.040.012</a> | M6X20   | 100 | <a href="#">55302.060.020</a> |
| M2,5X5  | 100 | <a href="#">55302.025.005</a> | M4X14 * | 500 | <a href="#">55302.040.014</a> | M6X25   | 100 | <a href="#">55302.060.025</a> |
| M2,5X6  | 100 | <a href="#">55302.025.006</a> | M4X16   | 200 | <a href="#">55302.040.016</a> | M6X30   | 100 | <a href="#">55302.060.030</a> |
| M2,5X8  | 100 | <a href="#">55302.025.008</a> | M4X18 * | 500 | <a href="#">55302.040.018</a> | M6X35   | 100 | <a href="#">55302.060.035</a> |
| M2,5X10 | 100 | <a href="#">55302.025.010</a> | M4X20   | 200 | <a href="#">55302.040.020</a> | M6X40   | 100 | <a href="#">55302.060.040</a> |
| M2,5X14 | 100 | <a href="#">55302.025.014</a> | M4X25   | 200 | <a href="#">55302.040.025</a> | M6X50   | 100 | <a href="#">55302.060.050</a> |
| M2,5X16 | 100 | <a href="#">55302.025.016</a> | M4X30   | 200 | <a href="#">55302.040.030</a> | M6X60   | 100 | <a href="#">55302.060.060</a> |
| M2,5X20 | 100 | <a href="#">55302.025.020</a> | M4X35   | 200 | <a href="#">55302.040.035</a> |         |     |                               |
|         |     |                               | M4X40   | 200 | <a href="#">55302.040.040</a> |         |     |                               |
|         |     |                               | M4X50   | 200 | <a href="#">55302.040.050</a> |         |     |                               |

| 45425 Cross recessed countersunk head screw Pozidriv |                      | W010  |
|--|----------------------|---|
| <b>Thread</b>  | Metric thread        |  |
| <b>Material</b>                                      | Aluminium Sopral P65 |   |
| <b>Packaging</b>                                     | Standard             |   |
|  | ISO ≈7046-1          |   |
|  | DIN ≈965             |   |
|  | NF ≈E25-119-1        |   |

| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X8  | 500 | <a href="#">45425.030.008</a> | M4X25 | 200 | <a href="#">45425.040.025</a> | M6X30 | 200 | <a href="#">45425.060.030</a> |
| M3X10 | 500 | <a href="#">45425.030.010</a> |       |     |                               | M6X35 | 200 | <a href="#">45425.060.035</a> |
| M3X16 | 500 | <a href="#">45425.030.016</a> | M5X10 | 200 | <a href="#">45425.050.010</a> | M6X40 | 100 | <a href="#">45425.060.040</a> |
| M3X20 | 500 | <a href="#">45425.030.020</a> | M5X12 | 200 | <a href="#">45425.050.012</a> | M6X50 | 100 | <a href="#">45425.060.050</a> |
| M3X25 | 500 | <a href="#">45425.030.025</a> | M5X16 | 200 | <a href="#">45425.050.016</a> |       |     |                               |
|       |     |                               | M5X20 | 200 | <a href="#">45425.050.020</a> | M8X20 | 100 | <a href="#">45425.080.020</a> |
| M4X10 | 500 | <a href="#">45425.040.010</a> |       |     |                               | M8X30 | 100 | <a href="#">45425.080.030</a> |
| M4X12 | 500 | <a href="#">45425.040.012</a> | M6X16 | 200 | <a href="#">45425.060.016</a> |       |     |                               |
| M4X16 | 500 | <a href="#">45425.040.016</a> | M6X20 | 200 | <a href="#">45425.060.020</a> |       |     |                               |
| M4X20 | 500 | <a href="#">45425.040.020</a> | M6X25 | 200 | <a href="#">45425.060.025</a> |       |     |                               |

## Hexalobular countersunk head screw



ISO ≈7046-1  
DIN ≈965  
NF ≈E25-119-1



### Technical data

| d    | P    | dk   | k (max.) | Socket |
|------|------|------|----------|--------|
| M2   | 0,4  | 3,8  | 1,2      | No.6   |
| M2,5 | 0,45 | 4,7  | 1,5      | No.8   |
| M3   | 0,5  | 5,6  | 1,65     | No.10  |
| M4   | 0,7  | 7,5  | 2,2      | No.20  |
| M5   | 0,8  | 9,2  | 2,5      | No.25  |
| M6   | 1    | 11   | 3        | No.30  |
| M8   | 1,25 | 14,5 | 4        | No.45  |
| M10  | 1,5  | 18   | 5        | No.50  |

### Article groups

| Thread | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------|-------------------|-----------|-------|------|
| M      | St        | 4.8   | Zipl              | Standard  | 24677 | 6-45 |
| M      | St.St. A2 | 70    |                   | Standard  | 51305 | 6-45 |

#### 24677 Hexalobular countersunk head screw

H05A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 4.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X5  | 200 | <a href="#">24677.030.005</a> | M4X20 | 200 | <a href="#">24677.040.020</a> | M6X12 | 100 | <a href="#">24677.060.012</a> |
| M3X6  | 200 | <a href="#">24677.030.006</a> | M4X25 | 200 | <a href="#">24677.040.025</a> | M6X16 | 100 | <a href="#">24677.060.016</a> |
| M3X8  | 200 | <a href="#">24677.030.008</a> |       |     |                               | M6X20 | 100 | <a href="#">24677.060.020</a> |
| M3X10 | 200 | <a href="#">24677.030.010</a> | M5X8  | 200 | <a href="#">24677.050.008</a> | M6X25 | 100 | <a href="#">24677.060.025</a> |
| M3X12 | 200 | <a href="#">24677.030.012</a> | M5X10 | 200 | <a href="#">24677.050.010</a> | M6X30 | 100 | <a href="#">24677.060.030</a> |
| M3X16 | 200 | <a href="#">24677.030.016</a> | M5X12 | 200 | <a href="#">24677.050.012</a> | M6X35 | 100 | <a href="#">24677.060.035</a> |
| M3X20 | 200 | <a href="#">24677.030.020</a> | M5X16 | 200 | <a href="#">24677.050.016</a> | M6X40 | 100 | <a href="#">24677.060.040</a> |
|       |     |                               | M5X20 | 200 | <a href="#">24677.050.020</a> |       |     |                               |
| M4X6  | 200 | <a href="#">24677.040.006</a> | M5X25 | 100 | <a href="#">24677.050.025</a> | M8X16 | 50  | <a href="#">24677.080.016</a> |
| M4X8  | 200 | <a href="#">24677.040.008</a> | M5X30 | 100 | <a href="#">24677.050.030</a> | M8X20 | 50  | <a href="#">24677.080.020</a> |
| M4X10 | 200 | <a href="#">24677.040.010</a> | M5X35 | 100 | <a href="#">24677.050.035</a> |       |     |                               |
| M4X12 | 200 | <a href="#">24677.040.012</a> |       |     |                               |       |     |                               |
| M4X16 | 200 | <a href="#">24677.040.016</a> | M6X10 | 100 | <a href="#">24677.060.010</a> |       |     |                               |

#### 51305 Hexalobular countersunk head screw

R01A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |

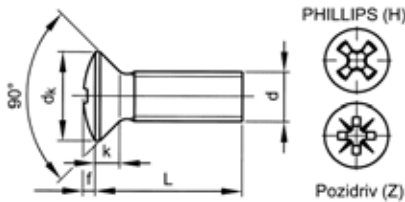


| d x L     | ☒    | Art.number                    | d x L     | ☒    | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|-----------|------|-------------------------------|---------|-----|-------------------------------|
| M2X3 *    | 1000 | <a href="#">51305.020.003</a> | M2,5X12 * | 1000 | <a href="#">51305.025.012</a> | M3X40 * | 500 | <a href="#">51305.030.040</a> |
| M2X4 *    | 1000 | <a href="#">51305.020.004</a> | M2,5X16 * | 1000 | <a href="#">51305.025.016</a> |         |     |                               |
| M2X5 *    | 1000 | <a href="#">51305.020.005</a> | M2,5X20 * | 1000 | <a href="#">51305.025.020</a> | M4X5 *  | 500 | <a href="#">51305.040.005</a> |
| M2X6 *    | 1000 | <a href="#">51305.020.006</a> |           |      |                               | M4X8    | 200 | <a href="#">51305.040.008</a> |
| M2X8 *    | 1000 | <a href="#">51305.020.008</a> | M3X4 *    | 500  | <a href="#">51305.030.004</a> | M4X10   | 200 | <a href="#">51305.040.010</a> |
| M2X10 *   | 1000 | <a href="#">51305.020.010</a> | M3X5 *    | 500  | <a href="#">51305.030.005</a> | M4X12   | 200 | <a href="#">51305.040.012</a> |
| M2X12 *   | 1000 | <a href="#">51305.020.012</a> | M3X6      | 200  | <a href="#">51305.030.006</a> | M4X14 * | 500 | <a href="#">51305.040.014</a> |
| M2X16 *   | 1000 | <a href="#">51305.020.016</a> | M3X8      | 200  | <a href="#">51305.030.008</a> | M4X16   | 200 | <a href="#">51305.040.016</a> |
| M2X20 *   | 1000 | <a href="#">51305.020.020</a> | M3X10     | 200  | <a href="#">51305.030.010</a> | M4X20   | 200 | <a href="#">51305.040.020</a> |
|           |      |                               | M3X12     | 200  | <a href="#">51305.030.012</a> | M4X25   | 200 | <a href="#">51305.040.025</a> |
| M2,5X3 *  | 1000 | <a href="#">51305.025.003</a> | M3X14 *   | 500  | <a href="#">51305.030.014</a> | M4X30   | 200 | <a href="#">51305.040.030</a> |
| M2,5X4 *  | 1000 | <a href="#">51305.025.004</a> | M3X16     | 200  | <a href="#">51305.030.016</a> | M4X35   | 100 | <a href="#">51305.040.035</a> |
| M2,5X5 *  | 1000 | <a href="#">51305.025.005</a> | M3X20     | 200  | <a href="#">51305.030.020</a> | M4X40   | 100 | <a href="#">51305.040.040</a> |
| M2,5X6 *  | 1000 | <a href="#">51305.025.006</a> | M3X25 *   | 500  | <a href="#">51305.030.025</a> | M4X50 * | 500 | <a href="#">51305.040.050</a> |
| M2,5X8 *  | 1000 | <a href="#">51305.025.008</a> | M3X30 *   | 500  | <a href="#">51305.030.030</a> |         |     |                               |
| M2,5X10 * | 1000 | <a href="#">51305.025.010</a> | M3X35 *   | 500  | <a href="#">51305.030.035</a> | M5X6 *  | 500 | <a href="#">51305.050.006</a> |

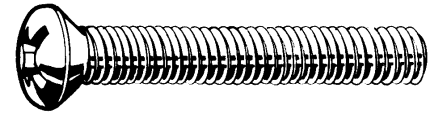
**51305 Hexalobular countersunk head screw**

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M5X8 *  | 500 | <a href="#">51305.050.008</a> | M5X60 * | 200 | <a href="#">51305.050.060</a> | M6X45 * | 200 | <a href="#">51305.060.045</a> |
| M5X10   | 200 | <a href="#">51305.050.010</a> |         |     |                               | M6X50 * | 200 | <a href="#">51305.060.050</a> |
| M5X12   | 200 | <a href="#">51305.050.012</a> | M6X8 *  | 500 | <a href="#">51305.060.008</a> | M6X55 * | 200 | <a href="#">51305.060.055</a> |
| M5X14 * | 500 | <a href="#">51305.050.014</a> | M6X10   | 100 | <a href="#">51305.060.010</a> | M6X60 * | 200 | <a href="#">51305.060.060</a> |
| M5X16   | 200 | <a href="#">51305.050.016</a> | M6X12   | 100 | <a href="#">51305.060.012</a> |         |     |                               |
| M5X20   | 200 | <a href="#">51305.050.020</a> | M6X14 * | 500 | <a href="#">51305.060.014</a> | M8X10 * | 200 | <a href="#">51305.080.010</a> |
| M5X25   | 100 | <a href="#">51305.050.025</a> | M6X16   | 100 | <a href="#">51305.060.016</a> | M8X12 * | 200 | <a href="#">51305.080.012</a> |
| M5X30   | 100 | <a href="#">51305.050.030</a> | M6X20   | 100 | <a href="#">51305.060.020</a> | M8X16 * | 200 | <a href="#">51305.080.016</a> |
| M5X35   | 100 | <a href="#">51305.050.035</a> | M6X25   | 100 | <a href="#">51305.060.025</a> | M8X20 * | 200 | <a href="#">51305.080.020</a> |
| M5X40   | 100 | <a href="#">51305.050.040</a> | M6X30   | 100 | <a href="#">51305.060.030</a> | M8X25 * | 200 | <a href="#">51305.080.025</a> |
| M5X45 * | 200 | <a href="#">51305.050.045</a> | M6X35   | 100 | <a href="#">51305.060.035</a> | M8X30 * | 200 | <a href="#">51305.080.030</a> |
| M5X50 * | 200 | <a href="#">51305.050.050</a> | M6X40   | 100 | <a href="#">51305.060.040</a> |         |     |                               |

## Cross recessed raised countersunk head screw



ISO 7047  
**DIN 966**  
 NF E25-120



### Technical data

| d    | P    | dk   | k (max.) | f ≈  | Full thread L ≤ | No. cross recess |
|------|------|------|----------|------|-----------------|------------------|
| M2   | 0,4  | 3,8  | 1,2      | 0,5  | 16              | 1                |
| M2,5 | 0,45 | 4,7  | 1,5      | 0,6  | 18              | 1                |
| M3   | 0,5  | 5,6  | 1,65     | 0,75 | 20              | 1                |
| M4   | 0,7  | 7,5  | 2,2      | 1    | 25              | 2                |
| M5   | 0,8  | 9,2  | 2,5      | 1,25 | 30              | 2                |
| M6   | 1    | 11   | 3        | 1,5  | 35              | 3                |
| M8   | 1,25 | 14,5 | 4        | 2    | 40              | 4                |

### Article groups

| Thread | Driving features | Material  | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-------------------|-----------|-------|------|
| M      | Phillips         | St        | 4.8   | Zipl              | Standard  | 24691 | 6-47 |
| M      | Pozidriv         | St        | 4.8   | Zipl              | Standard  | 24692 | 6-47 |
| M      | Phillips         | St        | 4.8   | Zipl              | Large     | 24690 | 6-48 |
| M      | Phillips         | St.St. A2 | 70    |                   | Standard  | 51320 | 6-48 |
| M      | Pozidriv         | St.St. A2 | 70    |                   | Standard  | 51322 | 6-48 |
| M      | Pozidriv         | St.St. A4 | 70    |                   | Standard  | 55322 | 6-49 |

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#### 24691 Cross recessed raised countersunk head screw Phillips

H05A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7047-H  
**DIN 966-H**



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 200 | <a href="#">24691.030.006</a> | M4X30 | 200 | <a href="#">24691.040.030</a> | M6X16 | 200 | <a href="#">24691.060.016</a> |
| M3X8  | 200 | <a href="#">24691.030.008</a> | M4X40 | 100 | <a href="#">24691.040.040</a> | M6X20 | 100 | <a href="#">24691.060.020</a> |
| M3X10 | 200 | <a href="#">24691.030.010</a> |       |     |                               | M6X25 | 100 | <a href="#">24691.060.025</a> |
| M3X12 | 200 | <a href="#">24691.030.012</a> | M5X8  | 200 | <a href="#">24691.050.008</a> | M6X30 | 100 | <a href="#">24691.060.030</a> |
| M3X16 | 200 | <a href="#">24691.030.016</a> | M5X10 | 200 | <a href="#">24691.050.010</a> | M6X35 | 100 | <a href="#">24691.060.035</a> |
| M3X20 | 200 | <a href="#">24691.030.020</a> | M5X12 | 200 | <a href="#">24691.050.012</a> | M6X40 | 100 | <a href="#">24691.060.040</a> |
|       |     |                               | M5X16 | 200 | <a href="#">24691.050.016</a> | M6X50 | 100 | <a href="#">24691.060.050</a> |
| M4X6  | 200 | <a href="#">24691.040.006</a> | M5X20 | 200 | <a href="#">24691.050.020</a> |       |     |                               |
| M4X8  | 200 | <a href="#">24691.040.008</a> | M5X25 | 200 | <a href="#">24691.050.025</a> | M8X16 | 100 | <a href="#">24691.080.016</a> |
| M4X10 | 200 | <a href="#">24691.040.010</a> | M5X30 | 100 | <a href="#">24691.050.030</a> | M8X20 | 100 | <a href="#">24691.080.020</a> |
| M4X12 | 200 | <a href="#">24691.040.012</a> | M5X35 | 100 | <a href="#">24691.050.035</a> | M8X25 | 100 | <a href="#">24691.080.025</a> |
| M4X16 | 200 | <a href="#">24691.040.016</a> | M5X40 | 100 | <a href="#">24691.050.040</a> |       |     |                               |
| M4X20 | 200 | <a href="#">24691.040.020</a> |       |     |                               |       |     |                               |
| M4X25 | 200 | <a href="#">24691.040.025</a> | M6X12 | 200 | <a href="#">24691.060.012</a> |       |     |                               |

#### 24692 Cross recessed raised countersunk head screw Pozidriv

H05A

**Thread** Metric thread  
**Material** Steel  
**Class** 4.8  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7047-Z  
**DIN 966-Z**



| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M3X6  | 2000 | <a href="#">24692.030.006</a> | M4X25 | 1000 | <a href="#">24692.040.025</a> | M6X20 | 250 | <a href="#">24692.060.020</a> |
| M3X8  | 2000 | <a href="#">24692.030.008</a> | M4X30 | 1000 | <a href="#">24692.040.030</a> | M6X25 | 250 | <a href="#">24692.060.025</a> |
| M3X10 | 2000 | <a href="#">24692.030.010</a> |       |      |                               |       |     |                               |
| M3X12 | 2000 | <a href="#">24692.030.012</a> | M5X10 | 1000 | <a href="#">24692.050.010</a> | M8X16 | 250 | <a href="#">24692.080.016</a> |
| M3X16 | 2000 | <a href="#">24692.030.016</a> | M5X12 | 1000 | <a href="#">24692.050.012</a> | M8X20 | 250 | <a href="#">24692.080.020</a> |
| M3X20 | 2000 | <a href="#">24692.030.020</a> | M5X16 | 1000 | <a href="#">24692.050.016</a> | M8X25 | 250 | <a href="#">24692.080.025</a> |
|       |      |                               | M5X20 | 500  | <a href="#">24692.050.020</a> | M8X35 | 250 | <a href="#">24692.080.035</a> |
| M4X10 | 1000 | <a href="#">24692.040.010</a> | M5X25 | 500  | <a href="#">24692.050.025</a> |       |     |                               |
| M4X12 | 1000 | <a href="#">24692.040.012</a> | M5X30 | 250  | <a href="#">24692.050.030</a> |       |     |                               |
| M4X16 | 1000 | <a href="#">24692.040.016</a> |       |      |                               |       |     |                               |
| M4X20 | 1000 | <a href="#">24692.040.020</a> | M6X16 | 500  | <a href="#">24692.060.016</a> |       |     |                               |

| 24690 Cross recessed raised countersunk head screw Phillips |   | H05A  |
|---|---|---|
| <b>Thread</b>   | Metric thread                           |   |
| <b>Material</b>   | Steel                                   |   |
| <b>Class</b>  | 4.8                                     |   |
| <b>Surface treatment</b>                                    | Zinc plated                             |   |
| <b>Packaging</b>  | Large<br>ISO 7047-H<br><b>DIN 966-H</b> |  |

| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M3X10 | 2000 | <a href="#">24690.030.010</a> | M5X8  | 1000 | <a href="#">24690.050.008</a> | M6X25 | 250 | <a href="#">24690.060.025</a> |
| M3X12 | 2000 | <a href="#">24690.030.012</a> | M5X10 | 1000 | <a href="#">24690.050.010</a> | M6X30 | 250 | <a href="#">24690.060.030</a> |
| M3X16 | 2000 | <a href="#">24690.030.016</a> | M5X12 | 1000 | <a href="#">24690.050.012</a> | M6X35 | 250 | <a href="#">24690.060.035</a> |
| M3X20 | 2000 | <a href="#">24690.030.020</a> | M5X16 | 1000 | <a href="#">24690.050.016</a> | M6X40 | 250 | <a href="#">24690.060.040</a> |
|       |      |                               | M5X20 | 500  | <a href="#">24690.050.020</a> | M6X50 | 250 | <a href="#">24690.060.050</a> |
| M4X6  | 1000 | <a href="#">24690.040.006</a> | M5X25 | 500  | <a href="#">24690.050.025</a> |       |     |                               |
| M4X8  | 1000 | <a href="#">24690.040.008</a> | M5X30 | 250  | <a href="#">24690.050.030</a> | M8X16 | 250 | <a href="#">24690.080.016</a> |
| M4X10 | 1000 | <a href="#">24690.040.010</a> | M5X35 | 250  | <a href="#">24690.050.035</a> | M8X20 | 250 | <a href="#">24690.080.020</a> |
| M4X12 | 1000 | <a href="#">24690.040.012</a> | M5X40 | 250  | <a href="#">24690.050.040</a> | M8X25 | 250 | <a href="#">24690.080.025</a> |
| M4X16 | 1000 | <a href="#">24690.040.016</a> | M5X50 | 250  | <a href="#">24690.050.050</a> | M8X30 | 250 | <a href="#">24690.080.030</a> |
| M4X20 | 1000 | <a href="#">24690.040.020</a> |       |      |                               | M8X35 | 250 | <a href="#">24690.080.035</a> |
| M4X25 | 1000 | <a href="#">24690.040.025</a> | M6X10 | 1000 | <a href="#">24690.060.010</a> | M8X40 | 100 | <a href="#">24690.080.040</a> |
| M4X30 | 1000 | <a href="#">24690.040.030</a> | M6X12 | 1000 | <a href="#">24690.060.012</a> | M8X50 | 100 | <a href="#">24690.080.050</a> |
| M4X40 | 500  | <a href="#">24690.040.040</a> | M6X16 | 500  | <a href="#">24690.060.016</a> |       |     |                               |
|       |      |                               | M6X20 | 250  | <a href="#">24690.060.020</a> |       |     |                               |

| 51320 Cross recessed raised countersunk head screw Phillips |  | R01A  |
|---|--|---|
| <b>Thread</b>   | Metric thread                              |   |
| <b>Material</b>   | Stainless steel A2                         |   |
| <b>Class</b>  | 70   |   |
| <b>Packaging</b>  | Standard<br>ISO 7047-H<br><b>DIN 966-H</b> |  |

| d x L     | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X3 *    | 1000 | <a href="#">51320.020.003</a> | M4X20    | 200 | <a href="#">51320.040.020</a> | M6X10   | 100 | <a href="#">51320.060.010</a> |
| M2X4 *    | 1000 | <a href="#">51320.020.004</a> | M4X22 *  | 500 | <a href="#">51320.040.022</a> | M6X12   | 100 | <a href="#">51320.060.012</a> |
| M2X5 *    | 1000 | <a href="#">51320.020.005</a> | M4X25    | 200 | <a href="#">51320.040.025</a> | M6X14 * | 500 | <a href="#">51320.060.014</a> |
| M2X6 *    | 1000 | <a href="#">51320.020.006</a> | M4X30    | 200 | <a href="#">51320.040.030</a> | M6X16   | 100 | <a href="#">51320.060.016</a> |
| M2X8 *    | 1000 | <a href="#">51320.020.008</a> | M4X35 *  | 500 | <a href="#">51320.040.035</a> | M6X18 * | 500 | <a href="#">51320.060.018</a> |
| M2X10 *   | 1000 | <a href="#">51320.020.010</a> | M4X40    | 200 | <a href="#">51320.040.040</a> | M6X20   | 100 | <a href="#">51320.060.020</a> |
| M2X12 *   | 1000 | <a href="#">51320.020.012</a> | M4X50    | 200 | <a href="#">51320.040.050</a> | M6X25   | 100 | <a href="#">51320.060.025</a> |
| M2X16 *   | 1000 | <a href="#">51320.020.016</a> | M4X60    | 200 | <a href="#">51320.040.060</a> | M6X30   | 100 | <a href="#">51320.060.030</a> |
|           |      |                               |          |     |                               | M6X35   | 100 | <a href="#">51320.060.035</a> |
| M2,5X5 *  | 1000 | <a href="#">51320.025.005</a> | M5X6 *   | 500 | <a href="#">51320.050.006</a> | M6X40   | 100 | <a href="#">51320.060.040</a> |
| M2,5X6    | 100  | <a href="#">51320.025.006</a> | M5X8     | 100 | <a href="#">51320.050.008</a> | M6X45   | 100 | <a href="#">51320.060.045</a> |
| M2,5X10   | 100  | <a href="#">51320.025.010</a> | M5X10    | 100 | <a href="#">51320.050.010</a> | M6X50   | 100 | <a href="#">51320.060.050</a> |
| M2,5X12 * | 1000 | <a href="#">51320.025.012</a> | M5X12    | 100 | <a href="#">51320.050.012</a> | M6X70 * | 200 | <a href="#">51320.060.070</a> |
|           |      |                               | M5X14 *  | 500 | <a href="#">51320.050.014</a> | M6X75 * | 200 | <a href="#">51320.060.075</a> |
| M3X5 *    | 500  | <a href="#">51320.030.005</a> | M5X16    | 100 | <a href="#">51320.050.016</a> | M6X80 * | 200 | <a href="#">51320.060.080</a> |
| M3X6      | 200  | <a href="#">51320.030.006</a> | M5X18 *  | 500 | <a href="#">51320.050.018</a> | M6X95 * | 200 | <a href="#">51320.060.095</a> |
| M3X8      | 200  | <a href="#">51320.030.008</a> | M5X20    | 100 | <a href="#">51320.050.020</a> |         |     |                               |
| M3X10     | 200  | <a href="#">51320.030.010</a> | M5X22 *  | 500 | <a href="#">51320.050.022</a> | M8X12 * | 200 | <a href="#">51320.080.012</a> |
| M3X12     | 200  | <a href="#">51320.030.012</a> | M5X25    | 100 | <a href="#">51320.050.025</a> | M8X16 * | 200 | <a href="#">51320.080.016</a> |
| M3X14 *   | 500  | <a href="#">51320.030.014</a> | M5X30    | 100 | <a href="#">51320.050.030</a> | M8X20   | 100 | <a href="#">51320.080.020</a> |
| M3X16     | 200  | <a href="#">51320.030.016</a> | M5X35    | 100 | <a href="#">51320.050.035</a> | M8X25   | 100 | <a href="#">51320.080.025</a> |
| M3X18 *   | 500  | <a href="#">51320.030.018</a> | M5X40    | 100 | <a href="#">51320.050.040</a> | M8X30   | 100 | <a href="#">51320.080.030</a> |
| M3X20     | 200  | <a href="#">51320.030.020</a> | M5X45 *  | 200 | <a href="#">51320.050.045</a> | 8X35MM  | 100 | <a href="#">51320.080.035</a> |
| M3X25     | 200  | <a href="#">51320.030.025</a> | M5X50    | 100 | <a href="#">51320.050.050</a> | M8X40   | 100 | <a href="#">51320.080.040</a> |
| M3X30     | 200  | <a href="#">51320.030.030</a> | M5X60    | 100 | <a href="#">51320.050.060</a> | M8X45 * | 200 | <a href="#">51320.080.045</a> |
|           |      |                               | M5X70    | 100 | <a href="#">51320.050.070</a> | M8X50   | 100 | <a href="#">51320.080.050</a> |
| M4X8      | 200  | <a href="#">51320.040.008</a> | M5X75 *  | 200 | <a href="#">51320.050.075</a> | M8X60   | 100 | <a href="#">51320.080.060</a> |
| M4X10     | 200  | <a href="#">51320.040.010</a> | M5X80 *  | 200 | <a href="#">51320.050.080</a> | M8X70 * | 100 | <a href="#">51320.080.070</a> |
| M4X12     | 200  | <a href="#">51320.040.012</a> | M5X90 *  | 200 | <a href="#">51320.050.090</a> | M8X80 * | 100 | <a href="#">51320.080.080</a> |
| M4X14 *   | 500  | <a href="#">51320.040.014</a> | M5X100 * | 200 | <a href="#">51320.050.100</a> |         |     |                               |
| M4X16     | 200  | <a href="#">51320.040.016</a> |          |     |                               |         |     |                               |
| M4X18 *   | 500  | <a href="#">51320.040.018</a> | M6X8 *   | 500 | <a href="#">51320.060.008</a> |         |     |                               |

| 51322 Cross recessed raised countersunk head screw Pozidriv |  | R01A  |
|---|--|---|
| <b>Thread</b>   | Metric thread                              |   |
| <b>Material</b>   | Stainless steel A2                         |   |
| <b>Class</b>  | 70   |   |
| <b>Packaging</b>  | Standard<br>ISO 7047-Z<br><b>DIN 966-Z</b> |  |

| d x L     | ☒    | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|-----------|------|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M2,5X5 *  | 1000 | <a href="#">51322.025.005</a> | M3X5 * | 500 | <a href="#">51322.030.005</a> | M3X16   | 200 | <a href="#">51322.030.016</a> |
| M2,5X6 *  | 1000 | <a href="#">51322.025.006</a> | M3X6 * | 500 | <a href="#">51322.030.006</a> | M3X25 * | 500 | <a href="#">51322.030.025</a> |
| M2,5X8 *  | 1000 | <a href="#">51322.025.008</a> | M3X8   | 200 | <a href="#">51322.030.008</a> | M3X30 * | 500 | <a href="#">51322.030.030</a> |
| M2,5X10 * | 1000 | <a href="#">51322.025.010</a> | M3X10  | 200 | <a href="#">51322.030.010</a> |         |     |                               |
|           |      |                               | M3X12  | 200 | <a href="#">51322.030.012</a> | M4X6 *  | 500 | <a href="#">51322.040.006</a> |

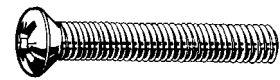


**51322 Cross recessed raised countersunk head screw Pozidriv** ←

| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M4X8    | 200 | <a href="#">51322.040.008</a> | M5X12   | 100 | <a href="#">51322.050.012</a> | M6X16   | 100 | <a href="#">51322.060.016</a> |
| M4X10   | 200 | <a href="#">51322.040.010</a> | M5X14 * | 500 | <a href="#">51322.050.014</a> | M6X20   | 100 | <a href="#">51322.060.020</a> |
| M4X12   | 200 | <a href="#">51322.040.012</a> | M5X16   | 100 | <a href="#">51322.050.016</a> | M6X25   | 100 | <a href="#">51322.060.025</a> |
| M4X16   | 200 | <a href="#">51322.040.016</a> | M5X18 * | 500 | <a href="#">51322.050.018</a> | M6X30   | 100 | <a href="#">51322.060.030</a> |
| M4X20   | 200 | <a href="#">51322.040.020</a> | M5X20   | 100 | <a href="#">51322.050.020</a> | M6X35   | 100 | <a href="#">51322.060.035</a> |
| M4X25   | 200 | <a href="#">51322.040.025</a> | M5X25   | 100 | <a href="#">51322.050.025</a> | M6X40   | 100 | <a href="#">51322.060.040</a> |
| M4X30   | 200 | <a href="#">51322.040.030</a> | M5X30   | 100 | <a href="#">51322.050.030</a> | M6X50 * | 200 | <a href="#">51322.060.050</a> |
| M4X35 * | 500 | <a href="#">51322.040.035</a> | M5X35   | 100 | <a href="#">51322.050.035</a> |         |     |                               |
| M4X40 * | 500 | <a href="#">51322.040.040</a> | M5X40   | 100 | <a href="#">51322.050.040</a> | M8X30 * | 200 | <a href="#">51322.080.030</a> |
|         |     |                               | M5X45 * | 200 | <a href="#">51322.050.045</a> | M8X50 * | 200 | <a href="#">51322.080.050</a> |
| M5X6 *  | 500 | <a href="#">51322.050.006</a> |         |     |                               |         |     |                               |
| M5X8    | 100 | <a href="#">51322.050.008</a> | M6X10   | 100 | <a href="#">51322.060.010</a> |         |     |                               |
| M5X10   | 100 | <a href="#">51322.050.010</a> | M6X12   | 100 | <a href="#">51322.060.012</a> |         |     |                               |

**55322 Cross recessed raised countersunk head screw Pozidriv** R41A

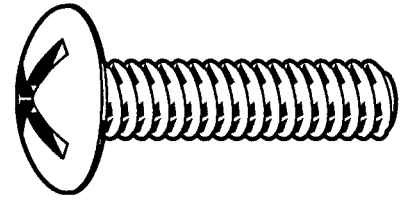
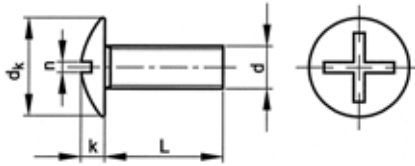
|                  |                                     |
|------------------|-------------------------------------|
| <b>Thread</b>    | Metric thread                       |
| <b>Material</b>  | Stainless steel A4                  |
| <b>Class</b>     | 70                                  |
| <b>Packaging</b> | Standard<br>ISO 7047-Z<br>DIN 966-Z |



| d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M2X6    | 100 | <a href="#">55322.020.006</a> | M4X6 *  | 500 | <a href="#">55322.040.006</a> | M5X25   | 100 | <a href="#">55322.050.025</a> |
| M2X8    | 100 | <a href="#">55322.020.008</a> | M4X8    | 200 | <a href="#">55322.040.008</a> | M5X30   | 100 | <a href="#">55322.050.030</a> |
| M2X10   | 100 | <a href="#">55322.020.010</a> | M4X10   | 200 | <a href="#">55322.040.010</a> | M5X40   | 100 | <a href="#">55322.050.040</a> |
|         |     |                               | M4X12   | 200 | <a href="#">55322.040.012</a> | M5X50 * | 200 | <a href="#">55322.050.050</a> |
| M2,5X6  | 100 | <a href="#">55322.025.006</a> | M4X14 * | 500 | <a href="#">55322.040.014</a> |         |     |                               |
| M2,5X8  | 100 | <a href="#">55322.025.008</a> | M4X16   | 200 | <a href="#">55322.040.016</a> | M6X10   | 100 | <a href="#">55322.060.010</a> |
| M2,5X10 | 100 | <a href="#">55322.025.010</a> | M4X18 * | 500 | <a href="#">55322.040.018</a> | M6X12   | 100 | <a href="#">55322.060.012</a> |
| M2,5X12 | 100 | <a href="#">55322.025.012</a> | M4X20   | 200 | <a href="#">55322.040.020</a> | M6X16   | 100 | <a href="#">55322.060.016</a> |
|         |     |                               | M4X25   | 200 | <a href="#">55322.040.025</a> | M6X20   | 100 | <a href="#">55322.060.020</a> |
| M3X4 *  | 500 | <a href="#">55322.030.004</a> | M4X30   | 200 | <a href="#">55322.040.030</a> | M6X25   | 100 | <a href="#">55322.060.025</a> |
| M3X6    | 200 | <a href="#">55322.030.006</a> | M4X35 * | 500 | <a href="#">55322.040.035</a> | M6X30   | 100 | <a href="#">55322.060.030</a> |
| M3X8    | 200 | <a href="#">55322.030.008</a> | M4X40 * | 500 | <a href="#">55322.040.040</a> | M6X35   | 100 | <a href="#">55322.060.035</a> |
| M3X10   | 200 | <a href="#">55322.030.010</a> |         |     |                               | M6X40   | 100 | <a href="#">55322.060.040</a> |
| M3X12   | 200 | <a href="#">55322.030.012</a> | M5X8    | 100 | <a href="#">55322.050.008</a> | M6X50 * | 200 | <a href="#">55322.060.050</a> |
| M3X16   | 200 | <a href="#">55322.030.016</a> | M5X10   | 100 | <a href="#">55322.050.010</a> | M6X60 * | 200 | <a href="#">55322.060.060</a> |
| M3X25 * | 500 | <a href="#">55322.030.025</a> | M5X12   | 100 | <a href="#">55322.050.012</a> |         |     |                               |
| M3X30 * | 500 | <a href="#">55322.030.030</a> | M5X16   | 100 | <a href="#">55322.050.016</a> |         |     |                               |
|         |     |                               | M5X20   | 100 | <a href="#">55322.050.020</a> |         |     |                               |

## Double slotted (cross) mushroom head screw

NF ≈E25-129



### Technical data

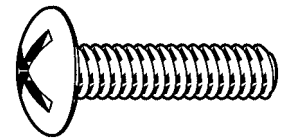
| d                     | M5  | M6  | M8   | M10  |
|-----------------------|-----|-----|------|------|
| P                     | 0,8 | 1   | 1,25 | 1,5  |
| d <sub>k</sub> (max.) | 12  | 14  | 20   | 25   |
| k (max.)              | 4   | 4,2 | 4,4  | 5,5  |
| n (max.)              | 1,3 | 1,7 | 2,31 | 2,81 |

- Application in combination with pointed nuts in boxes and cabinets.

### 24650 Double slotted (cross) mushroom head screw

H01X

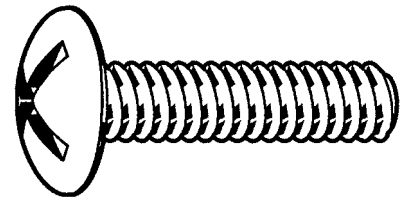
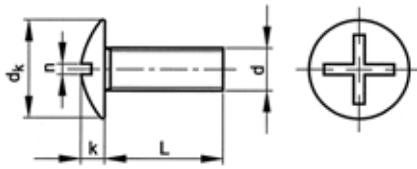
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 4.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |


**6**

| d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X8  | 1000 | <a href="#">24650.050.008</a> | M6X30 | 200 | <a href="#">24650.060.030</a> | M8X40  | 100 | <a href="#">24650.080.040</a> |
| M5X10 | 1000 | <a href="#">24650.050.010</a> | M6X40 | 100 | <a href="#">24650.060.040</a> | M8X50  | 100 | <a href="#">24650.080.050</a> |
| M5X12 | 1000 | <a href="#">24650.050.012</a> | M6X50 | 100 | <a href="#">24650.060.050</a> | M8X60  | 100 | <a href="#">24650.080.060</a> |
| M5X16 | 1000 | <a href="#">24650.050.016</a> | M6X60 | 100 | <a href="#">24650.060.060</a> | M8X80  | 100 | <a href="#">24650.080.080</a> |
|       |      |                               | M6X80 | 100 | <a href="#">24650.060.080</a> | M8X100 | 100 | <a href="#">24650.080.100</a> |
| M6X10 | 1000 | <a href="#">24650.060.010</a> |       |     |                               |        |     |                               |
| M6X12 | 1000 | <a href="#">24650.060.013</a> | M8X15 | 200 | <a href="#">24650.080.016</a> | M10X40 | 100 | <a href="#">24650.100.040</a> |
| M6X16 | 200  | <a href="#">24650.060.016</a> | M8X20 | 100 | <a href="#">24650.080.020</a> |        |     |                               |
| M6X20 | 200  | <a href="#">24650.060.020</a> | M8X30 | 100 | <a href="#">24650.080.030</a> |        |     |                               |

## Double slotted (cross) mushroom head screw

NF E25-129



### Technical data

| d   | P    | dk (max.) | k (max.) | n   |
|-----|------|-----------|----------|-----|
| M4  | 0,7  | 10,0      | 2,2      | 1,2 |
| M5  | 0,8  | 12,5      | 2,7      | 1,2 |
| M6  | 1    | 15,0      | 3,3      | 1,6 |
| M8  | 1,25 | 20,0      | 4,4      | 2,0 |
| M10 | 1,5  | 25,0      | 5,5      | 2,5 |

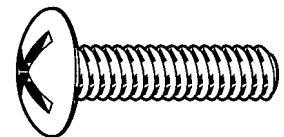
### Article groups

| Thread | Driving features | Material | Class | Surface treatment | Packaging | Code  | Page |
|--------|------------------|----------|-------|-------------------|-----------|-------|------|
| M      | slotted          | St       | 4.8   | Zipl              | Standard  | 24862 | 6-51 |
| M      | slotted          | St       | 4.8   | Zipl              | Standard  | 24874 | 6-51 |

#### 24862 Double slotted (cross) mushroom head screw

H01X

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 4.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

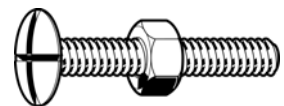

**6**

| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X16 | 500 | <a href="#">24862.040.016</a> | M6X12  | 200 | <a href="#">24862.060.012</a> | M8X20  | 100 | <a href="#">24862.080.020</a> |
| M4X20 | 500 | <a href="#">24862.040.020</a> | M6X16  | 200 | <a href="#">24862.060.016</a> | M8X25  | 100 | <a href="#">24862.080.025</a> |
| M4X25 | 500 | <a href="#">24862.040.025</a> | M6X20  | 200 | <a href="#">24862.060.020</a> | M8X30  | 100 | <a href="#">24862.080.030</a> |
| M4X30 | 500 | <a href="#">24862.040.030</a> | M6X25  | 200 | <a href="#">24862.060.025</a> | M8X35  | 200 | <a href="#">24862.080.035</a> |
|       |     |                               | M6X30  | 200 | <a href="#">24862.060.030</a> | M8X40  | 100 | <a href="#">24862.080.040</a> |
|       |     |                               | M6X40  | 100 | <a href="#">24862.060.040</a> | M8X50  | 100 | <a href="#">24862.080.050</a> |
| M5X10 | 500 | <a href="#">24862.050.010</a> | M6X50  | 100 | <a href="#">24862.060.050</a> |        |     |                               |
| M5X16 | 500 | <a href="#">24862.050.016</a> | M6X60  | 100 | <a href="#">24862.060.060</a> | M10X50 | 100 | <a href="#">24862.100.050</a> |
| M5X20 | 500 | <a href="#">24862.050.020</a> | M6X70  | 100 | <a href="#">24862.060.070</a> | M10X60 | 50  | <a href="#">24862.100.060</a> |
| M5X25 | 200 | <a href="#">24862.050.025</a> | M6X100 | 100 | <a href="#">24862.060.100</a> |        |     |                               |
| M5X30 | 200 | <a href="#">24862.050.030</a> |        |     |                               |        |     |                               |
| M6X10 | 200 | <a href="#">24862.060.010</a> | M8X16  | 200 | <a href="#">24862.080.016</a> |        |     |                               |

#### 24874 Double slotted (cross) mushroom head screw with hexagon nut

H01X

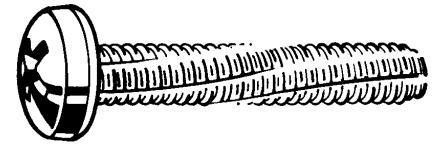
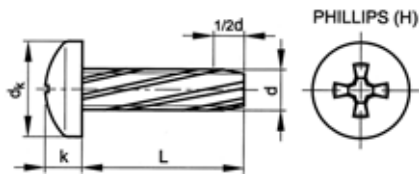
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 4.8           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X16 | 500 | <a href="#">24874.040.016</a> | M6X10  | 200 | <a href="#">24874.060.010</a> | M8X25  | 200 | <a href="#">24874.080.025</a> |
| M4X20 | 500 | <a href="#">24874.040.020</a> | M6X12  | 200 | <a href="#">24874.060.012</a> | M8X30  | 200 | <a href="#">24874.080.030</a> |
| M4X25 | 500 | <a href="#">24874.040.025</a> | M6X16  | 200 | <a href="#">24874.060.016</a> | M8X35  | 100 | <a href="#">24874.080.035</a> |
| M4X30 | 500 | <a href="#">24874.040.030</a> | M6X20  | 200 | <a href="#">24874.060.020</a> | M8X40  | 100 | <a href="#">24874.080.040</a> |
| M4X35 | 200 | <a href="#">24874.040.035</a> | M6X25  | 200 | <a href="#">24874.060.025</a> | M8X45  | 100 | <a href="#">24874.080.045</a> |
| M4X40 | 200 | <a href="#">24874.040.040</a> | M6X30  | 200 | <a href="#">24874.060.030</a> | M8X50  | 100 | <a href="#">24874.080.050</a> |
| M4X50 | 200 | <a href="#">24874.040.050</a> | M6X35  | 200 | <a href="#">24874.060.035</a> | M8X60  | 100 | <a href="#">24874.080.060</a> |
|       |     |                               | M6X40  | 200 | <a href="#">24874.060.040</a> | M8X70  | 100 | <a href="#">24874.080.070</a> |
|       |     |                               | M6X45  | 100 | <a href="#">24874.060.045</a> | M8X80  | 100 | <a href="#">24874.080.080</a> |
| M5X16 | 200 | <a href="#">24874.050.016</a> | M6X50  | 100 | <a href="#">24874.060.050</a> | M8X100 | 100 | <a href="#">24874.080.100</a> |
| M5X20 | 200 | <a href="#">24874.050.020</a> | M6X60  | 100 | <a href="#">24874.060.060</a> |        |     |                               |
| M5X25 | 200 | <a href="#">24874.050.025</a> | M6X70  | 100 | <a href="#">24874.060.070</a> | M10X30 | 100 | <a href="#">24874.100.030</a> |
| M5X30 | 200 | <a href="#">24874.050.030</a> | M6X80  | 100 | <a href="#">24874.060.080</a> | M10X40 | 100 | <a href="#">24874.100.040</a> |
| M5X35 | 200 | <a href="#">24874.050.035</a> | M6X100 | 100 | <a href="#">24874.060.100</a> | M10X50 | 100 | <a href="#">24874.100.050</a> |
| M5X40 | 200 | <a href="#">24874.050.040</a> |        |     |                               | M10X60 | 50  | <a href="#">24874.100.060</a> |
| M5X50 | 200 | <a href="#">24874.050.050</a> | M8X16  | 200 | <a href="#">24874.080.016</a> |        |     |                               |
| M5X60 | 200 | <a href="#">24874.050.060</a> | M8X20  | 200 | <a href="#">24874.080.020</a> |        |     |                               |

## Cross recessed raised cheese head thread cutting screw

DIN 7516 AE-H



### Technical data

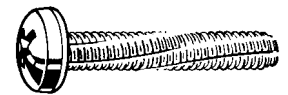
|                  | M3  | M4  | M5  | M6  |
|------------------|-----|-----|-----|-----|
| d                |     |     |     |     |
| P                | 0,5 | 0,7 | 0,8 | 1   |
| dk               | 6   | 8   | 10  | 12  |
| k                | 2,4 | 3,1 | 3,8 | 4,6 |
| Drill ø (H11)    | 2,7 | 3,6 | 4,5 | 5,5 |
| No. cross recess | 1   | 2   | 2   | 3   |

- Drill ø (H11) = The given boring diameters are guide lines for materials of medium strength.
- For thin-walled workpieces or workpieces made from soft materials, a smaller core hole diameter, for thick walled workpieces or workpieces made from hard materials a larger core hole diameter may be chosen.
- It is recommended that the exact diameter selection is made on basis of tests.
- The depth of engagement should not exceed 2 d.

### 27100 Cross recessed raised cheese head thread cutting screw Phillips

J04A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

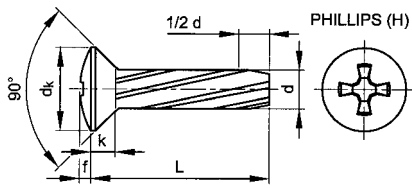


6

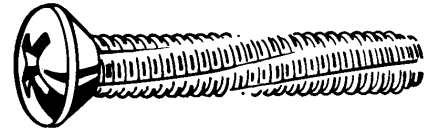
| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|
| M3X6  | 2000 | <a href="#">27100.030.006</a> | M4X16 | 2000 | <a href="#">27100.040.016</a> | M5X30 | 500  | <a href="#">27100.050.030</a> |
| M3X8  | 2000 | <a href="#">27100.030.008</a> | M4X20 | 1000 | <a href="#">27100.040.020</a> | M6X12 | 1000 | <a href="#">27100.060.012</a> |
| M3X10 | 2000 | <a href="#">27100.030.010</a> | M4X25 | 1000 | <a href="#">27100.040.025</a> | M6X16 | 500  | <a href="#">27100.060.016</a> |
| M3X12 | 2000 | <a href="#">27100.030.012</a> | M5X10 | 2000 | <a href="#">27100.050.010</a> | M6X20 | 500  | <a href="#">27100.060.020</a> |
| M3X16 | 2000 | <a href="#">27100.030.016</a> | M5X12 | 1000 | <a href="#">27100.050.012</a> | M6X25 | 500  | <a href="#">27100.060.025</a> |
| M4X8  | 2000 | <a href="#">27100.040.008</a> | M5X16 | 1000 | <a href="#">27100.050.016</a> | M6X30 | 500  | <a href="#">27100.060.030</a> |
| M4X10 | 2000 | <a href="#">27100.040.010</a> | M5X20 | 500  | <a href="#">27100.050.020</a> | M6X35 | 250  | <a href="#">27100.060.035</a> |
| M4X12 | 2000 | <a href="#">27100.040.012</a> | M5X25 | 500  | <a href="#">27100.050.025</a> |       |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Cross recessed raised countersunk head thread cutting screw



DIN 7516 EE-H



### Technical data

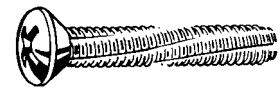
| d                | M3   | M4  | M5   | M6  |
|------------------|------|-----|------|-----|
| P                | 0,5  | 0,7 | 0,8  | 1   |
| dk               | 5,5  | 7,5 | 9,2  | 11  |
| k (max.)         | 1,65 | 2,2 | 2,5  | 3   |
| f ≈              | 0,7  | 0   | 1,25 | 1,5 |
| Drill ø (H11)    | 2,7  | 3,6 | 4,5  | 5,5 |
| No. cross recess | 1    | 2   | 2    | 3   |

- Drill ø (H11) = The given boring diameters are guide lines for materials of medium strength.
- For thin-walled workpieces or workpieces made from soft materials, a smaller core hole diameter, for thick walled workpieces or workpieces made from hard materials a larger core hole diameter may be chosen.
- It is recommended that the exact diameter selection is made on basis of tests.
- The depth of engagement should not exceed 2 d.

#### 27180 Cross recessed raised countersunk head thread cutting screw Phillips

J04A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

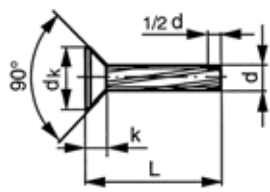


6

| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M4X10 | 2000 | <a href="#">27180.040.010</a> | M5X16 | 1000 | <a href="#">27180.050.016</a> | M6X30 | 500 | <a href="#">27180.060.030</a> |
| M4X12 | 2000 | <a href="#">27180.040.012</a> | M5X20 | 500  | <a href="#">27180.050.020</a> | M6X35 | 250 | <a href="#">27180.060.035</a> |
| M4X16 | 2000 | <a href="#">27180.040.016</a> | M5X25 | 500  | <a href="#">27180.050.025</a> |       |     |                               |
| M4X20 | 1000 | <a href="#">27180.040.020</a> | M5X30 | 500  | <a href="#">27180.050.030</a> |       |     |                               |
| M4X25 | 1000 | <a href="#">27180.040.025</a> | M6X25 | 500  | <a href="#">27180.060.025</a> |       |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

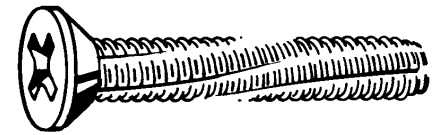
## Cross recessed countersunk head thread cutting screw



PHILLIPS(H)



DIN 7516 DE-H



### Technical data

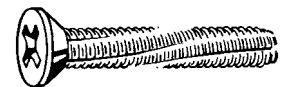
|                  | M3   | M4  | M5  | M6   |
|------------------|------|-----|-----|------|
| d                |      |     |     |      |
| P                | 0,5  | 0,7 | 0,8 | 1    |
| d <sub>k</sub>   | 5,5  | 8,4 | 9,3 | 11,3 |
| k (max.)         | 1,65 | 2,7 | 2,7 | 3,3  |
| Drill ø (H11)    | 2,7  | 3,6 | 4,5 | 5,5  |
| No. cross recess | 1    | 2   | 2   | 3    |

- Drill ø (H11) = The given boring diameters are guide lines for materials of medium strength.
- For thin-walled workpieces or workpieces made from soft materials, a smaller core hole diameter, for thick walled workpieces or workpieces made from hard materials a larger core hole diameter may be chosen.
- It is recommended that the exact diameter selection is made on basis of tests.
- The depth of engagement should not exceed 2 d.

### 27160 Cross recessed countersunk head thread cutting screw Phillips

J04A

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



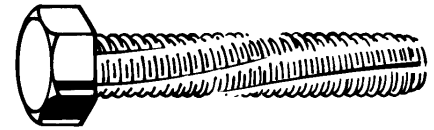
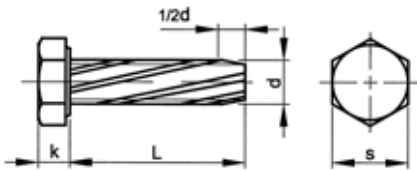
6

| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M3X10 | 2000 | <a href="#">27160.030.010</a> | M4X25 | 1000 | <a href="#">27160.040.025</a> | M6X16 | 500 | <a href="#">27160.060.016</a> |
| M3X12 | 2000 | <a href="#">27160.030.012</a> | M4X30 | 1000 | <a href="#">27160.040.030</a> | M6X20 | 500 | <a href="#">27160.060.020</a> |
| M3X16 | 2000 | <a href="#">27160.030.016</a> | M5X10 | 1000 | <a href="#">27160.050.010</a> | M6X25 | 500 | <a href="#">27160.060.025</a> |
| M3X20 | 2000 | <a href="#">27160.030.020</a> | M5X12 | 1000 | <a href="#">27160.050.012</a> | M6X30 | 500 | <a href="#">27160.060.030</a> |
| M4X10 | 2000 | <a href="#">27160.040.010</a> | M5X16 | 1000 | <a href="#">27160.050.016</a> | M6X35 | 250 | <a href="#">27160.060.035</a> |
| M4X12 | 2000 | <a href="#">27160.040.012</a> | M5X20 | 500  | <a href="#">27160.050.020</a> | M6X40 | 250 | <a href="#">27160.060.040</a> |
| M4X16 | 2000 | <a href="#">27160.040.016</a> | M5X25 | 500  | <a href="#">27160.050.025</a> |       |     |                               |
| M4X20 | 1000 | <a href="#">27160.040.020</a> | M5X30 | 500  | <a href="#">27160.050.030</a> |       |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon head thread cutting screw

DIN 7513 A



### Technical data

|               | M5  | M6  | M8   |
|---------------|-----|-----|------|
| d             | M5  | M6  | M8   |
| P             | 0,8 | 1   | 1,25 |
| k             | 3,5 | 4   | 5,3  |
| s             | 8   | 10  | 13   |
| Drill ø (H11) | 4,5 | 5,5 | 7,4  |

- Drill ø (H11) = The given boring diameters are guide lines for materials of medium strength.
- For thin-walled workpieces or workpieces made from soft materials, a smaller core hole diameter, for thick walled workpieces or workpieces made from hard materials a larger core hole diameter may be chosen.
- It is recommended that the exact diameter selection is made on basis of tests.
- The depth of engagement should not exceed 2 d.

### 27010 Hexagon head thread cutting screw

J04A

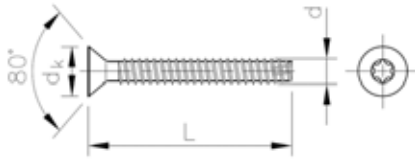
|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M5X10 | 2000 | <a href="#">27010.050.010</a> | M6X16 | 500 | <a href="#">27010.060.016</a> | M8X20 | 250 | <a href="#">27010.080.020</a> |
| M5X12 | 1000 | <a href="#">27010.050.012</a> | M6X20 | 500 | <a href="#">27010.060.020</a> | M8X25 | 250 | <a href="#">27010.080.025</a> |
| M5X16 | 1000 | <a href="#">27010.050.016</a> | M6X25 | 500 | <a href="#">27010.060.025</a> | M8X30 | 250 | <a href="#">27010.080.030</a> |
| M5X20 | 500  | <a href="#">27010.050.020</a> | M6X30 | 500 | <a href="#">27010.060.030</a> | M8X35 | 250 | <a href="#">27010.080.035</a> |
| M5X25 | 500  | <a href="#">27010.050.025</a> | M6X35 | 250 | <a href="#">27010.060.035</a> | M8X40 | 200 | <a href="#">27010.080.040</a> |
| M6X12 | 1000 | <a href="#">27010.060.012</a> | M8X16 | 500 | <a href="#">27010.080.016</a> |       |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexalobular socket countersunk head thread cutting screw



### Technical data

|                  |            |
|------------------|------------|
| d                | U6,3 (1/4) |
| Threads per inch | 20         |
| dk               | 12         |
| Drill ø          | 5,6        |
| Socket           | No.30      |

- The given boring diameters are guide lines for materials of medium strength.
- For thin-walled workpieces or workpieces made from soft materials, a smaller core hole diameter, for thick walled workpieces or workpieces made from hard materials a larger core hole diameter may be chosen.
- It is recommended that the exact diameter selection is made on basis of tests.

|                          |   |             |
|--------------------------|---|-------------|
| <b>31290</b>             | <b>Hexalobular socket countersunk head thread cutting screw</b> | <b>J10A</b> |
| <b>Thread</b>            | Unified National Coarse   |             |
| <b>Material</b>          | Steel   |             |
| <b>Surface treatment</b> | Zinc plated   |             |
| <b>Packaging</b>         | Standard  |             |



6

| d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 6,3X38MM | 1000 | <a href="#">31290.063.038</a> | 6,3X65MM | 500 | <a href="#">31290.063.065</a> | 6,3X80MM | 500 | <a href="#">31290.063.080</a> |
| 6,3X50MM | 1000 | <a href="#">31290.063.050</a> |          |     |                               |          |     |                               |



## TAPTITE 2000® Thread-rolling bolts and screws

### General

Due to their specific triangular (trilobular) cross section and flowing transitions, TAPTITE thread-rolling bolts and screws form the internal screw thread in the side of a predrilled or punched hole without creating swarf; tapping is dispensed with and no annoying and sometimes unallowable swarf is created.

**TAPTITE 2000®** bolts and screws now, in addition to the proven advantages of their standard predecessor, have an innovative thread design: the Radius Profile™. This results in a new generation of fasteners with excellent mechanical, assembly and ergonomic characteristics; as yet unsurpassed by any other technology.

### Applications

**TAPTITE 2000®** thread-rolling bolts and screws can be used in all ductile metals up to 500 N/mm<sup>2</sup> or 150 HB.

### Load

Due to the cold hardening of the material, the uninterrupted fibre structure and the full flank overlapping, the connection can accommodate considerably higher forces, usually a smaller size can be used than for a tapped thread; therefore a lighter design. Moreover, the special Radius Profile™ ensures a low insertion torque, while the preloading force and pull-out force have increased; thus a higher safety margin.

### Locking

Due to the clamping action of the material on the thread flanks, the connection is self-locking; no additional locking agents are required.

### Formed thread

The **TAPTITE 2000®** thread rolling bolts and screws form a normal ISO metric thread, into which other metric fasteners with the usual 6h tolerance (according to ISO 965) can be screwed.

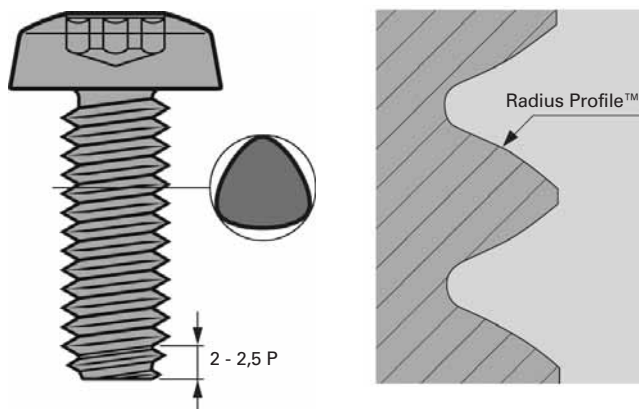
### Drive, head style and point length

All usual drive options and head styles are possible. Serrations under the head, a colour, an attached washer or pre-coated adhesive or seals are also possible. The conical screw thread point length of this new generation of **TAPTITE 2000®** thread-rolling bolts and screws has been reduced to approximately 2 – 2.5 P (was at the maximum 4P).

### Material and surface coating

**TAPTITE 2000®** thread-rolling bolts and screws are made of case hardening steel and are case hardened (min. 450 HV0.3), while the core has retained its ductility (300-350 HV10). As standard, the bolts/screws are Cr<sup>6+</sup> free electro-galvanized. Other surface coatings or materials are possible.

6



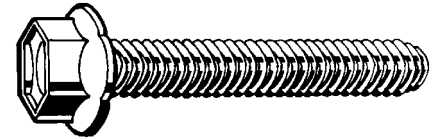
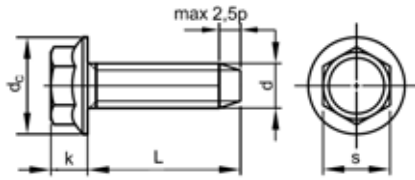
### Design values for TAPTITE 2000® thread-rolling bolts and screws <sup>(1)</sup>

| d                                     | M2,5 | M3  | M3,5 | M4  | M5   | M6   | M8   |
|---------------------------------------|------|-----|------|-----|------|------|------|
| Insertion torque (Nm)                 | 0,4  | 0,8 | 1,3  | 2,0 | 3,2  | 6,4  | 16,0 |
| Tightening torque maximum ( Nm)       | 0,8  | 1,5 | 2,5  | 3,7 | 7,0  | 12,0 | 30,0 |
| Failure torque min. (Nm) (inserted)   | 1,2  | 2,0 | 3,3  | 4,8 | 10,0 | 16,0 | 41,0 |
| Preloading force during assembly (kN) | ---  | 1,9 | 2,6  | 3,4 | 5,6  | 7,8  | 15,0 |

<sup>(1)</sup>The specified values apply to St 37 steel for an insertion length 1 x screw thread diameter

## Hexagon head thread rolling screw with flange

DIN ≈7500



### Technical data

| d  | P    | k (max.) | s   | d <sub>c</sub> (max.) |
|----|------|----------|-----|-----------------------|
| M3 | 0,5  | 2,58     | 5,5 | 6,9                   |
| M4 | 0,7  | 3,58     | 7   | 8,9                   |
| M5 | 0,8  | 4,45     | 8   | 10,4                  |
| M6 | 1    | 5,2      | 10  | 13                    |
| M8 | 1,25 | 7        | 13  | 17                    |

- The nominal length (L) is with tolerance js15.

### 67020 TAPTITE 2000® Hexagon head thread rolling screw with flange

J05A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

**TAP TITE**®



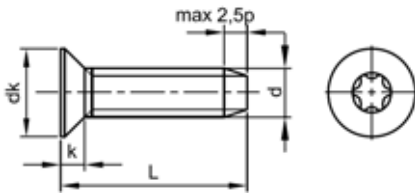
6

| d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3X10 | 1000 | <a href="#">67020.030.010</a> | M5X10 | 500 | <a href="#">67020.050.010</a> | M6X20 | 500 | <a href="#">67020.060.020</a> |
| M4X6  | 1000 | <a href="#">67020.040.006</a> | M5X12 | 500 | <a href="#">67020.050.012</a> | M6X25 | 500 | <a href="#">67020.060.025</a> |
| M4X8  | 1000 | <a href="#">67020.040.008</a> | M5X16 | 500 | <a href="#">67020.050.016</a> | M6X30 | 500 | <a href="#">67020.060.030</a> |
| M4X10 | 1000 | <a href="#">67020.040.010</a> | M5X20 | 500 | <a href="#">67020.050.020</a> |       |     |                               |
| M4X12 | 1000 | <a href="#">67020.040.012</a> |       |     |                               | M8X15 | 500 | <a href="#">67020.080.015</a> |
| M4X16 | 1000 | <a href="#">67020.040.016</a> | M6X10 | 500 | <a href="#">67020.060.010</a> | M8X20 | 500 | <a href="#">67020.080.020</a> |
|       |      |                               | M6X12 | 500 | <a href="#">67020.060.012</a> | M8X25 | 500 | <a href="#">67020.080.025</a> |
| M5X8  | 500  | <a href="#">67020.050.008</a> | M6X16 | 500 | <a href="#">67020.060.016</a> |       |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**Countersunk head thread rolling screw with Torx® recess**

DIN ≈7500-1



**Technical data**

| d  | P    | d <sub>k</sub> | k (max.) | No. Torx® |
|----|------|----------------|----------|-----------|
| M3 | 0,5  | 5,6            | 1,65     | 10        |
| M4 | 0,7  | 7,5            | 2,2      | 20        |
| M5 | 0,8  | 9,2            | 2,5      | 25        |
| M6 | 1    | 11             | 3        | 30        |
| M8 | 1,25 | 14,5           | 4        | 40        |

- The nominal length (L) is with tolerance js15.

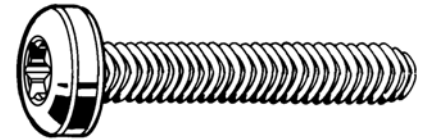
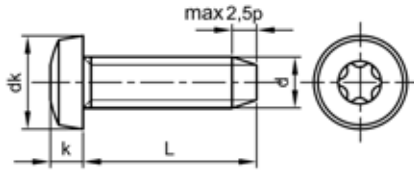
|                          |  |             |
|--------------------------|--|-------------|
| <b>67080</b>             | <b>TAPTITE 2000®</b> Countersunk head thread rolling screw with Torx® recess | <b>J05A</b> |
| <b>Thread</b>            | Metric thread  |             |
| <b>Material</b>          | Steel  |             |
| <b>Surface treatment</b> | Zinc plated  |             |
| <b>Packaging</b>         | Standard   |             |
| <b>TAPTITE®</b>          |  |             |

| d x L | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M3X8  | 1000 | <a href="#">67080.030.008</a> | M4X25 | 1000 | <a href="#">67080.040.025</a> | M6X16 | 500 | <a href="#">67080.060.016</a> |
| M3X10 | 1000 | <a href="#">67080.030.010</a> | M5X10 | 500  | <a href="#">67080.050.010</a> | M6X20 | 500 | <a href="#">67080.060.020</a> |
| M3X12 | 1000 | <a href="#">67080.030.012</a> | M5X12 | 500  | <a href="#">67080.050.012</a> | M6X25 | 500 | <a href="#">67080.060.025</a> |
| M3X16 | 1000 | <a href="#">67080.030.016</a> | M5X16 | 500  | <a href="#">67080.050.016</a> | M6X30 | 500 | <a href="#">67080.060.030</a> |
| M4X10 | 1000 | <a href="#">67080.040.010</a> | M5X20 | 500  | <a href="#">67080.050.020</a> | M6X40 | 500 | <a href="#">67080.060.040</a> |
| M4X12 | 1000 | <a href="#">67080.040.012</a> | M5X25 | 500  | <a href="#">67080.050.025</a> | M8X40 | 500 | <a href="#">67080.080.040</a> |
| M4X16 | 1000 | <a href="#">67080.040.016</a> | M5X30 | 500  | <a href="#">67080.050.030</a> |       |     |                               |
| M4X20 | 1000 | <a href="#">67080.040.020</a> |       |      |                               |       |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Raised cheese head thread rolling screw with Torx® recess



DIN ≈7500-1



### Technical data

| d    | P    | dk | k (max.) | No. Torx® |
|------|------|----|----------|-----------|
| M2,5 | 0,45 | 5  | 2,12     | 8         |
| M3   | 0,5  | 6  | 2,52     | 10        |
| M3,5 | 0,6  | 7  | 2,82     | 15        |
| M4   | 0,7  | 8  | 3,25     | 20        |
| M5   | 0,8  | 10 | 3,95     | 25        |
| M6   | 1    | 12 | 4,75     | 30        |

- The nominal length (L) is with tolerance js15.

| 67155 TAPTITE 2000® Raised cheese head thread rolling screw with Torx® recess |               | J05A  |
|---|---------------|---|
| <b>Thread</b>   | Metric thread |   |
| <b>Material</b>   | Steel         |   |
| <b>Surface treatment</b>  | Zinc plated   |   |
| <b>Packaging</b>  | Standard      |   |

**6**

| d x L   | ☒    | Art.number                    | d x L | ☒    | Art.number                    | d x L | ☒   | Art.number                    |
|---------|------|-------------------------------|-------|------|-------------------------------|-------|-----|-------------------------------|
| M2,5X16 | 1000 | <a href="#">67155.025.016</a> | M4X6  | 1000 | <a href="#">67155.040.006</a> | M5X16 | 500 | <a href="#">67155.050.016</a> |
| M3X6    | 1000 | <a href="#">67155.030.006</a> | M4X8  | 1000 | <a href="#">67155.040.008</a> | M5X20 | 500 | <a href="#">67155.050.020</a> |
| M3X8    | 1000 | <a href="#">67155.030.008</a> | M4X10 | 1000 | <a href="#">67155.040.010</a> | M5X25 | 500 | <a href="#">67155.050.025</a> |
| M3X10   | 1000 | <a href="#">67155.030.010</a> | M4X12 | 1000 | <a href="#">67155.040.012</a> | M5X30 | 500 | <a href="#">67155.050.030</a> |
| M3X12   | 1000 | <a href="#">67155.030.012</a> | M4X16 | 1000 | <a href="#">67155.040.016</a> | M6X10 | 500 | <a href="#">67155.060.010</a> |
| M3X16   | 1000 | <a href="#">67155.030.016</a> | M4X20 | 1000 | <a href="#">67155.040.020</a> | M6X12 | 500 | <a href="#">67155.060.012</a> |
| M3X20   | 1000 | <a href="#">67155.030.020</a> | M4X25 | 1000 | <a href="#">67155.040.025</a> | M6X16 | 500 | <a href="#">67155.060.016</a> |
| M3X25   | 1000 | <a href="#">67155.030.025</a> | M4X30 | 1000 | <a href="#">67155.040.030</a> | M6X20 | 500 | <a href="#">67155.060.020</a> |
| M3,5X8  | 1000 | <a href="#">67155.035.008</a> | M5X8  | 500  | <a href="#">67155.050.008</a> | M6X30 | 500 | <a href="#">67155.060.030</a> |
| M3,5X12 | 1000 | <a href="#">67155.035.012</a> | M5X10 | 500  | <a href="#">67155.050.010</a> |       |     |                               |
|         |      |                               | M5X12 | 500  | <a href="#">67155.050.012</a> |       |     |                               |

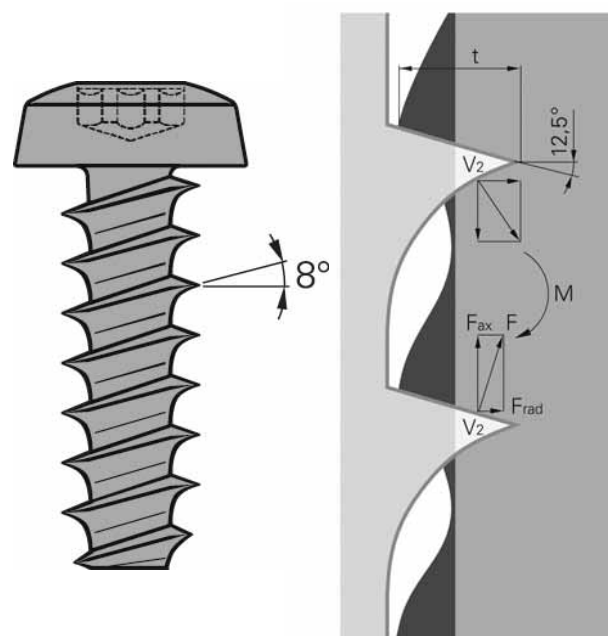
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## REMFORM® Thread-forming screws for use in plastics

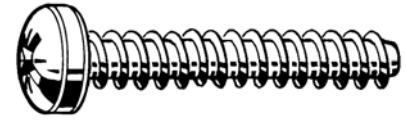
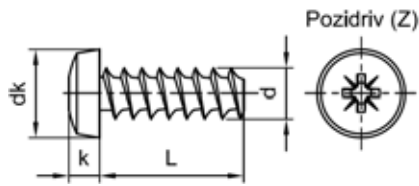
### Specific characteristics of REMFORM® thread-forming screws for use in plastics

- The ideal solution for fastening of/ in all types of plastic (thermoplastic or elastomer)
- Angle of thread of just 8°
- Asymmetric thread geometry which allows the plastic during assembly to flow along the load-bearing flank resulting in
  - less plastic being displaced
  - lower insertion torque
  - deeper profile depth
  - large flank cover, therefore high loadability
  - less chance of the plastic cracking
  - useable in thin-walled castings
- Made as standard
  - in strength class 9.8
  - Cr<sup>6+</sup>-free electro-galvanized
  - other materials and surface coatings are possible
- Due to the clamping action of the material on the thread flanks, the connection is self-locking

### REMFORM® detail of thread



## Cross recessed raised cheese head thread forming screw



### Technical data

| d (nom.) | dk (max.) | k (max.) | No. Pozidriv (Z) |
|----------|-----------|----------|------------------|
| 2,2      | 4,0       | 1,6      | 1                |
| 2,5      | 4,4       | 1,7      | 1                |
| 3,0      | 5,3       | 2,0      | 1                |
| 3,5      | 6,1       | 2,5      | 2                |
| 4,0      | 7,0       | 2,7      | 2                |
| 5,0      | 8,8       | 3,4      | 2                |
| 6,0      | 10,5      | 4,0      | 3                |

67551 REMFORM® Cross recessed raised cheese head thread forming screw

J05A

Thread REMFORM®  
 Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard

**SFS** intec

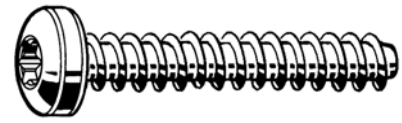
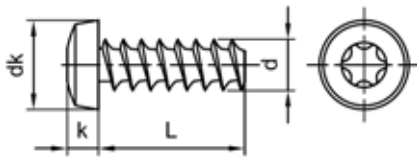


6

| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2,2X6MM      | 200 | <a href="#">67551.022.006</a> | 3X10MM       | 200 | <a href="#">67551.030.010</a> | 4X14MM       | 200 | <a href="#">67551.040.014</a> |
| 2,2X8MM      | 200 | <a href="#">67551.022.008</a> | 3X12MM       | 200 | <a href="#">67551.030.012</a> | 4X16MM       | 200 | <a href="#">67551.040.016</a> |
| 2,2X10MM     | 200 | <a href="#">67551.022.010</a> | 3X16MM       | 200 | <a href="#">67551.030.016</a> | 4X20MM       | 200 | <a href="#">67551.040.020</a> |
| 2,5X6MM      | 200 | <a href="#">67551.025.006</a> | 3X20MM       | 200 | <a href="#">67551.030.020</a> | 4X40MM       | 200 | <a href="#">67551.040.040</a> |
| 2,5X8MM      | 200 | <a href="#">67551.025.008</a> | 3,5X10MM     | 200 | <a href="#">67551.035.010</a> | 5X16MM       | 200 | <a href="#">67551.050.016</a> |
| 2,5X10MM     | 200 | <a href="#">67551.025.010</a> | 3,5X12MM     | 200 | <a href="#">67551.035.012</a> | 5X20MM       | 200 | <a href="#">67551.050.020</a> |
| 2,5X12MM     | 200 | <a href="#">67551.025.012</a> | 3,5X16MM     | 200 | <a href="#">67551.035.016</a> | 5X25MM       | 200 | <a href="#">67551.050.025</a> |
| 2,5X16MM     | 200 | <a href="#">67551.025.016</a> | 3,5X25MM     | 200 | <a href="#">67551.035.025</a> | 5X30MM       | 200 | <a href="#">67551.050.030</a> |
| 3X6MM        | 200 | <a href="#">67551.030.006</a> | 4X10MM       | 200 | <a href="#">67551.040.010</a> | 5X40MM       | 200 | <a href="#">67551.050.040</a> |
| 3X8MM        | 200 | <a href="#">67551.030.008</a> | 4X12MM       | 200 | <a href="#">67551.040.012</a> | 6X20MM       | 200 | <a href="#">67551.060.020</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Raised cheese head thread forming screw with Torx® recess



### Technical data

|                       |     |     |
|-----------------------|-----|-----|
| d (nom.)              | 3,0 | 4,0 |
| d <sub>k</sub> (max.) | 5,3 | 7,0 |
| k (max.)              | 2,0 | 2,7 |
| No. Torx®             | T10 | T20 |

#### 67552 REMFORM® Raised cheese head thread forming screw with Torx® recess

J05A

Thread REMFORM®  
Material Steel  
Surface treatment Zinc plated  
Packaging Standard

**SFS intec**

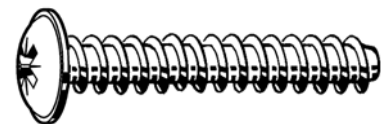
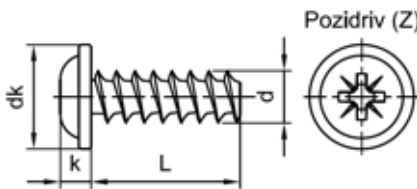


| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3X8MM        | 200 | <a href="#">67552.030.008</a> | 4X12MM       | 200 | <a href="#">67552.040.012</a> | 4X16MM       | 200 | <a href="#">67552.040.016</a> |
| 3X10MM       | 200 | <a href="#">67552.030.010</a> | 4X14MM       | 200 | <a href="#">67552.040.014</a> | 4X20MM       | 200 | <a href="#">67552.040.020</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Cross recessed mushroom head thread forming screw

6



### Technical data

| d (nom.) | d <sub>k</sub> (max.) | k (max.) | No. Pozidriv (Z) |
|----------|-----------------------|----------|------------------|
| 2,5      | 5                     | 1,7      | 1                |
| 3,0      | 6                     | 2        | 1                |
| 3,5      | 7                     | 2,4      | 2                |
| 4,0      | 8                     | 2,5      | 2                |

#### 67553 REMFORM® Cross recessed mushroom head thread forming screw

J05A

Thread REMFORM®  
Material Steel  
Surface treatment Zinc plated  
Packaging Standard

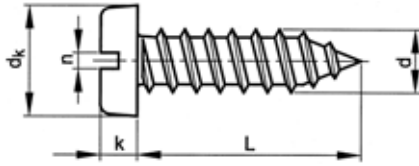
**SFS intec**



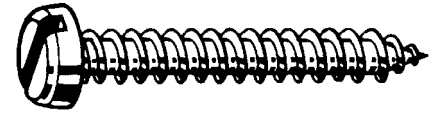
| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2,5X8MM      | 200 | <a href="#">67553.025.008</a> | 3,5X12MM     | 200 | <a href="#">67553.035.012</a> | 4X10MM       | 200 | <a href="#">67553.040.010</a> |
| 3X8MM        | 200 | <a href="#">67553.030.008</a> | 3,5X16MM     | 200 | <a href="#">67553.035.016</a> | 4X12MM       | 200 | <a href="#">67553.040.012</a> |
| 3X10MM       | 200 | <a href="#">67553.030.010</a> | 3,5X20MM     | 200 | <a href="#">67553.035.020</a> | 4X16MM       | 200 | <a href="#">67553.040.016</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Slotted pan head tapping screw



ISO 1481 C  
 DIN 7971 C  
 NF E25-663 C  
 BS 4174



### Technical data

| d     | P   | dk   | k    | n   |
|-------|-----|------|------|-----|
| ST2,2 | 0,8 | 4,2  | 1,35 | 0,6 |
| ST2,9 | 1,1 | 5,6  | 1,75 | 0,8 |
| ST3,5 | 1,3 | 6,9  | 2,1  | 1   |
| ST3,9 | 1,4 | 7,5  | 2,25 | 1   |
| ST4,2 | 1,4 | 8,2  | 2,45 | 1,2 |
| ST4,8 | 1,6 | 9,5  | 2,8  | 1,2 |
| ST5,5 | 1,8 | 10,8 | 3,2  | 1,6 |
| ST6,3 | 1,8 | 12,5 | 3,65 | 1,6 |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging     | Code  | Page |
|--------|------------------|-----------|-------------------|---------------|-------|------|
| ST     | slotted          | St        | Zipl              | Standard      | 26600 | 6-64 |
| ST     | slotted          | St        | Ni.pl.            | Standard      | 26000 | 6-64 |
| ST     | slotted          | St.St. A2 |                   | Standard      | 51600 | 6-65 |
| ST     | slotted          | St        | Ni.pl.            | without point | 26100 | 6-65 |

6

| 26600 Slotted pan head tapping screw |                     | J02A |
|--------------------------------------|---------------------|------|
| <b>Thread</b>                        | Self tapping thread |      |
| <b>Material</b>                      | Steel               |      |
| <b>Surface treatment</b>             | Zinc plated         |      |
| <b>Packaging</b>                     | Standard            |      |



| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X6,5MM | 200 | <a href="#">26600.029.006</a> | ST3,9X25MM  | 200 | <a href="#">26600.039.025</a> | ST4,8X45MM | 100 | <a href="#">26600.048.045</a> |
| ST2,9X9,5MM | 200 | <a href="#">26600.029.009</a> | ST3,9X32MM  | 200 | <a href="#">26600.039.032</a> | ST5,5X13MM | 200 | <a href="#">26600.055.013</a> |
| ST2,9X13MM  | 200 | <a href="#">26600.029.013</a> | ST3,9X38MM  | 200 | <a href="#">26600.039.038</a> | ST5,5X16MM | 200 | <a href="#">26600.055.016</a> |
| ST2,9X16MM  | 200 | <a href="#">26600.029.016</a> |             |     |                               | ST5,5X19MM | 200 | <a href="#">26600.055.019</a> |
| ST2,9X19MM  | 200 | <a href="#">26600.029.019</a> | ST4,2X9,5MM | 200 | <a href="#">26600.042.009</a> | ST5,5X22MM | 200 | <a href="#">26600.055.022</a> |
| ST2,9X22MM  | 200 | <a href="#">26600.029.022</a> | ST4,2X13MM  | 200 | <a href="#">26600.042.013</a> | ST5,5X25MM | 100 | <a href="#">26600.055.025</a> |
| ST2,9X25MM  | 200 | <a href="#">26600.029.025</a> | ST4,2X16MM  | 200 | <a href="#">26600.042.016</a> | ST5,5X32MM | 100 | <a href="#">26600.055.032</a> |
|             |     |                               | ST4,2X19MM  | 200 | <a href="#">26600.042.019</a> | ST5,5X38MM | 100 | <a href="#">26600.055.038</a> |
| ST3,5X6,5MM | 200 | <a href="#">26600.035.006</a> | ST4,2X22MM  | 200 | <a href="#">26600.042.022</a> | ST5,5X45MM | 100 | <a href="#">26600.055.045</a> |
| ST3,5X9,5MM | 200 | <a href="#">26600.035.009</a> | ST4,2X25MM  | 200 | <a href="#">26600.042.025</a> | ST5,5X50MM | 100 | <a href="#">26600.055.050</a> |
| ST3,5X13MM  | 200 | <a href="#">26600.035.013</a> | ST4,2X32MM  | 200 | <a href="#">26600.042.032</a> |            |     |                               |
| ST3,5X16MM  | 200 | <a href="#">26600.035.016</a> | ST4,2X38MM  | 200 | <a href="#">26600.042.038</a> | ST6,3X13MM | 100 | <a href="#">26600.063.013</a> |
| ST3,5X19MM  | 200 | <a href="#">26600.035.019</a> | ST4,2X45MM  | 200 | <a href="#">26600.042.045</a> | ST6,3X16MM | 100 | <a href="#">26600.063.016</a> |
| ST3,5X22MM  | 200 | <a href="#">26600.035.022</a> | ST4,2X50MM  | 200 | <a href="#">26600.042.050</a> | ST6,3X19MM | 100 | <a href="#">26600.063.019</a> |
| ST3,5X25MM  | 200 | <a href="#">26600.035.025</a> |             |     |                               | ST6,3X25MM | 100 | <a href="#">26600.063.025</a> |
| ST3,5X32MM  | 200 | <a href="#">26600.035.032</a> | ST4,8X9,5MM | 200 | <a href="#">26600.048.009</a> | ST6,3X32MM | 100 | <a href="#">26600.063.032</a> |
| ST3,5X38MM  | 200 | <a href="#">26600.035.038</a> | ST4,8X13MM  | 200 | <a href="#">26600.048.013</a> | ST6,3X38MM | 100 | <a href="#">26600.063.038</a> |
|             |     |                               | ST4,8X16MM  | 200 | <a href="#">26600.048.016</a> | ST6,3X45MM | 100 | <a href="#">26600.063.045</a> |
| ST3,9X9,5MM | 200 | <a href="#">26600.039.009</a> | ST4,8X19MM  | 200 | <a href="#">26600.048.019</a> | ST6,3X50MM | 100 | <a href="#">26600.063.050</a> |
| ST3,9X13MM  | 200 | <a href="#">26600.039.013</a> | ST4,8X22MM  | 200 | <a href="#">26600.048.022</a> |            |     |                               |
| ST3,9X16MM  | 200 | <a href="#">26600.039.016</a> | ST4,8X25MM  | 200 | <a href="#">26600.048.025</a> |            |     |                               |
| ST3,9X19MM  | 200 | <a href="#">26600.039.019</a> | ST4,8X32MM  | 100 | <a href="#">26600.048.032</a> |            |     |                               |
| ST3,9X22MM  | 200 | <a href="#">26600.039.022</a> | ST4,8X38MM  | 100 | <a href="#">26600.048.038</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26000 Slotted pan head tapping screw |                     | J03A |
|--------------------------------------|---------------------|------|
| <b>Thread</b>                        | Self tapping thread |      |
| <b>Material</b>                      | Steel               |      |
| <b>Surface treatment</b>             | Nickel plated       |      |
| <b>Packaging</b>                     | Standard            |      |



| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L | ☒ | Art.number |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|-------|---|------------|
| ST2,9X6,5MM | 200 | <a href="#">26000.029.006</a> | ST2,9X13MM | 200 | <a href="#">26000.029.013</a> |       |   |            |
| ST2,9X9,5MM | 200 | <a href="#">26000.029.009</a> |            |     |                               |       |   |            |



**26000 Slotted pan head tapping screw**

| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST3,5X9,5MM | 200 | <a href="#">26000.035.009</a> | ST4,2X9,5MM | 200 | <a href="#">26000.042.009</a> | ST4,8X45MM | 100 | <a href="#">26000.048.045</a> |
| ST3,5X13MM  | 200 | <a href="#">26000.035.013</a> | ST4,2X13MM  | 200 | <a href="#">26000.042.013</a> | ST4,8X50MM | 100 | <a href="#">26000.048.050</a> |
| ST3,5X16MM  | 200 | <a href="#">26000.035.016</a> | ST4,2X16MM  | 200 | <a href="#">26000.042.016</a> |            |     |                               |
| ST3,5X19MM  | 200 | <a href="#">26000.035.019</a> | ST4,2X19MM  | 200 | <a href="#">26000.042.019</a> | ST5,5X13MM | 200 | <a href="#">26000.055.013</a> |
| ST3,5X25MM  | 200 | <a href="#">26000.035.025</a> | ST4,2X25MM  | 200 | <a href="#">26000.042.025</a> | ST5,5X16MM | 200 | <a href="#">26000.055.016</a> |
| ST3,5X32MM  | 200 | <a href="#">26000.035.032</a> |             |     |                               | ST5,5X19MM | 200 | <a href="#">26000.055.019</a> |
|             |     |                               | ST4,8X9,5MM | 200 | <a href="#">26000.048.009</a> | ST5,5X25MM | 100 | <a href="#">26000.055.025</a> |
| ST3,9X9,5MM | 200 | <a href="#">26000.039.009</a> | ST4,8X13MM  | 200 | <a href="#">26000.048.013</a> |            |     |                               |
| ST3,9X19MM  | 200 | <a href="#">26000.039.019</a> | ST4,8X16MM  | 200 | <a href="#">26000.048.016</a> | ST6,3X13MM | 100 | <a href="#">26000.063.013</a> |
| ST3,9X25MM  | 200 | <a href="#">26000.039.025</a> | ST4,8X19MM  | 200 | <a href="#">26000.048.019</a> | ST6,3X16MM | 100 | <a href="#">26000.063.016</a> |
| ST3,9X32MM  | 200 | <a href="#">26000.039.032</a> | ST4,8X25MM  | 200 | <a href="#">26000.048.025</a> | ST6,3X19MM | 100 | <a href="#">26000.063.019</a> |
| ST3,9X38MM  | 200 | <a href="#">26000.039.038</a> | ST4,8X32MM  | 100 | <a href="#">26000.048.032</a> | ST6,3X25MM | 100 | <a href="#">26000.063.025</a> |
|             |     |                               | ST4,8X38MM  | 100 | <a href="#">26000.048.038</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51600 Slotted pan head tapping screw**
**R02A**

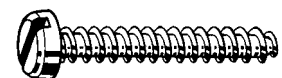
**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L        | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|--------------|-----|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">51600.022.006</a> | ST3,9X19MM    | 200  | <a href="#">51600.039.019</a> | ST4,8X60MM   | 200 | <a href="#">51600.048.060</a> |
| ST2,2X9,5MM * | 1000 | <a href="#">51600.022.009</a> | ST3,9X22MM    | 200  | <a href="#">51600.039.022</a> | ST4,8X70MM   | 200 | <a href="#">51600.048.070</a> |
| ST2,2X13MM *  | 1000 | <a href="#">51600.022.013</a> | ST3,9X25MM    | 200  | <a href="#">51600.039.025</a> |              |     |                               |
| ST2,2X16MM *  | 1000 | <a href="#">51600.022.016</a> | ST3,9X32MM    | 200  | <a href="#">51600.039.032</a> | ST5,5X13MM   | 200 | <a href="#">51600.055.013</a> |
| ST2,2X25MM *  | 1000 | <a href="#">51600.022.025</a> | ST3,9X38MM    | 200  | <a href="#">51600.039.038</a> | ST5,5X16MM   | 200 | <a href="#">51600.055.016</a> |
|               |      |                               |               |      |                               | ST5,5X19MM   | 200 | <a href="#">51600.055.019</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51600.029.006</a> | ST4,2X6,5MM * | 1000 | <a href="#">51600.042.006</a> | ST5,5X19MM   | 200 | <a href="#">51600.055.022</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51600.029.009</a> | ST4,2X9,5MM   | 200  | <a href="#">51600.042.009</a> | ST5,5X22MM   | 200 | <a href="#">51600.055.022</a> |
| ST2,9X13MM    | 200  | <a href="#">51600.029.013</a> | ST4,2X13MM    | 200  | <a href="#">51600.042.013</a> | ST5,5X25MM   | 200 | <a href="#">51600.055.025</a> |
| ST2,9X16MM    | 200  | <a href="#">51600.029.016</a> | ST4,2X16MM    | 200  | <a href="#">51600.042.016</a> | ST5,5X32MM   | 100 | <a href="#">51600.055.032</a> |
| ST2,9X19MM    | 200  | <a href="#">51600.029.019</a> | ST4,2X19MM    | 200  | <a href="#">51600.042.019</a> | ST5,5X38MM   | 100 | <a href="#">51600.055.038</a> |
| ST2,9X22MM    | 200  | <a href="#">51600.029.022</a> | ST4,2X25MM    | 200  | <a href="#">51600.042.025</a> | ST5,5X45MM   | 100 | <a href="#">51600.055.045</a> |
| ST2,9X25MM    | 200  | <a href="#">51600.029.025</a> | ST4,2X32MM    | 200  | <a href="#">51600.042.032</a> | ST5,5X50MM   | 100 | <a href="#">51600.055.050</a> |
|               |      |                               | ST4,2X38MM    | 200  | <a href="#">51600.042.038</a> | ST5,5X70MM * | 200 | <a href="#">51600.055.070</a> |
| ST3,5X6,5MM   | 200  | <a href="#">51600.035.006</a> | ST4,2X45MM    | 200  | <a href="#">51600.042.045</a> | ST6,3X13MM   | 100 | <a href="#">51600.063.013</a> |
| ST3,5X9,5MM   | 200  | <a href="#">51600.035.009</a> | ST4,2X50MM    | 200  | <a href="#">51600.042.050</a> | ST6,3X16MM   | 100 | <a href="#">51600.063.016</a> |
| ST3,5X13MM    | 200  | <a href="#">51600.035.013</a> | ST4,2X60MM *  | 200  | <a href="#">51600.042.060</a> | ST6,3X19MM   | 100 | <a href="#">51600.063.019</a> |
| ST3,5X16MM    | 200  | <a href="#">51600.035.016</a> |               |      |                               | ST6,3X22MM   | 100 | <a href="#">51600.063.022</a> |
| ST3,5X19MM    | 200  | <a href="#">51600.035.019</a> | ST4,8X9,5MM   | 200  | <a href="#">51600.048.009</a> | ST6,3X25MM   | 100 | <a href="#">51600.063.025</a> |
| ST3,5X22MM    | 200  | <a href="#">51600.035.022</a> | ST4,8X13MM    | 200  | <a href="#">51600.048.013</a> | ST6,3X32MM   | 100 | <a href="#">51600.063.032</a> |
| ST3,5X25MM    | 200  | <a href="#">51600.035.025</a> | ST4,8X16MM    | 200  | <a href="#">51600.048.016</a> | ST6,3X38MM   | 100 | <a href="#">51600.063.038</a> |
| ST3,5X32MM    | 200  | <a href="#">51600.035.032</a> | ST4,8X19MM    | 200  | <a href="#">51600.048.019</a> | ST6,3X45MM   | 100 | <a href="#">51600.063.045</a> |
| ST3,5X38MM    | 200  | <a href="#">51600.035.038</a> | ST4,8X22MM    | 200  | <a href="#">51600.048.022</a> | ST6,3X50MM   | 100 | <a href="#">51600.063.050</a> |
|               |      |                               | ST4,8X25MM    | 200  | <a href="#">51600.048.025</a> | ST6,3X60MM * | 200 | <a href="#">51600.063.060</a> |
| ST3,9X6,5MM   | 200  | <a href="#">51600.039.006</a> | ST4,8X32MM    | 200  | <a href="#">51600.048.032</a> | ST6,3X70MM * | 200 | <a href="#">51600.063.070</a> |
| ST3,9X9,5MM   | 200  | <a href="#">51600.039.009</a> | ST4,8X38MM    | 200  | <a href="#">51600.048.038</a> |              |     |                               |
| ST3,9X13MM    | 200  | <a href="#">51600.039.013</a> | ST4,8X45MM    | 200  | <a href="#">51600.048.045</a> |              |     |                               |
| ST3,9X16MM    | 200  | <a href="#">51600.039.016</a> | ST4,8X50MM    | 200  | <a href="#">51600.048.050</a> |              |     |                               |

**6**
**26100 Slotted pan head tapping screw without point**
**J03A**

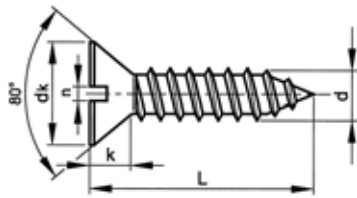
**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Nickel plated  
**Packaging** Standard  
 ISO 1481 F  
**DIN 7971 F**  
 NF E25-663 F



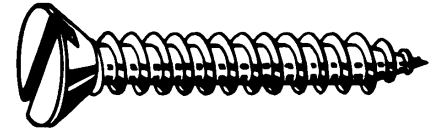
| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L | ☒ | Art.number |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|-------|---|------------|
| ST2,2X4,5MM | 500 | <a href="#">26100.022.004</a> | ST2,2X9,5MM | 500 | <a href="#">26100.022.009</a> |       |   |            |
| ST2,2X6,5MM | 500 | <a href="#">26100.022.006</a> |             |     |                               |       |   |            |
| ST2,2X8MM   | 500 | <a href="#">26100.022.008</a> | ST2,9X6,5MM | 500 | <a href="#">26100.029.006</a> |       |   |            |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Slotted countersunk head tapping screw



ISO 1482 C  
 DIN 7972 C  
 NF E25-660 C  
 BS 4174



### Technical data

| d     | P   | dk   | k ≈ | n   |
|-------|-----|------|-----|-----|
| ST2,2 | 0,8 | 4,3  | 1,3 | 0,6 |
| ST2,9 | 1,1 | 5,5  | 1,7 | 0,8 |
| ST3,5 | 1,3 | 6,8  | 2,1 | 1   |
| ST3,9 | 1,4 | 7,5  | 2,3 | 1   |
| ST4,2 | 1,4 | 8,1  | 2,5 | 1,2 |
| ST4,8 | 1,6 | 9,5  | 3   | 1,2 |
| ST5,5 | 1,8 | 10,8 | 3,4 | 1,6 |
| ST6,3 | 1,8 | 12,4 | 3,8 | 1,6 |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------------------|-----------|-------|------|
| ST     | slotted          | St        | Zipl              | Standard  | 26620 | 6-66 |
| ST     | slotted          | St.St. A2 |                   | Standard  | 51620 | 6-66 |

6

| 26620 Slotted countersunk head tapping screw |                     | J02A |
|--|---------------------|------|
| <b>Thread</b>                                | Self tapping thread |      |
| <b>Material</b>                              | Steel               |      |
| <b>Surface treatment</b>                     | Zinc plated         |      |
| <b>Packaging</b>                             | Standard            |      |



| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X6,5MM | 200 | <a href="#">26620.029.006</a> | ST3,9X25MM  | 200 | <a href="#">26620.039.025</a> | ST4,8X45MM | 100 | <a href="#">26620.048.045</a> |
| ST2,9X9,5MM | 200 | <a href="#">26620.029.009</a> | ST3,9X32MM  | 200 | <a href="#">26620.039.032</a> | ST4,8X50MM | 100 | <a href="#">26620.048.050</a> |
| ST2,9X13MM  | 200 | <a href="#">26620.029.013</a> | ST3,9X38MM  | 200 | <a href="#">26620.039.038</a> |            |     |                               |
| ST2,9X16MM  | 200 | <a href="#">26620.029.016</a> |             |     |                               | ST5,5X13MM | 200 | <a href="#">26620.055.013</a> |
| ST2,9X19MM  | 200 | <a href="#">26620.029.019</a> | ST4,2X9,5MM | 200 | <a href="#">26620.042.009</a> | ST5,5X16MM | 200 | <a href="#">26620.055.016</a> |
| ST2,9X25MM  | 200 | <a href="#">26620.029.025</a> | ST4,2X13MM  | 200 | <a href="#">26620.042.013</a> | ST5,5X19MM | 200 | <a href="#">26620.055.019</a> |
|             |     |                               | ST4,2X16MM  | 200 | <a href="#">26620.042.016</a> | ST5,5X25MM | 100 | <a href="#">26620.055.025</a> |
| ST3,5X9,5MM | 200 | <a href="#">26620.035.009</a> | ST4,2X19MM  | 200 | <a href="#">26620.042.019</a> | ST5,5X32MM | 100 | <a href="#">26620.055.032</a> |
| ST3,5X13MM  | 200 | <a href="#">26620.035.013</a> | ST4,2X22MM  | 200 | <a href="#">26620.042.022</a> | ST5,5X38MM | 100 | <a href="#">26620.055.038</a> |
| ST3,5X16MM  | 200 | <a href="#">26620.035.016</a> | ST4,2X25MM  | 200 | <a href="#">26620.042.025</a> | ST5,5X45MM | 100 | <a href="#">26620.055.045</a> |
| ST3,5X19MM  | 200 | <a href="#">26620.035.019</a> | ST4,2X32MM  | 200 | <a href="#">26620.042.032</a> | ST5,5X50MM | 100 | <a href="#">26620.055.050</a> |
| ST3,5X22MM  | 200 | <a href="#">26620.035.022</a> | ST4,2X38MM  | 200 | <a href="#">26620.042.038</a> |            |     |                               |
| ST3,5X25MM  | 200 | <a href="#">26620.035.025</a> | ST4,2X45MM  | 200 | <a href="#">26620.042.045</a> | ST6,3X25MM | 100 | <a href="#">26620.063.025</a> |
| ST3,5X32MM  | 200 | <a href="#">26620.035.032</a> |             |     |                               | ST6,3X32MM | 100 | <a href="#">26620.063.032</a> |
|             |     |                               | ST4,8X13MM  | 200 | <a href="#">26620.048.013</a> | ST6,3X38MM | 100 | <a href="#">26620.063.038</a> |
| ST3,9X9,5MM | 200 | <a href="#">26620.039.009</a> | ST4,8X16MM  | 200 | <a href="#">26620.048.016</a> | ST6,3X45MM | 100 | <a href="#">26620.063.045</a> |
| ST3,9X13MM  | 200 | <a href="#">26620.039.013</a> | ST4,8X19MM  | 200 | <a href="#">26620.048.019</a> | ST6,3X50MM | 100 | <a href="#">26620.063.050</a> |
| ST3,9X16MM  | 200 | <a href="#">26620.039.016</a> | ST4,8X25MM  | 200 | <a href="#">26620.048.025</a> |            |     |                               |
| ST3,9X19MM  | 200 | <a href="#">26620.039.019</a> | ST4,8X32MM  | 100 | <a href="#">26620.048.032</a> |            |     |                               |
| ST3,9X22MM  | 200 | <a href="#">26620.039.022</a> | ST4,8X38MM  | 100 | <a href="#">26620.048.038</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 51620 Slotted countersunk head tapping screw |                     | R02A |
|--|---------------------|------|
| <b>Thread</b>                                | Self tapping thread |      |
| <b>Material</b>                              | Stainless steel A2  |      |
| <b>Packaging</b>                             | Standard            |      |

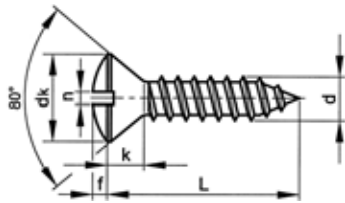


| d x L         | ☒    | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|---------------|------|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">51620.022.006</a> | ST2,9X13MM  | 200 | <a href="#">51620.029.013</a> | ST3,5X13MM | 200 | <a href="#">51620.035.013</a> |
| ST2,2X9,5MM * | 1000 | <a href="#">51620.022.009</a> | ST2,9X16MM  | 200 | <a href="#">51620.029.016</a> | ST3,5X16MM | 200 | <a href="#">51620.035.016</a> |
| ST2,2X13MM *  | 1000 | <a href="#">51620.022.013</a> | ST2,9X19MM  | 200 | <a href="#">51620.029.019</a> | ST3,5X19MM | 200 | <a href="#">51620.035.019</a> |
| ST2,2X16MM *  | 1000 | <a href="#">51620.022.016</a> | ST2,9X25MM  | 200 | <a href="#">51620.029.025</a> | ST3,5X22MM | 200 | <a href="#">51620.035.022</a> |
|               |      |                               |             |     |                               | ST3,5X25MM | 200 | <a href="#">51620.035.025</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51620.029.006</a> | ST3,5X6,5MM | 200 | <a href="#">51620.035.006</a> | ST3,5X32MM | 200 | <a href="#">51620.035.032</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51620.029.009</a> | ST3,5X9,5MM | 200 | <a href="#">51620.035.009</a> | ST3,5X38MM | 200 | <a href="#">51620.035.038</a> |

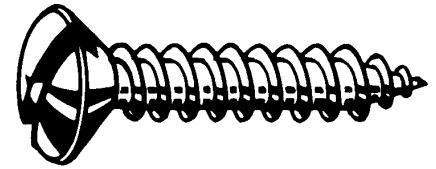
**51620 Slotted countersunk head tapping screw**

| d x L       | ☒   | Art.number                    | d x L        | ☒   | Art.number                    | d x L        | ☒   | Art.number                    |
|-------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| ST3,9X9,5MM | 200 | <a href="#">51620.039.009</a> | ST4,8X9,5MM  | 200 | <a href="#">51620.048.009</a> | ST5,5X32MM   | 100 | <a href="#">51620.055.032</a> |
| ST3,9X13MM  | 200 | <a href="#">51620.039.013</a> | ST4,8X13MM   | 200 | <a href="#">51620.048.013</a> | ST5,5X38MM   | 100 | <a href="#">51620.055.038</a> |
| ST3,9X16MM  | 200 | <a href="#">51620.039.016</a> | ST4,8X16MM   | 200 | <a href="#">51620.048.016</a> | ST5,5X45MM   | 100 | <a href="#">51620.055.045</a> |
| ST3,9X19MM  | 200 | <a href="#">51620.039.019</a> | ST4,8X19MM   | 200 | <a href="#">51620.048.019</a> | ST5,5X50MM   | 100 | <a href="#">51620.055.050</a> |
| ST3,9X22MM  | 200 | <a href="#">51620.039.022</a> | ST4,8X22MM   | 200 | <a href="#">51620.048.022</a> | ST5,5X70MM * | 200 | <a href="#">51620.055.070</a> |
| ST3,9X25MM  | 200 | <a href="#">51620.039.025</a> | ST4,8X25MM   | 200 | <a href="#">51620.048.025</a> | ST6,3X13MM   | 100 | <a href="#">51620.063.013</a> |
| ST3,9X32MM  | 200 | <a href="#">51620.039.032</a> | ST4,8X32MM   | 200 | <a href="#">51620.048.032</a> | ST6,3X16MM   | 100 | <a href="#">51620.063.016</a> |
| ST3,9X38MM  | 200 | <a href="#">51620.039.038</a> | ST4,8X38MM   | 200 | <a href="#">51620.048.038</a> | ST6,3X19MM   | 100 | <a href="#">51620.063.019</a> |
| ST4,2X13MM  | 200 | <a href="#">51620.042.013</a> | ST4,8X45MM   | 200 | <a href="#">51620.048.045</a> | ST6,3X22MM   | 100 | <a href="#">51620.063.022</a> |
| ST4,2X16MM  | 200 | <a href="#">51620.042.016</a> | ST4,8X50MM   | 200 | <a href="#">51620.048.050</a> | ST6,3X25MM   | 100 | <a href="#">51620.063.025</a> |
| ST4,2X19MM  | 200 | <a href="#">51620.042.019</a> | ST4,8X80MM * | 200 | <a href="#">51620.048.080</a> | ST6,3X32MM   | 100 | <a href="#">51620.063.032</a> |
| ST4,2X22MM  | 200 | <a href="#">51620.042.022</a> | ST5,5X13MM   | 200 | <a href="#">51620.055.013</a> | ST6,3X38MM   | 100 | <a href="#">51620.063.038</a> |
| ST4,2X25MM  | 200 | <a href="#">51620.042.025</a> | ST5,5X16MM   | 200 | <a href="#">51620.055.016</a> | ST6,3X45MM   | 100 | <a href="#">51620.063.045</a> |
| ST4,2X32MM  | 200 | <a href="#">51620.042.032</a> | ST5,5X19MM   | 200 | <a href="#">51620.055.019</a> | ST6,3X50MM   | 100 | <a href="#">51620.063.050</a> |
| ST4,2X38MM  | 200 | <a href="#">51620.042.038</a> | ST5,5X22MM   | 200 | <a href="#">51620.055.022</a> | ST6,3X70MM * | 200 | <a href="#">51620.063.070</a> |
| ST4,2X45MM  | 200 | <a href="#">51620.042.045</a> | ST5,5X25MM   | 200 | <a href="#">51620.055.025</a> |              |     |                               |

## Slotted raised countersunk head tapping screw



ISO 1483 C  
 DIN 7973 C  
 NF E25-661 C  
 BS 4174



### Technical data

| d     | P   | dk   | k ≈ | f ≈ | n   |
|-------|-----|------|-----|-----|-----|
| ST2,2 | 0,8 | 4,2  | 1,3 | 0,7 | 0,6 |
| ST2,9 | 1,5 | 5,5  | 1,7 | 0,9 | 0,8 |
| ST3,5 | 1,3 | 6,8  | 2,1 | 1,2 | 1   |
| ST3,9 | 1,4 | 7,5  | 2,3 | 1,3 | 1   |
| ST4,2 | 1,4 | 8,1  | 2,5 | 1,4 | 1,2 |
| ST4,8 | 1,6 | 9,5  | 3   | 1,5 | 1,2 |
| ST5,5 | 1,8 | 10,8 | 3,4 | 1,7 | 1,6 |
| ST6,3 | 1,8 | 12,4 | 3,8 | 2   | 1,6 |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------------------|-----------|-------|------|
| ST     | slotted          | St        | Zipl              | Standard  | 26640 | 6-68 |
| ST     | slotted          | St        | Ni.pl.            | Standard  | 26040 | 6-68 |
| ST     | slotted          | St.St. A2 |                   | Standard  | 51640 | 6-69 |

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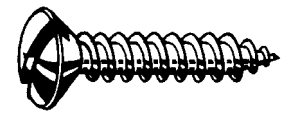
| 26640 Slotted raised countersunk head tapping screw |                     | J02A |
|---|---------------------|------|
| <b>Thread</b>                                       | Self tapping thread |      |
| <b>Material</b>                                     | Steel               |      |
| <b>Surface treatment</b>                            | Zinc plated         |      |
| <b>Packaging</b>                                    | Standard            |      |



| d x L       | Art.number                        | d x L       | Art.number                        | d x L      | Art.number                        |
|-------------|-----------------------------------|-------------|-----------------------------------|------------|-----------------------------------|
| ST2,9X9,5MM | 200 <a href="#">26640.029.009</a> | ST3,9X32MM  | 200 <a href="#">26640.039.032</a> | ST4,8X45MM | 100 <a href="#">26640.048.045</a> |
| ST2,9X13MM  | 200 <a href="#">26640.029.013</a> |             |                                   | ST4,8X50MM | 100 <a href="#">26640.048.050</a> |
| ST2,9X16MM  | 200 <a href="#">26640.029.016</a> | ST4,2X9,5MM | 200 <a href="#">26640.042.009</a> | ST5,5X13MM | 200 <a href="#">26640.055.013</a> |
| ST2,9X19MM  | 200 <a href="#">26640.029.019</a> | ST4,2X13MM  | 200 <a href="#">26640.042.013</a> | ST5,5X16MM | 200 <a href="#">26640.055.016</a> |
| ST2,9X25MM  | 200 <a href="#">26640.029.025</a> | ST4,2X16MM  | 200 <a href="#">26640.042.016</a> | ST5,5X19MM | 200 <a href="#">26640.055.019</a> |
|             |                                   | ST4,2X19MM  | 200 <a href="#">26640.042.019</a> | ST5,5X25MM | 100 <a href="#">26640.055.025</a> |
| ST3,5X9,5MM | 200 <a href="#">26640.035.009</a> | ST4,2X25MM  | 200 <a href="#">26640.042.025</a> | ST5,5X32MM | 100 <a href="#">26640.055.032</a> |
| ST3,5X13MM  | 200 <a href="#">26640.035.013</a> | ST4,2X32MM  | 200 <a href="#">26640.042.032</a> | ST5,5X38MM | 100 <a href="#">26640.055.038</a> |
| ST3,5X16MM  | 200 <a href="#">26640.035.016</a> | ST4,2X38MM  | 200 <a href="#">26640.042.038</a> | ST5,5X45MM | 100 <a href="#">26640.055.045</a> |
| ST3,5X19MM  | 200 <a href="#">26640.035.019</a> | ST4,2X45MM  | 200 <a href="#">26640.042.045</a> |            |                                   |
| ST3,5X25MM  | 200 <a href="#">26640.035.025</a> | ST4,2X50MM  | 200 <a href="#">26640.042.050</a> |            |                                   |
| ST3,5X32MM  | 200 <a href="#">26640.035.032</a> |             |                                   | ST6,3X16MM | 100 <a href="#">26640.063.016</a> |
| ST3,5X38MM  | 200 <a href="#">26640.035.038</a> | ST4,8X9,5MM | 200 <a href="#">26640.048.009</a> | ST6,3X19MM | 100 <a href="#">26640.063.019</a> |
|             |                                   | ST4,8X13MM  | 200 <a href="#">26640.048.013</a> | ST6,3X25MM | 100 <a href="#">26640.063.025</a> |
| ST3,9X9,5MM | 200 <a href="#">26640.039.009</a> | ST4,8X16MM  | 200 <a href="#">26640.048.016</a> | ST6,3X32MM | 100 <a href="#">26640.063.032</a> |
| ST3,9X13MM  | 200 <a href="#">26640.039.013</a> | ST4,8X19MM  | 200 <a href="#">26640.048.019</a> | ST6,3X38MM | 100 <a href="#">26640.063.038</a> |
| ST3,9X16MM  | 200 <a href="#">26640.039.016</a> | ST4,8X25MM  | 200 <a href="#">26640.048.025</a> | ST6,3X45MM | 100 <a href="#">26640.063.045</a> |
| ST3,9X19MM  | 200 <a href="#">26640.039.019</a> | ST4,8X32MM  | 100 <a href="#">26640.048.032</a> | ST6,3X50MM | 100 <a href="#">26640.063.050</a> |
| ST3,9X25MM  | 200 <a href="#">26640.039.025</a> | ST4,8X38MM  | 100 <a href="#">26640.048.038</a> |            |                                   |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26040 Slotted raised countersunk head tapping screw |                     | J03A |
|---|---------------------|------|
| <b>Thread</b>                                       | Self tapping thread |      |
| <b>Material</b>                                     | Steel               |      |
| <b>Surface treatment</b>                            | Nickel plated       |      |
| <b>Packaging</b>                                    | Standard            |      |



| d x L      | Art.number                        | d x L       | Art.number                        | d x L      | Art.number                        |
|------------|-----------------------------------|-------------|-----------------------------------|------------|-----------------------------------|
| ST2,9X13MM | 200 <a href="#">26040.029.013</a> | ST3,9X9,5MM | 200 <a href="#">26040.039.009</a> | ST3,9X38MM | 200 <a href="#">26040.039.038</a> |
| ST2,9X19MM | 200 <a href="#">26040.029.019</a> | ST3,9X13MM  | 200 <a href="#">26040.039.013</a> | ST4,2X16MM | 200 <a href="#">26040.042.016</a> |
| ST3,5X13MM | 200 <a href="#">26040.035.013</a> | ST3,9X16MM  | 200 <a href="#">26040.039.016</a> | ST4,2X19MM | 200 <a href="#">26040.042.019</a> |
| ST3,5X16MM | 200 <a href="#">26040.035.016</a> | ST3,9X19MM  | 200 <a href="#">26040.039.019</a> | ST4,2X25MM | 200 <a href="#">26040.042.025</a> |
| ST3,5X19MM | 200 <a href="#">26040.035.019</a> | ST3,9X25MM  | 200 <a href="#">26040.039.025</a> | ST4,2X38MM | 200 <a href="#">26040.042.038</a> |
| ST3,5X25MM | 200 <a href="#">26040.035.025</a> | ST3,9X32MM  | 200 <a href="#">26040.039.032</a> |            |                                   |

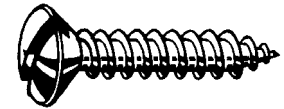
**26040 Slotted raised countersunk head tapping screw**

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST4,8X13MM | 200 | <a href="#">26040.048.013</a> | ST5,5X13MM | 200 | <a href="#">26040.055.013</a> | ST6,3X25MM | 100 | <a href="#">26040.063.025</a> |
| ST4,8X16MM | 200 | <a href="#">26040.048.016</a> | ST5,5X16MM | 200 | <a href="#">26040.055.016</a> | ST6,3X32MM | 100 | <a href="#">26040.063.032</a> |
| ST4,8X19MM | 200 | <a href="#">26040.048.019</a> | ST5,5X19MM | 200 | <a href="#">26040.055.019</a> | ST6,3X38MM | 100 | <a href="#">26040.063.038</a> |
| ST4,8X25MM | 200 | <a href="#">26040.048.025</a> | ST5,5X25MM | 100 | <a href="#">26040.055.025</a> |            |     |                               |
|            |     |                               | ST5,5X32MM | 100 | <a href="#">26040.055.032</a> |            |     |                               |
|            |     |                               | ST5,5X50MM | 100 | <a href="#">26040.055.050</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

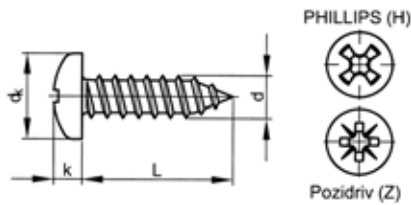
**51640 Slotted raised countersunk head tapping screw**
**R02A**

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Packaging** Standard

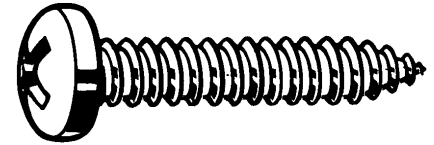


| d x L         | ☒    | Art.number                    | d x L       | ☒   | Art.number                    | d x L        | ☒   | Art.number                    |
|---------------|------|-------------------------------|-------------|-----|-------------------------------|--------------|-----|-------------------------------|
| ST2,2X9,5MM * | 1000 | <a href="#">51640.022.009</a> | ST3,9X19MM  | 200 | <a href="#">51640.039.019</a> | ST4,8X38MM   | 200 | <a href="#">51640.048.038</a> |
| ST2,2X13MM *  | 1000 | <a href="#">51640.022.013</a> | ST3,9X22MM  | 200 | <a href="#">51640.039.022</a> | ST4,8X45MM   | 200 | <a href="#">51640.048.045</a> |
|               |      |                               | ST3,9X25MM  | 200 | <a href="#">51640.039.025</a> | ST4,8X50MM   | 200 | <a href="#">51640.048.050</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51640.029.006</a> | ST3,9X32MM  | 200 | <a href="#">51640.039.032</a> | ST4,8X60MM * | 200 | <a href="#">51640.048.060</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51640.029.009</a> | ST3,9X38MM  | 200 | <a href="#">51640.039.038</a> | ST4,8X70MM * | 200 | <a href="#">51640.048.070</a> |
| ST2,9X13MM    | 200  | <a href="#">51640.029.013</a> |             |     |                               |              |     |                               |
| ST2,9X16MM    | 200  | <a href="#">51640.029.016</a> | ST4,2X9,5MM | 200 | <a href="#">51640.042.009</a> | ST5,5X13MM   | 200 | <a href="#">51640.055.013</a> |
| ST2,9X19MM    | 200  | <a href="#">51640.029.019</a> | ST4,2X13MM  | 200 | <a href="#">51640.042.013</a> | ST5,5X19MM   | 200 | <a href="#">51640.055.019</a> |
| ST2,9X22MM    | 200  | <a href="#">51640.029.022</a> | ST4,2X16MM  | 200 | <a href="#">51640.042.016</a> | ST5,5X22MM   | 200 | <a href="#">51640.055.022</a> |
| ST2,9X25MM    | 200  | <a href="#">51640.029.025</a> | ST4,2X19MM  | 200 | <a href="#">51640.042.019</a> | ST5,5X25MM   | 200 | <a href="#">51640.055.025</a> |
|               |      |                               | ST4,2X22MM  | 200 | <a href="#">51640.042.022</a> | ST5,5X32MM   | 100 | <a href="#">51640.055.032</a> |
| ST3,5X6,5MM   | 200  | <a href="#">51640.035.006</a> | ST4,2X25MM  | 200 | <a href="#">51640.042.025</a> | ST5,5X38MM   | 100 | <a href="#">51640.055.038</a> |
| ST3,5X9,5MM   | 200  | <a href="#">51640.035.009</a> | ST4,2X32MM  | 200 | <a href="#">51640.042.032</a> | ST5,5X45MM   | 100 | <a href="#">51640.055.045</a> |
| ST3,5X13MM    | 200  | <a href="#">51640.035.013</a> | ST4,2X38MM  | 200 | <a href="#">51640.042.038</a> | ST5,5X50MM   | 100 | <a href="#">51640.055.050</a> |
| ST3,5X16MM    | 200  | <a href="#">51640.035.016</a> | ST4,2X45MM  | 200 | <a href="#">51640.042.045</a> |              |     |                               |
| ST3,5X19MM    | 200  | <a href="#">51640.035.019</a> | ST4,2X50MM  | 200 | <a href="#">51640.042.050</a> | ST6,3X13MM   | 100 | <a href="#">51640.063.013</a> |
| ST3,5X22MM    | 200  | <a href="#">51640.035.022</a> |             |     |                               | ST6,3X16MM   | 100 | <a href="#">51640.063.016</a> |
| ST3,5X25MM    | 200  | <a href="#">51640.035.025</a> | ST4,8X9,5MM | 200 | <a href="#">51640.048.009</a> | ST6,3X19MM   | 100 | <a href="#">51640.063.019</a> |
| ST3,5X32MM    | 200  | <a href="#">51640.035.032</a> | ST4,8X13MM  | 200 | <a href="#">51640.048.013</a> | ST6,3X25MM   | 100 | <a href="#">51640.063.025</a> |
| ST3,5X38MM    | 200  | <a href="#">51640.035.038</a> | ST4,8X16MM  | 200 | <a href="#">51640.048.016</a> | ST6,3X32MM   | 100 | <a href="#">51640.063.032</a> |
|               |      |                               | ST4,8X19MM  | 200 | <a href="#">51640.048.019</a> | ST6,3X38MM   | 100 | <a href="#">51640.063.038</a> |
| ST3,9X9,5MM   | 200  | <a href="#">51640.039.009</a> | ST4,8X22MM  | 200 | <a href="#">51640.048.022</a> | ST6,3X45MM   | 100 | <a href="#">51640.063.045</a> |
| ST3,9X13MM    | 200  | <a href="#">51640.039.013</a> | ST4,8X25MM  | 200 | <a href="#">51640.048.025</a> | ST6,3X50MM   | 100 | <a href="#">51640.063.050</a> |
| ST3,9X16MM    | 200  | <a href="#">51640.039.016</a> | ST4,8X32MM  | 200 | <a href="#">51640.048.032</a> |              |     |                               |

## Cross recessed pan head tapping screw



ISO 7049 C  
 DIN 7981 C  
 ANSI B18.6.4



### Technical data

| d     | P   | dk   | k    | No. cross recess |
|-------|-----|------|------|------------------|
| ST2,2 | 0,8 | 4,2  | 1,8  | 1                |
| ST2,9 | 1,1 | 5,6  | 2,2  | 1                |
| ST3,5 | 1,3 | 6,9  | 2,6  | 2                |
| ST3,9 | 1,4 | 7,5  | 2,8  | 2                |
| ST4,2 | 1,4 | 8,2  | 3,05 | 2                |
| ST4,8 | 1,6 | 9,5  | 3,55 | 2                |
| ST5,5 | 1,8 | 10,8 | 3,95 | 3                |
| ST6,3 | 1,8 | 12,5 | 4,55 | 3                |

### Article groups

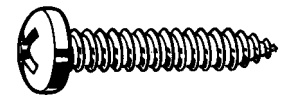
| Thread | Driving features | Material  | Surface treatment | Packaging     | Code  | Page |
|--------|------------------|-----------|-------------------|---------------|-------|------|
| ST     | Phillips         | St        | Zipl              | Standard      | 26660 | 6-70 |
| ST     | Phillips         | St        | Zipl              | Large         | 26670 | 6-71 |
| ST     | Phillips         | St        | Ni.pl.            | Standard      | 26200 | 6-71 |
| ST     | Phillips         | St        | Ni.pl.            | Large         | 26210 | 6-71 |
| ST     | Phillips         | St        | Zipl blk p.       | Standard      | 26400 | 6-72 |
| ST     | Pozidriv         | St        | Zipl blk p.       | Standard      | 26402 | 6-72 |
| ST     | Phillips         | St.St. A2 |                   | Standard      | 51660 | 6-72 |
| ST     | Phillips         | St.St. A2 |                   | Large         | 51670 | 6-73 |
| ST     | Pozidriv         | St.St. A2 |                   | Standard      | 51661 | 6-73 |
| ST     | Phillips         | St.St. A4 |                   | Standard      | 55660 | 6-74 |
| ST     | Pozidriv         | St        | Zipl              | Standard      | 26760 | 6-74 |
| ST     | Phillips         | St        | Ni.pl.            | without point | 26300 | 6-75 |

6

### 26660 Cross recessed pan head tapping screw Phillips

J01B

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7049 C-H  
 DIN 7981 C-H



| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,2X6,5MM | 200 | <a href="#">26660.022.006</a> | ST3,9X16MM  | 200 | <a href="#">26660.039.016</a> | ST4,8X50MM | 100 | <a href="#">26660.048.050</a> |
| ST2,2X16MM  | 200 | <a href="#">26660.022.016</a> | ST3,9X19MM  | 200 | <a href="#">26660.039.019</a> |            |     |                               |
|             |     |                               | ST3,9X22MM  | 200 | <a href="#">26660.039.022</a> | ST5,5X13MM | 200 | <a href="#">26660.055.013</a> |
| ST2,9X6,5MM | 200 | <a href="#">26660.029.006</a> | ST3,9X25MM  | 200 | <a href="#">26660.039.025</a> | ST5,5X16MM | 200 | <a href="#">26660.055.016</a> |
| ST2,9X9,5MM | 200 | <a href="#">26660.029.009</a> | ST3,9X32MM  | 200 | <a href="#">26660.039.032</a> | ST5,5X19MM | 200 | <a href="#">26660.055.019</a> |
| ST2,9X13MM  | 200 | <a href="#">26660.029.013</a> |             |     |                               | ST5,5X22MM | 100 | <a href="#">26660.055.022</a> |
| ST2,9X16MM  | 200 | <a href="#">26660.029.016</a> | ST4,2X9,5MM | 200 | <a href="#">26660.042.009</a> | ST5,5X25MM | 100 | <a href="#">26660.055.025</a> |
| ST2,9X19MM  | 200 | <a href="#">26660.029.019</a> | ST4,2X13MM  | 200 | <a href="#">26660.042.013</a> | ST5,5X32MM | 100 | <a href="#">26660.055.032</a> |
| ST2,9X22MM  | 200 | <a href="#">26660.029.022</a> | ST4,2X16MM  | 200 | <a href="#">26660.042.016</a> | ST5,5X38MM | 100 | <a href="#">26660.055.038</a> |
| ST2,9X25MM  | 200 | <a href="#">26660.029.025</a> | ST4,2X19MM  | 200 | <a href="#">26660.042.019</a> | ST5,5X45MM | 100 | <a href="#">26660.055.045</a> |
|             |     |                               | ST4,2X22MM  | 200 | <a href="#">26660.042.022</a> | ST5,5X50MM | 100 | <a href="#">26660.055.050</a> |
| ST3,5X6,5MM | 200 | <a href="#">26660.035.006</a> | ST4,2X25MM  | 200 | <a href="#">26660.042.025</a> |            |     |                               |
| ST3,5X9,5MM | 200 | <a href="#">26660.035.009</a> | ST4,2X32MM  | 200 | <a href="#">26660.042.032</a> | ST6,3X13MM | 100 | <a href="#">26660.063.013</a> |
| ST3,5X13MM  | 200 | <a href="#">26660.035.013</a> | ST4,2X38MM  | 200 | <a href="#">26660.042.038</a> | ST6,3X16MM | 100 | <a href="#">26660.063.016</a> |
| ST3,5X16MM  | 200 | <a href="#">26660.035.016</a> |             |     |                               | ST6,3X19MM | 100 | <a href="#">26660.063.019</a> |
| ST3,5X19MM  | 200 | <a href="#">26660.035.019</a> | ST4,8X9,5MM | 200 | <a href="#">26660.048.009</a> | ST6,3X22MM | 100 | <a href="#">26660.063.022</a> |
| ST3,5X22MM  | 200 | <a href="#">26660.035.022</a> | ST4,8X13MM  | 200 | <a href="#">26660.048.013</a> | ST6,3X25MM | 100 | <a href="#">26660.063.025</a> |
| ST3,5X25MM  | 200 | <a href="#">26660.035.025</a> | ST4,8X16MM  | 200 | <a href="#">26660.048.016</a> | ST6,3X32MM | 100 | <a href="#">26660.063.032</a> |
| ST3,5X32MM  | 200 | <a href="#">26660.035.032</a> | ST4,8X19MM  | 200 | <a href="#">26660.048.019</a> | ST6,3X38MM | 100 | <a href="#">26660.063.038</a> |
| ST3,5X38MM  | 200 | <a href="#">26660.035.038</a> | ST4,8X22MM  | 200 | <a href="#">26660.048.022</a> | ST6,3X45MM | 100 | <a href="#">26660.063.045</a> |
|             |     |                               | ST4,8X25MM  | 200 | <a href="#">26660.048.025</a> | ST6,3X50MM | 100 | <a href="#">26660.063.050</a> |
| ST3,9X6,5MM | 200 | <a href="#">26660.039.006</a> | ST4,8X32MM  | 100 | <a href="#">26660.048.032</a> |            |     |                               |
| ST3,9X9,5MM | 200 | <a href="#">26660.039.009</a> | ST4,8X38MM  | 100 | <a href="#">26660.048.038</a> |            |     |                               |
| ST3,9X13MM  | 200 | <a href="#">26660.039.013</a> | ST4,8X45MM  | 100 | <a href="#">26660.048.045</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

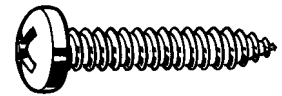
| 26670 Cross recessed pan head tapping screw Phillips |                                       | J01B |  |
|--|---------------------------------------|------|--|
| <b>Thread</b>  | Self tapping thread                   |      |  |
| <b>Material</b>                                      | Steel                                 |      |  |
| <b>Surface treatment</b>                             | Zinc plated                           |      |  |
| <b>Packaging</b>                                     | Large<br>ISO 7049 C-H<br>DIN 7981 C-H |      |  |



| d x L       | ☒    | Art.number                    | d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|-------------|------|-------------------------------|-------------|------|-------------------------------|------------|------|-------------------------------|
| ST2,9X6,5MM | 2000 | <a href="#">26670.029.006</a> | ST3,5X22MM  | 2000 | <a href="#">26670.035.022</a> | ST4,2X32MM | 500  | <a href="#">26670.042.032</a> |
| ST2,9X9,5MM | 2000 | <a href="#">26670.029.009</a> | ST3,5X25MM  | 2000 | <a href="#">26670.035.025</a> | ST4,2X50MM | 500  | <a href="#">26670.042.050</a> |
| ST2,9X13MM  | 2000 | <a href="#">26670.029.013</a> |             |      |                               |            |      |                               |
| ST2,9X16MM  | 2000 | <a href="#">26670.029.016</a> | ST3,9X9,5MM | 1000 | <a href="#">26670.039.009</a> | ST4,8X13MM | 1000 | <a href="#">26670.048.013</a> |
| ST2,9X19MM  | 2000 | <a href="#">26670.029.019</a> | ST3,9X16MM  | 1000 | <a href="#">26670.039.016</a> | ST4,8X16MM | 1000 | <a href="#">26670.048.016</a> |
|             |      |                               |             |      |                               | ST4,8X19MM | 1000 | <a href="#">26670.048.019</a> |
| ST3,5X6,5MM | 2000 | <a href="#">26670.035.006</a> | ST4,2X9,5MM | 1000 | <a href="#">26670.042.009</a> | ST4,8X25MM | 1000 | <a href="#">26670.048.025</a> |
| ST3,5X9,5MM | 2000 | <a href="#">26670.035.009</a> | ST4,2X13MM  | 1000 | <a href="#">26670.042.013</a> | ST4,8X32MM | 500  | <a href="#">26670.048.032</a> |
| ST3,5X13MM  | 2000 | <a href="#">26670.035.013</a> | ST4,2X16MM  | 1000 | <a href="#">26670.042.016</a> | ST4,8X38MM | 500  | <a href="#">26670.048.038</a> |
| ST3,5X16MM  | 2000 | <a href="#">26670.035.016</a> | ST4,2X19MM  | 1000 | <a href="#">26670.042.019</a> |            |      |                               |
| ST3,5X19MM  | 2000 | <a href="#">26670.035.019</a> | ST4,2X25MM  | 1000 | <a href="#">26670.042.025</a> |            |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

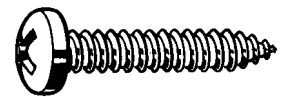
| 26200 Cross recessed pan head tapping screw Phillips |  | J03B |  |
|--|--|------|--|
| <b>Thread</b>  | Self tapping thread                      |      |  |
| <b>Material</b>                                      | Steel                                    |      |  |
| <b>Surface treatment</b>                             | Nickel plated                            |      |  |
| <b>Packaging</b>                                     | Standard<br>ISO 7049 C-H<br>DIN 7981 C-H |      |  |



| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X6,5MM | 200 | <a href="#">26200.029.006</a> | ST3,9X16MM  | 200 | <a href="#">26200.039.016</a> | ST4,8X38MM | 100 | <a href="#">26200.048.038</a> |
| ST2,9X9,5MM | 200 | <a href="#">26200.029.009</a> | ST3,9X19MM  | 200 | <a href="#">26200.039.019</a> |            |     |                               |
| ST2,9X13MM  | 200 | <a href="#">26200.029.013</a> | ST3,9X25MM  | 200 | <a href="#">26200.039.025</a> | ST5,5X13MM | 200 | <a href="#">26200.055.013</a> |
| ST2,9X16MM  | 200 | <a href="#">26200.029.016</a> |             |     |                               | ST5,5X16MM | 200 | <a href="#">26200.055.016</a> |
| ST2,9X19MM  | 200 | <a href="#">26200.029.019</a> | ST4,2X9,5MM | 200 | <a href="#">26200.042.009</a> | ST5,5X19MM | 200 | <a href="#">26200.055.019</a> |
|             |     |                               | ST4,2X13MM  | 200 | <a href="#">26200.042.013</a> | ST5,5X25MM | 100 | <a href="#">26200.055.025</a> |
| ST3,5X6,5MM | 200 | <a href="#">26200.035.006</a> | ST4,2X16MM  | 200 | <a href="#">26200.042.016</a> | ST5,5X32MM | 100 | <a href="#">26200.055.032</a> |
| ST3,5X9,5MM | 200 | <a href="#">26200.035.009</a> | ST4,2X19MM  | 200 | <a href="#">26200.042.019</a> | ST5,5X38MM | 100 | <a href="#">26200.055.038</a> |
| ST3,5X13MM  | 200 | <a href="#">26200.035.013</a> | ST4,2X25MM  | 200 | <a href="#">26200.042.025</a> |            |     |                               |
| ST3,5X16MM  | 200 | <a href="#">26200.035.016</a> | ST4,2X32MM  | 200 | <a href="#">26200.042.032</a> | ST6,3X13MM | 100 | <a href="#">26200.063.013</a> |
| ST3,5X19MM  | 200 | <a href="#">26200.035.019</a> | ST4,2X38MM  | 200 | <a href="#">26200.042.038</a> | ST6,3X16MM | 100 | <a href="#">26200.063.016</a> |
| ST3,5X25MM  | 200 | <a href="#">26200.035.025</a> |             |     |                               | ST6,3X19MM | 100 | <a href="#">26200.063.019</a> |
| ST3,5X32MM  | 200 | <a href="#">26200.035.032</a> | ST4,8X13MM  | 200 | <a href="#">26200.048.013</a> | ST6,3X25MM | 100 | <a href="#">26200.063.025</a> |
| ST3,5X38MM  | 200 | <a href="#">26200.035.038</a> | ST4,8X16MM  | 200 | <a href="#">26200.048.016</a> | ST6,3X32MM | 100 | <a href="#">26200.063.032</a> |
|             |     |                               | ST4,8X19MM  | 200 | <a href="#">26200.048.019</a> | ST6,3X38MM | 100 | <a href="#">26200.063.038</a> |
| ST3,9X9,5MM | 200 | <a href="#">26200.039.009</a> | ST4,8X25MM  | 200 | <a href="#">26200.048.025</a> |            |     |                               |
| ST3,9X13MM  | 200 | <a href="#">26200.039.013</a> | ST4,8X32MM  | 100 | <a href="#">26200.048.032</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26210 Cross recessed pan head tapping screw Phillips |                                       | J03B |  |
|--|---------------------------------------|------|--|
| <b>Thread</b>  | Self tapping thread                   |      |  |
| <b>Material</b>                                      | Steel                                 |      |  |
| <b>Surface treatment</b>                             | Nickel plated                         |      |  |
| <b>Packaging</b>                                     | Large<br>ISO 7049 C-H<br>DIN 7981 C-H |      |  |



| d x L       | ☒    | Art.number                    | d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|-------------|------|-------------------------------|-------------|------|-------------------------------|------------|------|-------------------------------|
| ST3,5X6,5MM | 2000 | <a href="#">26210.035.006</a> | ST4,2X9,5MM | 1000 | <a href="#">26210.042.009</a> | ST4,8X13MM | 1000 | <a href="#">26210.048.013</a> |
| ST3,5X9,5MM | 2000 | <a href="#">26210.035.009</a> | ST4,2X13MM  | 1000 | <a href="#">26210.042.013</a> | ST4,8X16MM | 1000 | <a href="#">26210.048.016</a> |
| ST3,5X13MM  | 2000 | <a href="#">26210.035.013</a> | ST4,2X16MM  | 1000 | <a href="#">26210.042.016</a> |            |      |                               |
| ST3,5X16MM  | 2000 | <a href="#">26210.035.016</a> | ST4,2X19MM  | 1000 | <a href="#">26210.042.019</a> |            |      |                               |
| ST3,5X19MM  | 2000 | <a href="#">26210.035.019</a> | ST4,2X45MM  | 500  | <a href="#">26210.042.045</a> |            |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26400 Cross recessed pan head tapping screw Phillips |                              | J03B |
|--|------------------------------|------|
| <b>Thread</b>  | Self tapping thread          |      |
| <b>Material</b>                                      | Steel                        |      |
| <b>Surface treatment</b>                             | Zinc plated black passivated |      |
| <b>Packaging</b>                                     | Standard                     |      |
|  | ISO 7049 C-H<br>DIN 7981 C-H |      |

| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X6,5MM | 200 | <a href="#">26400.029.006</a> | ST3,9X9,5MM | 200 | <a href="#">26400.039.009</a> | ST4,8X16MM | 200 | <a href="#">26400.048.016</a> |
| ST2,9X9,5MM | 200 | <a href="#">26400.029.009</a> | ST3,9X13MM  | 200 | <a href="#">26400.039.013</a> | ST4,8X19MM | 200 | <a href="#">26400.048.019</a> |
| ST2,9X13MM  | 200 | <a href="#">26400.029.013</a> | ST3,9X16MM  | 200 | <a href="#">26400.039.016</a> | ST4,8X25MM | 200 | <a href="#">26400.048.025</a> |
| ST2,9X16MM  | 200 | <a href="#">26400.029.016</a> | ST3,9X19MM  | 200 | <a href="#">26400.039.019</a> | ST4,8X32MM | 100 | <a href="#">26400.048.032</a> |
| ST2,9X19MM  | 200 | <a href="#">26400.029.019</a> | ST3,9X25MM  | 200 | <a href="#">26400.039.025</a> | ST4,8X38MM | 100 | <a href="#">26400.048.038</a> |
| ST2,9X25MM  | 200 | <a href="#">26400.029.025</a> |             |     |                               | ST4,8X50MM | 100 | <a href="#">26400.048.050</a> |
| ST3,5X6,5MM | 200 | <a href="#">26400.035.006</a> | ST4,2X9,5MM | 200 | <a href="#">26400.042.009</a> | ST5,5X13MM | 200 | <a href="#">26400.055.013</a> |
| ST3,5X9,5MM | 200 | <a href="#">26400.035.009</a> | ST4,2X13MM  | 200 | <a href="#">26400.042.013</a> | ST5,5X16MM | 200 | <a href="#">26400.055.016</a> |
| ST3,5X13MM  | 200 | <a href="#">26400.035.013</a> | ST4,2X16MM  | 200 | <a href="#">26400.042.016</a> | ST5,5X19MM | 200 | <a href="#">26400.055.019</a> |
| ST3,5X16MM  | 200 | <a href="#">26400.035.016</a> | ST4,2X19MM  | 200 | <a href="#">26400.042.019</a> | ST5,5X25MM | 100 | <a href="#">26400.055.025</a> |
| ST3,5X19MM  | 200 | <a href="#">26400.035.019</a> | ST4,2X25MM  | 200 | <a href="#">26400.042.025</a> | ST5,5X32MM | 100 | <a href="#">26400.055.032</a> |
| ST3,5X25MM  | 200 | <a href="#">26400.035.025</a> | ST4,2X32MM  | 200 | <a href="#">26400.042.032</a> | ST5,5X38MM | 100 | <a href="#">26400.055.038</a> |
| ST3,5X32MM  | 200 | <a href="#">26400.035.032</a> | ST4,2X38MM  | 200 | <a href="#">26400.042.038</a> | ST5,5X45MM | 100 | <a href="#">26400.055.045</a> |
| ST3,5X38MM  | 200 | <a href="#">26400.035.038</a> | ST4,2X50MM  | 200 | <a href="#">26400.042.050</a> | ST5,5X50MM | 100 | <a href="#">26400.055.050</a> |
|             |     |                               | ST4,8X13MM  | 200 | <a href="#">26400.048.013</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26402 Cross recessed pan head tapping screw Pozidriv |  | J03B |
|--|--|------|
| <b>Thread</b>  | Self tapping thread                          |      |
| <b>Material</b>                                      | Steel  |      |
| <b>Surface treatment</b>                             | Zinc plated black passivated                 |      |
| <b>Packaging</b>                                     | Standard                                     |      |
|  | ISO 7049 C-Z<br>DIN 7981 C-Z<br>NF E25-658 C |      |

| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X6,5MM | 200 | <a href="#">26402.029.006</a> | ST3,9X13MM  | 200 | <a href="#">26402.039.013</a> | ST4,8X13MM | 200 | <a href="#">26402.048.013</a> |
| ST2,9X9,5MM | 200 | <a href="#">26402.029.009</a> | ST3,9X16MM  | 200 | <a href="#">26402.039.016</a> | ST4,8X16MM | 200 | <a href="#">26402.048.016</a> |
| ST2,9X13MM  | 200 | <a href="#">26402.029.013</a> | ST3,9X19MM  | 200 | <a href="#">26402.039.019</a> | ST4,8X19MM | 200 | <a href="#">26402.048.019</a> |
| ST2,9X16MM  | 200 | <a href="#">26402.029.016</a> | ST3,9X25MM  | 200 | <a href="#">26402.039.025</a> | ST4,8X25MM | 200 | <a href="#">26402.048.025</a> |
| ST2,9X19MM  | 200 | <a href="#">26402.029.019</a> |             |     |                               | ST4,8X32MM | 100 | <a href="#">26402.048.032</a> |
| ST2,9X25MM  | 200 | <a href="#">26402.029.025</a> | ST4,2X9,5MM | 200 | <a href="#">26402.042.009</a> | ST4,8X38MM | 100 | <a href="#">26402.048.038</a> |
| ST3,5X6,5MM | 200 | <a href="#">26402.035.006</a> | ST4,2X13MM  | 200 | <a href="#">26402.042.013</a> | ST4,8X50MM | 100 | <a href="#">26402.048.050</a> |
| ST3,5X9,5MM | 200 | <a href="#">26402.035.009</a> | ST4,2X16MM  | 200 | <a href="#">26402.042.016</a> | ST5,5X13MM | 200 | <a href="#">26402.055.013</a> |
| ST3,5X13MM  | 200 | <a href="#">26402.035.013</a> | ST4,2X19MM  | 200 | <a href="#">26402.042.019</a> | ST5,5X16MM | 200 | <a href="#">26402.055.016</a> |
| ST3,5X16MM  | 200 | <a href="#">26402.035.016</a> | ST4,2X25MM  | 200 | <a href="#">26402.042.025</a> | ST5,5X19MM | 200 | <a href="#">26402.055.019</a> |
| ST3,5X19MM  | 200 | <a href="#">26402.035.019</a> | ST4,2X32MM  | 200 | <a href="#">26402.042.032</a> | ST5,5X25MM | 100 | <a href="#">26402.055.025</a> |
| ST3,5X25MM  | 200 | <a href="#">26402.035.025</a> | ST4,2X38MM  | 200 | <a href="#">26402.042.038</a> |            |     |                               |
|             |     |                               | ST4,2X50MM  | 200 | <a href="#">26402.042.050</a> | ST6,3X19MM | 100 | <a href="#">26402.063.019</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 51660 Cross recessed pan head tapping screw Phillips |                     | R01A |
|--|---------------------|------|
| <b>Thread</b>  | Self tapping thread |      |
| <b>Material</b>                                      | Stainless steel A2  |      |
| <b>Packaging</b>                                     | Standard            |      |
|  | ISO 7049 C-H        |      |
|  | DIN 7981 C-H        |      |

| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L        | ☒    | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|--------------|------|-------------------------------|
| ST2,2X4,5MM * | 1000 | <a href="#">51660.022.004</a> | ST3,5X9,5MM   | 200  | <a href="#">51660.035.009</a> | ST3,9X22MM   | 200  | <a href="#">51660.039.022</a> |
| ST2,2X9,5MM * | 1000 | <a href="#">51660.022.009</a> | ST3,5X13MM    | 200  | <a href="#">51660.035.013</a> | ST3,9X25MM   | 200  | <a href="#">51660.039.025</a> |
| ST2,2X13MM *  | 1000 | <a href="#">51660.022.013</a> | ST3,5X16MM    | 200  | <a href="#">51660.035.016</a> | ST3,9X28MM * | 1000 | <a href="#">51660.039.028</a> |
| ST2,2X16MM *  | 1000 | <a href="#">51660.022.016</a> | ST3,5X19MM    | 200  | <a href="#">51660.035.019</a> | ST3,9X32MM   | 200  | <a href="#">51660.039.032</a> |
| ST2,2X19MM *  | 1000 | <a href="#">51660.022.019</a> | ST3,5X22MM    | 200  | <a href="#">51660.035.022</a> | ST3,9X38MM   | 200  | <a href="#">51660.039.038</a> |
| ST2,2X22MM *  | 1000 | <a href="#">51660.022.022</a> | ST3,5X25MM    | 200  | <a href="#">51660.035.025</a> | ST3,9X45MM * | 500  | <a href="#">51660.039.045</a> |
| ST2,2X25MM *  | 1000 | <a href="#">51660.022.025</a> | ST3,5X32MM    | 200  | <a href="#">51660.035.032</a> | ST3,9X60MM * | 500  | <a href="#">51660.039.060</a> |
|               |      |                               | ST3,5X38MM    | 200  | <a href="#">51660.035.038</a> | ST3,9X70MM * | 500  | <a href="#">51660.039.070</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51660.029.006</a> | ST3,5X45MM *  | 500  | <a href="#">51660.035.045</a> |              |      |                               |
| ST2,9X9,5MM   | 200  | <a href="#">51660.029.009</a> | ST3,5X50MM *  | 500  | <a href="#">51660.035.050</a> | ST4,2X9,5MM  | 200  | <a href="#">51660.042.009</a> |
| ST2,9X13MM    | 200  | <a href="#">51660.029.013</a> | ST3,5X60MM *  | 500  | <a href="#">51660.035.060</a> | ST4,2X13MM   | 200  | <a href="#">51660.042.013</a> |
| ST2,9X16MM    | 200  | <a href="#">51660.029.016</a> | ST3,5X70MM *  | 500  | <a href="#">51660.035.070</a> | ST4,2X16MM   | 200  | <a href="#">51660.042.016</a> |
| ST2,9X19MM    | 200  | <a href="#">51660.029.019</a> |               |      |                               | ST4,2X19MM   | 200  | <a href="#">51660.042.019</a> |
| ST2,9X22MM    | 200  | <a href="#">51660.029.022</a> | ST3,9X6,5MM * | 1000 | <a href="#">51660.039.006</a> | ST4,2X22MM   | 200  | <a href="#">51660.042.022</a> |
| ST2,9X25MM    | 200  | <a href="#">51660.029.025</a> | ST3,9X9,5MM   | 200  | <a href="#">51660.039.009</a> | ST4,2X25MM   | 200  | <a href="#">51660.042.025</a> |
| ST2,9X32MM *  | 1000 | <a href="#">51660.029.032</a> | ST3,9X13MM    | 200  | <a href="#">51660.039.013</a> | ST4,2X32MM   | 200  | <a href="#">51660.042.032</a> |
|               |      |                               | ST3,9X16MM    | 200  | <a href="#">51660.039.016</a> | ST4,2X38MM   | 200  | <a href="#">51660.042.038</a> |
| ST3,5X6,5MM   | 200  | <a href="#">51660.035.006</a> | ST3,9X19MM    | 200  | <a href="#">51660.039.019</a> | ST4,2X45MM   | 200  | <a href="#">51660.042.045</a> |

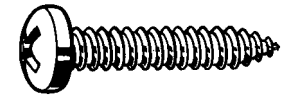


**51660 Cross recessed pan head tapping screw Phillips**

| d x L        | ☒   | Art.number                    | d x L         | ☒   | Art.number                    | d x L         | ☒   | Art.number                    |
|--------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| ST4,2X50MM   | 200 | <a href="#">51660.042.050</a> | ST4,8X90MM *  | 200 | <a href="#">51660.048.090</a> | ST5,5X120MM * | 200 | <a href="#">51660.055.120</a> |
| ST4,2X60MM   | 200 | <a href="#">51660.042.060</a> | ST4,8X100MM   | 100 | <a href="#">51660.048.100</a> |               |     |                               |
| ST4,2X70MM * | 200 | <a href="#">51660.042.070</a> | ST4,8X120MM * | 200 | <a href="#">51660.048.120</a> | ST6,3X13MM    | 100 | <a href="#">51660.063.013</a> |
| ST4,2X80MM * | 200 | <a href="#">51660.042.080</a> |               |     |                               | ST6,3X16MM    | 100 | <a href="#">51660.063.016</a> |
|              |     |                               | ST5,5X13MM    | 200 | <a href="#">51660.055.013</a> | ST6,3X19MM    | 100 | <a href="#">51660.063.019</a> |
| ST4,8X9,5MM  | 200 | <a href="#">51660.048.009</a> | ST5,5X16MM    | 200 | <a href="#">51660.055.016</a> | ST6,3X22MM    | 100 | <a href="#">51660.063.022</a> |
| ST4,8X13MM   | 200 | <a href="#">51660.048.013</a> | ST5,5X19MM    | 200 | <a href="#">51660.055.019</a> | ST6,3X25MM    | 100 | <a href="#">51660.063.025</a> |
| ST4,8X16MM   | 200 | <a href="#">51660.048.016</a> | ST5,5X22MM    | 200 | <a href="#">51660.055.022</a> | ST6,3X32MM    | 100 | <a href="#">51660.063.032</a> |
| ST4,8X19MM   | 200 | <a href="#">51660.048.019</a> | ST5,5X25MM    | 200 | <a href="#">51660.055.025</a> | ST6,3X38MM    | 100 | <a href="#">51660.063.038</a> |
| ST4,8X22MM   | 200 | <a href="#">51660.048.022</a> | ST5,5X32MM    | 100 | <a href="#">51660.055.032</a> | ST6,3X45MM    | 100 | <a href="#">51660.063.045</a> |
| ST4,8X25MM   | 200 | <a href="#">51660.048.025</a> | ST5,5X38MM    | 100 | <a href="#">51660.055.038</a> | ST6,3X50MM    | 100 | <a href="#">51660.063.050</a> |
| ST4,8X32MM   | 200 | <a href="#">51660.048.032</a> | ST5,5X42MM *  | 500 | <a href="#">51660.055.042</a> | ST6,3X60MM *  | 200 | <a href="#">51660.063.060</a> |
| ST4,8X35MM * | 500 | <a href="#">51660.048.035</a> | ST5,5X45MM    | 100 | <a href="#">51660.055.045</a> | ST6,3X70MM *  | 200 | <a href="#">51660.063.070</a> |
| ST4,8X38MM   | 200 | <a href="#">51660.048.038</a> | ST5,5X50MM    | 100 | <a href="#">51660.055.050</a> | ST6,3X80MM *  | 200 | <a href="#">51660.063.080</a> |
| ST4,8X45MM   | 200 | <a href="#">51660.048.045</a> | ST5,5X55MM *  | 200 | <a href="#">51660.055.055</a> | ST6,3X90MM *  | 200 | <a href="#">51660.063.090</a> |
| ST4,8X50MM   | 200 | <a href="#">51660.048.050</a> | ST5,5X60MM *  | 200 | <a href="#">51660.055.060</a> | ST6,3X100MM * | 200 | <a href="#">51660.063.100</a> |
| ST4,8X55MM * | 200 | <a href="#">51660.048.055</a> | ST5,5X70MM *  | 200 | <a href="#">51660.055.070</a> | ST6,3X120MM * | 200 | <a href="#">51660.063.120</a> |
| ST4,8X60MM   | 200 | <a href="#">51660.048.060</a> | ST5,5X80MM *  | 200 | <a href="#">51660.055.080</a> |               |     |                               |
| ST4,8X70MM   | 200 | <a href="#">51660.048.070</a> | ST5,5X90MM *  | 200 | <a href="#">51660.055.090</a> |               |     |                               |
| ST4,8X80MM   | 200 | <a href="#">51660.048.080</a> | ST5,5X100MM * | 200 | <a href="#">51660.055.100</a> |               |     |                               |

**51670 Cross recessed pan head tapping screw Phillips**
**R01A**

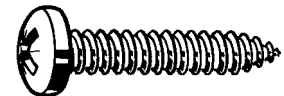
Thread Self tapping thread  
 Material Stainless steel A2  
 Packaging Large  
 ISO 7049 C-H  
 DIN 7981 C-H



| d x L       | ☒    | Art.number                    | d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|-------------|------|-------------------------------|-------------|------|-------------------------------|------------|------|-------------------------------|
| ST3,5X9,5MM | 1000 | <a href="#">51670.035.009</a> | ST4,2X38MM  | 500  | <a href="#">51670.042.038</a> | ST4,8X19MM | 1000 | <a href="#">51670.048.019</a> |
| ST4,2X13MM  | 1000 | <a href="#">51670.042.013</a> | ST4,2X50MM  | 1000 | <a href="#">51670.042.050</a> | ST4,8X25MM | 1000 | <a href="#">51670.048.025</a> |
| ST4,2X16MM  | 1000 | <a href="#">51670.042.016</a> |             |      |                               | ST4,8X38MM | 500  | <a href="#">51670.048.038</a> |
| ST4,2X19MM  | 1000 | <a href="#">51670.042.019</a> | ST4,8X9,5MM | 1000 | <a href="#">51670.048.009</a> | ST4,8X50MM | 500  | <a href="#">51670.048.050</a> |
| ST4,2X25MM  | 1000 | <a href="#">51670.042.025</a> | ST4,8X13MM  | 1000 | <a href="#">51670.048.013</a> |            |      |                               |
| ST4,2X32MM  | 1000 | <a href="#">51670.042.032</a> | ST4,8X16MM  | 1000 | <a href="#">51670.048.016</a> |            |      |                               |

**6**
**51661 Cross recessed pan head tapping screw Pozidriv**
**R01A**


Thread Self tapping thread  
 Material Stainless steel A2  
 Packaging Standard  
 ISO 7049 C-Z  
 DIN 7981 C-Z  
 NF E25-658 C



| d x L         | ☒    | Art.number                    | d x L        | ☒   | Art.number                    | d x L         | ☒    | Art.number                    |
|---------------|------|-------------------------------|--------------|-----|-------------------------------|---------------|------|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">51661.022.006</a> | ST3,9X25MM   | 200 | <a href="#">51661.039.025</a> | ST4,8X50MM    | 200  | <a href="#">51661.048.050</a> |
| ST2,2X9,5MM * | 1000 | <a href="#">51661.022.009</a> | ST3,9X32MM   | 200 | <a href="#">51661.039.032</a> | ST4,8X80MM *  | 200  | <a href="#">51661.048.080</a> |
|               |      |                               | ST3,9X38MM   | 200 | <a href="#">51661.039.038</a> | ST4,8X90MM *  | 200  | <a href="#">51661.048.090</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51661.029.006</a> | ST3,9X45MM * | 500 | <a href="#">51661.039.045</a> | ST4,8X100MM * | 200  | <a href="#">51661.048.100</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51661.029.009</a> | ST3,9X50MM * | 500 | <a href="#">51661.039.050</a> |               |      |                               |
| ST2,9X13MM    | 200  | <a href="#">51661.029.013</a> |              |     |                               | ST5,5X13MM    | 200  | <a href="#">51661.055.013</a> |
| ST2,9X16MM    | 200  | <a href="#">51661.029.016</a> | ST4,2X9,5MM  | 200 | <a href="#">51661.042.009</a> | ST5,5X16MM    | 200  | <a href="#">51661.055.016</a> |
| ST2,9X19MM    | 200  | <a href="#">51661.029.019</a> | ST4,2X13MM   | 200 | <a href="#">51661.042.013</a> | ST5,5X19MM    | 200  | <a href="#">51661.055.019</a> |
| ST2,9X25MM    | 200  | <a href="#">51661.029.025</a> | ST4,2X16MM   | 200 | <a href="#">51661.042.016</a> | ST5,5X22MM *  | 1000 | <a href="#">51661.055.022</a> |
| ST2,9X32MM *  | 1000 | <a href="#">51661.029.032</a> | ST4,2X19MM   | 200 | <a href="#">51661.042.019</a> | ST5,5X25MM    | 200  | <a href="#">51661.055.025</a> |
|               |      |                               | ST4,2X25MM   | 200 | <a href="#">51661.042.025</a> | ST5,5X32MM    | 100  | <a href="#">51661.055.032</a> |
| ST3,5X6,5MM   | 200  | <a href="#">51661.035.006</a> | ST4,2X32MM   | 200 | <a href="#">51661.042.032</a> | ST5,5X38MM    | 100  | <a href="#">51661.055.038</a> |
| ST3,5X9,5MM   | 200  | <a href="#">51661.035.009</a> | ST4,2X38MM   | 200 | <a href="#">51661.042.038</a> | ST5,5X45MM    | 100  | <a href="#">51661.055.045</a> |
| ST3,5X13MM    | 200  | <a href="#">51661.035.013</a> | ST4,2X45MM   | 200 | <a href="#">51661.042.045</a> | ST5,5X50MM    | 100  | <a href="#">51661.055.050</a> |
| ST3,5X16MM    | 200  | <a href="#">51661.035.016</a> | ST4,2X50MM   | 200 | <a href="#">51661.042.050</a> | ST5,5X70MM *  | 200  | <a href="#">51661.055.070</a> |
| ST3,5X19MM    | 200  | <a href="#">51661.035.019</a> | ST4,2X70MM * | 200 | <a href="#">51661.042.070</a> |               |      |                               |
| ST3,5X25MM    | 200  | <a href="#">51661.035.025</a> |              |     |                               | ST6,3X16MM    | 100  | <a href="#">51661.063.016</a> |
| ST3,5X32MM    | 200  | <a href="#">51661.035.032</a> | ST4,8X9,5MM  | 200 | <a href="#">51661.048.009</a> | ST6,3X19MM    | 100  | <a href="#">51661.063.019</a> |
| ST3,5X38MM    | 200  | <a href="#">51661.035.038</a> | ST4,8X13MM   | 200 | <a href="#">51661.048.013</a> | ST6,3X25MM    | 100  | <a href="#">51661.063.025</a> |
|               |      |                               | ST4,8X16MM   | 200 | <a href="#">51661.048.016</a> | ST6,3X32MM    | 100  | <a href="#">51661.063.032</a> |
| ST3,9X6,5MM * | 1000 | <a href="#">51661.039.006</a> | ST4,8X19MM   | 200 | <a href="#">51661.048.019</a> | ST6,3X38MM    | 100  | <a href="#">51661.063.038</a> |
| ST3,9X9,5MM   | 200  | <a href="#">51661.039.009</a> | ST4,8X25MM   | 200 | <a href="#">51661.048.025</a> | ST6,3X50MM    | 100  | <a href="#">51661.063.050</a> |
| ST3,9X13MM    | 200  | <a href="#">51661.039.013</a> | ST4,8X32MM   | 200 | <a href="#">51661.048.032</a> |               |      |                               |
| ST3,9X16MM    | 200  | <a href="#">51661.039.016</a> | ST4,8X38MM   | 200 | <a href="#">51661.048.038</a> |               |      |                               |
| ST3,9X19MM    | 200  | <a href="#">51661.039.019</a> | ST4,8X45MM   | 200 | <a href="#">51661.048.045</a> |               |      |                               |

**55660 Cross recessed pan head tapping screw Phillips R41A**

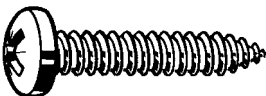
|                  |                     |
|------------------|---------------------|
| <b>Thread</b>    | Self tapping thread |
| <b>Material</b>  | Stainless steel A4  |
| <b>Packaging</b> | Standard            |
|                  | ISO 7049 C-H        |
|                  | <b>DIN 7981 C-H</b> |



| d x L         | ✉    | Art.number                    | d x L         | ✉    | Art.number                    | d x L         | ✉   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">55660.022.006</a> | ST3,9X38MM *  | 500  | <a href="#">55660.039.038</a> | ST5,5X13MM    | 200 | <a href="#">55660.055.013</a> |
| ST2,2X13MM *  | 1000 | <a href="#">55660.022.013</a> | ST3,9X45MM *  | 500  | <a href="#">55660.039.045</a> | ST5,5X16MM    | 200 | <a href="#">55660.055.016</a> |
| ST2,9X6,5MM   | 200  | <a href="#">55660.029.006</a> | ST4,2X9,5MM   | 200  | <a href="#">55660.042.009</a> | ST5,5X19MM    | 200 | <a href="#">55660.055.019</a> |
| ST2,9X9,5MM   | 200  | <a href="#">55660.029.009</a> | ST4,2X13MM    | 200  | <a href="#">55660.042.013</a> | ST5,5X22MM    | 200 | <a href="#">55660.055.022</a> |
| ST2,9X13MM    | 200  | <a href="#">55660.029.013</a> | ST4,2X16MM    | 200  | <a href="#">55660.042.016</a> | ST5,5X25MM    | 200 | <a href="#">55660.055.025</a> |
| ST2,9X16MM    | 200  | <a href="#">55660.029.016</a> | ST4,2X19MM    | 200  | <a href="#">55660.042.019</a> | ST5,5X32MM    | 100 | <a href="#">55660.055.032</a> |
| ST2,9X19MM    | 200  | <a href="#">55660.029.019</a> | ST4,2X22MM    | 200  | <a href="#">55660.042.022</a> | ST5,5X38MM    | 100 | <a href="#">55660.055.038</a> |
| ST2,9X22MM *  | 1000 | <a href="#">55660.029.022</a> | ST4,2X25MM    | 200  | <a href="#">55660.042.025</a> | ST5,5X45MM    | 100 | <a href="#">55660.055.045</a> |
| ST2,9X25MM *  | 1000 | <a href="#">55660.029.025</a> | ST4,2X32MM    | 200  | <a href="#">55660.042.032</a> | ST5,5X50MM    | 100 | <a href="#">55660.055.050</a> |
| ST2,9X32MM *  | 1000 | <a href="#">55660.029.032</a> | ST4,2X38MM    | 200  | <a href="#">55660.042.038</a> | ST5,5X60MM *  | 200 | <a href="#">55660.055.060</a> |
| ST3,5X6,5MM * | 1000 | <a href="#">55660.035.006</a> | ST4,2X45MM *  | 500  | <a href="#">55660.042.045</a> | ST5,5X70MM *  | 200 | <a href="#">55660.055.070</a> |
| ST3,5X9,5MM   | 200  | <a href="#">55660.035.009</a> | ST4,2X50MM *  | 200  | <a href="#">55660.042.050</a> | ST5,5X80MM *  | 200 | <a href="#">55660.055.080</a> |
| ST3,5X13MM    | 200  | <a href="#">55660.035.013</a> | ST4,2X60MM *  | 200  | <a href="#">55660.042.060</a> | ST5,5X100MM * | 200 | <a href="#">55660.055.100</a> |
| ST3,5X16MM    | 200  | <a href="#">55660.035.016</a> | ST4,2X70MM *  | 200  | <a href="#">55660.042.070</a> | ST6,3X13MM    | 100 | <a href="#">55660.063.013</a> |
| ST3,5X19MM    | 200  | <a href="#">55660.035.019</a> | ST4,8X9,5MM * | 1000 | <a href="#">55660.048.009</a> | ST6,3X16MM    | 100 | <a href="#">55660.063.016</a> |
| ST3,5X22MM    | 200  | <a href="#">55660.035.022</a> | ST4,8X13MM    | 200  | <a href="#">55660.048.013</a> | ST6,3X19MM    | 100 | <a href="#">55660.063.019</a> |
| ST3,5X25MM    | 200  | <a href="#">55660.035.025</a> | ST4,8X16MM    | 200  | <a href="#">55660.048.016</a> | ST6,3X22MM    | 100 | <a href="#">55660.063.022</a> |
| ST3,5X32MM    | 200  | <a href="#">55660.035.032</a> | ST4,8X19MM    | 200  | <a href="#">55660.048.019</a> | ST6,3X25MM    | 100 | <a href="#">55660.063.025</a> |
| ST3,5X38MM *  | 1000 | <a href="#">55660.035.038</a> | ST4,8X22MM    | 200  | <a href="#">55660.048.022</a> | ST6,3X32MM    | 100 | <a href="#">55660.063.032</a> |
| ST3,9X9,5MM   | 200  | <a href="#">55660.039.009</a> | ST4,8X25MM    | 200  | <a href="#">55660.048.025</a> | ST6,3X38MM    | 100 | <a href="#">55660.063.038</a> |
| ST3,9X13MM    | 200  | <a href="#">55660.039.013</a> | ST4,8X32MM    | 200  | <a href="#">55660.048.032</a> | ST6,3X45MM    | 100 | <a href="#">55660.063.045</a> |
| ST3,9X16MM    | 200  | <a href="#">55660.039.016</a> | ST4,8X38MM    | 200  | <a href="#">55660.048.038</a> | ST6,3X50MM    | 100 | <a href="#">55660.063.050</a> |
| ST3,9X19MM    | 200  | <a href="#">55660.039.019</a> | ST4,8X45MM *  | 200  | <a href="#">55660.048.045</a> | ST6,3X60MM *  | 200 | <a href="#">55660.063.060</a> |
| ST3,9X22MM    | 200  | <a href="#">55660.039.022</a> | ST4,8X50MM    | 200  | <a href="#">55660.048.050</a> | ST6,3X70MM *  | 200 | <a href="#">55660.063.070</a> |
| ST3,9X25MM    | 200  | <a href="#">55660.039.025</a> | ST4,8X60MM *  | 200  | <a href="#">55660.048.060</a> | ST6,3X80MM *  | 200 | <a href="#">55660.063.080</a> |
| ST3,9X32MM *  | 1000 | <a href="#">55660.039.032</a> | ST4,8X70MM *  | 200  | <a href="#">55660.048.070</a> |               |     |                               |

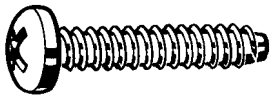
**26760 Cross recessed pan head tapping screw Pozidriv J01A**

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |
|                          | ISO 7049 C-Z        |
|                          | <b>DIN 7981 C-Z</b> |
|                          | NF E25-658 C        |



| d x L       | ✉   | Art.number                    | d x L       | ✉   | Art.number                    | d x L      | ✉   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,2X6,5MM | 200 | <a href="#">26760.022.006</a> | ST3,9X25MM  | 200 | <a href="#">26760.039.025</a> | ST5,5X13MM | 200 | <a href="#">26760.055.013</a> |
| ST2,9X6,5MM | 200 | <a href="#">26760.029.006</a> | ST4,2X9,5MM | 200 | <a href="#">26760.042.009</a> | ST5,5X16MM | 200 | <a href="#">26760.055.016</a> |
| ST2,9X9,5MM | 200 | <a href="#">26760.029.009</a> | ST4,2X13MM  | 200 | <a href="#">26760.042.013</a> | ST5,5X19MM | 200 | <a href="#">26760.055.019</a> |
| ST2,9X13MM  | 200 | <a href="#">26760.029.013</a> | ST4,2X16MM  | 200 | <a href="#">26760.042.016</a> | ST5,5X25MM | 100 | <a href="#">26760.055.025</a> |
| ST2,9X16MM  | 200 | <a href="#">26760.029.016</a> | ST4,2X19MM  | 200 | <a href="#">26760.042.019</a> | ST5,5X32MM | 100 | <a href="#">26760.055.032</a> |
| ST2,9X19MM  | 200 | <a href="#">26760.029.019</a> | ST4,2X25MM  | 200 | <a href="#">26760.042.025</a> | ST5,5X38MM | 100 | <a href="#">26760.055.038</a> |
| ST2,9X25MM  | 200 | <a href="#">26760.029.025</a> | ST4,2X32MM  | 200 | <a href="#">26760.042.032</a> | ST5,5X45MM | 100 | <a href="#">26760.055.045</a> |
| ST3,5X6,5MM | 200 | <a href="#">26760.035.006</a> | ST4,2X38MM  | 200 | <a href="#">26760.042.038</a> | ST5,5X50MM | 100 | <a href="#">26760.055.050</a> |
| ST3,5X9,5MM | 200 | <a href="#">26760.035.009</a> | ST4,2X45MM  | 200 | <a href="#">26760.042.045</a> | ST6,3X13MM | 100 | <a href="#">26760.063.013</a> |
| ST3,5X13MM  | 200 | <a href="#">26760.035.013</a> | ST4,2X50MM  | 200 | <a href="#">26760.042.050</a> | ST6,3X16MM | 100 | <a href="#">26760.063.016</a> |
| ST3,5X16MM  | 200 | <a href="#">26760.035.016</a> | ST4,8X9,5MM | 200 | <a href="#">26760.048.009</a> | ST6,3X19MM | 100 | <a href="#">26760.063.019</a> |
| ST3,5X19MM  | 200 | <a href="#">26760.035.019</a> | ST4,8X13MM  | 200 | <a href="#">26760.048.013</a> | ST6,3X25MM | 100 | <a href="#">26760.063.025</a> |
| ST3,5X25MM  | 200 | <a href="#">26760.035.025</a> | ST4,8X16MM  | 200 | <a href="#">26760.048.016</a> | ST6,3X32MM | 100 | <a href="#">26760.063.032</a> |
| ST3,5X32MM  | 200 | <a href="#">26760.035.032</a> | ST4,8X19MM  | 200 | <a href="#">26760.048.019</a> | ST6,3X38MM | 100 | <a href="#">26760.063.038</a> |
| ST3,5X38MM  | 200 | <a href="#">26760.035.038</a> | ST4,8X25MM  | 200 | <a href="#">26760.048.025</a> | ST6,3X45MM | 100 | <a href="#">26760.063.045</a> |
| ST3,9X9,5MM | 200 | <a href="#">26760.039.009</a> | ST4,8X32MM  | 100 | <a href="#">26760.048.032</a> | ST6,3X50MM | 100 | <a href="#">26760.063.050</a> |
| ST3,9X13MM  | 200 | <a href="#">26760.039.013</a> | ST4,8X38MM  | 100 | <a href="#">26760.048.038</a> |            |     |                               |
| ST3,9X16MM  | 200 | <a href="#">26760.039.016</a> | ST4,8X45MM  | 100 | <a href="#">26760.048.045</a> |            |     |                               |
| ST3,9X19MM  | 200 | <a href="#">26760.039.019</a> | ST4,8X50MM  | 100 | <a href="#">26760.048.050</a> |            |     |                               |

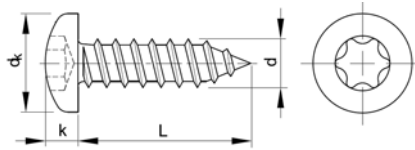
• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26300 Cross recessed pan head tapping screw Phillips without point |   | J03B  |
|--|---|---|
| <b>Thread</b>  | Self tapping thread                                 |  |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Nickel plated                                       |   |
| <b>Packaging</b>   | Standard  |   |
|  | ISO 7049 F-H<br><b>DIN 7981 F-H</b><br>ANSI B18.6.4 |   |

| d x L       | ☒    | Art.number                    | d x L       | ☒    | Art.number                    | d x L       | ☒    | Art.number                    |
|-------------|------|-------------------------------|-------------|------|-------------------------------|-------------|------|-------------------------------|
| ST2,2X4,5MM | 2000 | <a href="#">26300.022.004</a> | ST2,9X19MM  | 2000 | <a href="#">26300.029.019</a> | ST4,2X9,5MM | 1000 | <a href="#">26300.042.009</a> |
| ST2,2X6,5MM | 2000 | <a href="#">26300.022.006</a> |             |      |                               | ST4,2X13MM  | 1000 | <a href="#">26300.042.013</a> |
| ST2,9X4,5MM | 2000 | <a href="#">26300.029.004</a> | ST3,5X6,5MM | 2000 | <a href="#">26300.035.006</a> | ST4,2X16MM  | 1000 | <a href="#">26300.042.016</a> |
| ST2,9X6,5MM | 2000 | <a href="#">26300.029.006</a> | ST3,5X8MM   | 2000 | <a href="#">26300.035.008</a> | ST4,2X19MM  | 500  | <a href="#">26300.042.019</a> |
| ST2,9X8MM   | 2000 | <a href="#">26300.029.008</a> | ST3,5X9,5MM | 2000 | <a href="#">26300.035.009</a> | ST4,2X32MM  | 500  | <a href="#">26300.042.032</a> |
| ST2,9X9,5MM | 2000 | <a href="#">26300.029.009</a> | ST3,5X13MM  | 2000 | <a href="#">26300.035.013</a> |             |      |                               |
| ST2,9X13MM  | 2000 | <a href="#">26300.029.013</a> | ST3,5X16MM  | 1000 | <a href="#">26300.035.016</a> | ST4,8X13MM  | 1000 | <a href="#">26300.048.013</a> |
| ST2,9X16MM  | 2000 | <a href="#">26300.029.016</a> | ST3,5X19MM  | 1000 | <a href="#">26300.035.019</a> | ST4,8X19MM  | 500  | <a href="#">26300.048.019</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexalobular socket pan head tapping screw



ISO ≈7049 C  
 DIN ≈7981 C  
 ANSI ≈B18.6.4  
 NF ≈E25-654 C



### Technical data

| d     | P   | dk   | k    | Socket     |
|-------|-----|------|------|------------|
| ST2,9 | 1,1 | 5,6  | 2,2  | No.8/No.10 |
| ST3,5 | 1,3 | 6,9  | 2,6  | No.10      |
| ST3,9 | 1,4 | 7,5  | 2,8  | No.15      |
| ST4,2 | 1,4 | 8,2  | 3,05 | No.20      |
| ST4,8 | 1,6 | 9,5  | 3,55 | No.25      |
| ST5,5 | 1,8 | 10,8 | 3,95 | No.25      |
| ST6,3 | 1,8 | 12,5 | 4,55 | No.30      |

### 26501 Hexalobular socket pan head tapping screw

J03A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

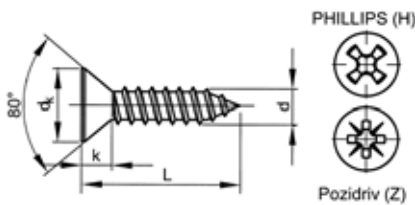


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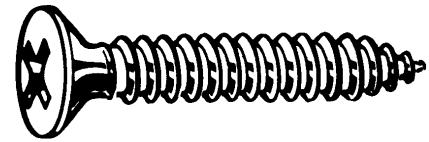
| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X9,5MM | 200 | <a href="#">26501.029.009</a> | ST4,2X13MM | 200 | <a href="#">26501.042.013</a> | ST5,5X19MM | 200 | <a href="#">26501.055.019</a> |
| ST2,9X13MM  | 200 | <a href="#">26501.029.013</a> | ST4,2X16MM | 200 | <a href="#">26501.042.016</a> | ST5,5X25MM | 100 | <a href="#">26501.055.025</a> |
| ST3,5X9,5MM | 200 | <a href="#">26501.035.009</a> | ST4,2X19MM | 200 | <a href="#">26501.042.019</a> | ST6,3X19MM | 100 | <a href="#">26501.063.019</a> |
| ST3,5X13MM  | 200 | <a href="#">26501.035.013</a> | ST4,2X25MM | 200 | <a href="#">26501.042.025</a> | ST6,3X25MM | 100 | <a href="#">26501.063.025</a> |
| ST3,5X16MM  | 200 | <a href="#">26501.035.016</a> | ST4,8X13MM | 200 | <a href="#">26501.048.013</a> | ST6,3X32MM | 100 | <a href="#">26501.063.032</a> |
| ST3,5X19MM  | 200 | <a href="#">26501.035.019</a> | ST4,8X16MM | 200 | <a href="#">26501.048.016</a> | ST6,3X45MM | 100 | <a href="#">26501.063.045</a> |
| ST3,9X9,5MM | 200 | <a href="#">26501.039.009</a> | ST4,8X19MM | 200 | <a href="#">26501.048.019</a> |            |     |                               |
| ST3,9X13MM  | 200 | <a href="#">26501.039.013</a> |            |     |                               |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Cross recessed countersunk head tapping screw



ISO 7050 C  
 DIN 7982 C



### Technical data

| d     | P   | dk   | k ≈ | No. cross recess |
|-------|-----|------|-----|------------------|
| ST2,2 | 0,8 | 4,3  | 1,3 | 1                |
| ST2,9 | 1,1 | 5,5  | 1,7 | 1                |
| ST3,5 | 1,3 | 6,8  | 2,1 | 2                |
| ST3,9 | 1,4 | 7,5  | 2,3 | 2                |
| ST4,2 | 1,4 | 8,1  | 2,5 | 2                |
| ST4,8 | 1,6 | 9,5  | 3   | 2                |
| ST5,5 | 1,8 | 10,8 | 3,4 | 3                |
| ST6,3 | 1,8 | 12,4 | 3,8 | 3                |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------------------|-----------|-------|------|
| ST     | Phillips         | St        | Zipl              | Standard  | 26680 | 6-77 |
| ST     | Phillips         | St        | Zipl              | Large     | 26690 | 6-78 |
| ST     | Phillips         | St        | Ni.pl.            | Standard  | 26220 | 6-78 |
| ST     | Phillips         | St.St. A2 |                   | Standard  | 51680 | 6-78 |
| ST     | Phillips         | St.St. A4 |                   | Standard  | 55680 | 6-79 |
| ST     | Pozidriv         | St        | Zipl              | Standard  | 26770 | 6-79 |
| ST     | Pozidriv         | St        | Zipl blk p.       | Standard  | 26432 | 6-80 |
| ST     | Pozidriv         | St.St. A2 |                   | Standard  | 51681 | 6-80 |

6

### 26680 Cross recessed countersunk head tapping screw Phillips

J01B

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7050 C-H  
 DIN 7982 C-H



| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X6,5MM | 200 | <a href="#">26680.029.006</a> | ST3,9X25MM  | 200 | <a href="#">26680.039.025</a> | ST5,5X13MM | 200 | <a href="#">26680.055.013</a> |
| ST2,9X9,5MM | 200 | <a href="#">26680.029.009</a> | ST3,9X32MM  | 200 | <a href="#">26680.039.032</a> | ST5,5X16MM | 200 | <a href="#">26680.055.016</a> |
| ST2,9X13MM  | 200 | <a href="#">26680.029.013</a> |             |     |                               | ST5,5X19MM | 200 | <a href="#">26680.055.019</a> |
| ST2,9X16MM  | 200 | <a href="#">26680.029.016</a> | ST4,2X9,5MM | 200 | <a href="#">26680.042.009</a> | ST5,5X22MM | 100 | <a href="#">26680.055.022</a> |
| ST2,9X19MM  | 200 | <a href="#">26680.029.019</a> | ST4,2X13MM  | 200 | <a href="#">26680.042.013</a> | ST5,5X25MM | 100 | <a href="#">26680.055.025</a> |
| ST2,9X22MM  | 200 | <a href="#">26680.029.022</a> | ST4,2X16MM  | 200 | <a href="#">26680.042.016</a> | ST5,5X32MM | 100 | <a href="#">26680.055.032</a> |
| ST2,9X25MM  | 200 | <a href="#">26680.029.025</a> | ST4,2X19MM  | 200 | <a href="#">26680.042.019</a> | ST5,5X38MM | 100 | <a href="#">26680.055.038</a> |
|             |     |                               | ST4,2X22MM  | 200 | <a href="#">26680.042.022</a> | ST5,5X45MM | 100 | <a href="#">26680.055.045</a> |
| ST3,5X9,5MM | 200 | <a href="#">26680.035.009</a> | ST4,2X25MM  | 200 | <a href="#">26680.042.025</a> | ST5,5X50MM | 100 | <a href="#">26680.055.050</a> |
| ST3,5X13MM  | 200 | <a href="#">26680.035.013</a> | ST4,2X32MM  | 200 | <a href="#">26680.042.032</a> |            |     |                               |
| ST3,5X16MM  | 200 | <a href="#">26680.035.016</a> | ST4,2X38MM  | 200 | <a href="#">26680.042.038</a> | ST6,3X16MM | 100 | <a href="#">26680.063.016</a> |
| ST3,5X19MM  | 200 | <a href="#">26680.035.019</a> | ST4,2X50MM  | 200 | <a href="#">26680.042.050</a> | ST6,3X19MM | 100 | <a href="#">26680.063.019</a> |
| ST3,5X22MM  | 200 | <a href="#">26680.035.022</a> |             |     |                               | ST6,3X22MM | 100 | <a href="#">26680.063.022</a> |
| ST3,5X25MM  | 200 | <a href="#">26680.035.025</a> | ST4,8X13MM  | 200 | <a href="#">26680.048.013</a> | ST6,3X25MM | 100 | <a href="#">26680.063.025</a> |
| ST3,5X32MM  | 200 | <a href="#">26680.035.032</a> | ST4,8X16MM  | 200 | <a href="#">26680.048.016</a> | ST6,3X32MM | 100 | <a href="#">26680.063.032</a> |
| ST3,5X38MM  | 200 | <a href="#">26680.035.038</a> | ST4,8X19MM  | 200 | <a href="#">26680.048.019</a> | ST6,3X38MM | 100 | <a href="#">26680.063.038</a> |
|             |     |                               | ST4,8X22MM  | 200 | <a href="#">26680.048.022</a> | ST6,3X45MM | 100 | <a href="#">26680.063.045</a> |
| ST3,9X9,5MM | 200 | <a href="#">26680.039.009</a> | ST4,8X25MM  | 200 | <a href="#">26680.048.025</a> | ST6,3X50MM | 100 | <a href="#">26680.063.050</a> |
| ST3,9X13MM  | 200 | <a href="#">26680.039.013</a> | ST4,8X32MM  | 100 | <a href="#">26680.048.032</a> |            |     |                               |
| ST3,9X16MM  | 200 | <a href="#">26680.039.016</a> | ST4,8X38MM  | 100 | <a href="#">26680.048.038</a> |            |     |                               |
| ST3,9X19MM  | 200 | <a href="#">26680.039.019</a> | ST4,8X45MM  | 100 | <a href="#">26680.048.045</a> |            |     |                               |
| ST3,9X22MM  | 200 | <a href="#">26680.039.022</a> | ST4,8X50MM  | 100 | <a href="#">26680.048.050</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26690 Cross recessed countersunk head tapping screw Phillips |                              | J01B  |
|--|------------------------------|---|
| <b>Thread</b>  | Self tapping thread          |  |
| <b>Material</b>  | Steel                        |   |
| <b>Surface treatment</b>                                     | Zinc plated                  |   |
| <b>Packaging</b>   | Large                        |   |
|  | ISO 7050 C-H<br>DIN 7982 C-H |   |

| d x L       | ☒    | Art.number                    | d x L      | ☒          | Art.number                    | d x L                         | ☒          | Art.number                    |
|-------------|------|-------------------------------|------------|------------|-------------------------------|-------------------------------|------------|-------------------------------|
| ST2,9X9,5MM | 2000 | <a href="#">26690.029.009</a> | ST3,9X32MM | 500        | <a href="#">26690.039.032</a> | ST4,8X19MM                    | 1000       | <a href="#">26690.048.019</a> |
| ST2,9X13MM  | 2000 | <a href="#">26690.029.013</a> |            | ST4,2X13MM | 1000                          | <a href="#">26690.042.013</a> | ST4,8X25MM | 1000                          |
| ST3,5X9,5MM | 2000 | <a href="#">26690.035.009</a> | ST4,2X16MM | 1000       | <a href="#">26690.042.016</a> | ST4,8X32MM                    | 500        | <a href="#">26690.048.032</a> |
| ST3,5X13MM  | 2000 | <a href="#">26690.035.013</a> | ST4,2X19MM | 1000       | <a href="#">26690.042.019</a> | ST4,8X38MM                    | 500        | <a href="#">26690.048.038</a> |
| ST3,5X16MM  | 2000 | <a href="#">26690.035.016</a> | ST4,2X25MM | 1000       | <a href="#">26690.042.025</a> |                               |            |                               |
| ST3,5X19MM  | 2000 | <a href="#">26690.035.019</a> |            |            |                               |                               |            |                               |
| ST3,5X25MM  | 2000 | <a href="#">26690.035.025</a> | ST4,8X16MM | 1000       | <a href="#">26690.048.016</a> |                               |            |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26220 Cross recessed countersunk head tapping screw Phillips |                              | J03B  |
|--|------------------------------|---|
| <b>Thread</b>  | Self tapping thread          |  |
| <b>Material</b>  | Steel                        |   |
| <b>Surface treatment</b>                                     | Nickel plated                |   |
| <b>Packaging</b>   | Standard                     |   |
|  | ISO 7050 C-H<br>DIN 7982 C-H |   |

| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST3,5X13MM  | 200 | <a href="#">26220.035.013</a> | ST4,2X25MM | 200 | <a href="#">26220.042.025</a> | ST5,5X25MM | 100 | <a href="#">26220.055.025</a> |
| ST3,5X16MM  | 200 | <a href="#">26220.035.016</a> | ST4,2X32MM | 200 | <a href="#">26220.042.032</a> | ST5,5X32MM | 100 | <a href="#">26220.055.032</a> |
| ST3,5X19MM  | 200 | <a href="#">26220.035.019</a> | ST4,2X38MM | 200 | <a href="#">26220.042.038</a> |            |     |                               |
| ST3,5X25MM  | 200 | <a href="#">26220.035.025</a> |            |     |                               | ST6,3X25MM | 100 | <a href="#">26220.063.025</a> |
| ST4,2X9,5MM | 200 | <a href="#">26220.042.009</a> | ST4,8X16MM | 200 | <a href="#">26220.048.016</a> | ST6,3X45MM | 100 | <a href="#">26220.063.045</a> |
| ST4,2X13MM  | 200 | <a href="#">26220.042.013</a> | ST4,8X19MM | 200 | <a href="#">26220.048.019</a> | ST6,3X50MM | 100 | <a href="#">26220.063.050</a> |
| ST4,2X16MM  | 200 | <a href="#">26220.042.016</a> | ST4,8X25MM | 200 | <a href="#">26220.048.025</a> | ST6,3X55MM | 100 | <a href="#">26220.063.055</a> |
| ST4,2X19MM  | 200 | <a href="#">26220.042.019</a> | ST4,8X32MM | 100 | <a href="#">26220.048.032</a> | ST6,3X60MM | 100 | <a href="#">26220.063.060</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 51680 Cross recessed countersunk head tapping screw Phillips |                     | R01A  |
|--|---------------------|---|
| <b>Thread</b>  | Self tapping thread |  |
| <b>Material</b>  | Stainless steel A2  |   |
| <b>Packaging</b>   | Standard            |   |
|  | ISO 7050 C-H        |   |
|  | DIN 7982 C-H        |   |

| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L         | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">51680.022.006</a> | ST3,9X6,5MM * | 1000 | <a href="#">51680.039.006</a> | ST4,8X16MM    | 200 | <a href="#">51680.048.016</a> |
| ST2,2X13MM *  | 1000 | <a href="#">51680.022.013</a> | ST3,9X9,5MM   | 200  | <a href="#">51680.039.009</a> | ST4,8X19MM    | 200 | <a href="#">51680.048.019</a> |
| ST2,2X16MM *  | 1000 | <a href="#">51680.022.016</a> | ST3,9X13MM    | 200  | <a href="#">51680.039.013</a> | ST4,8X22MM    | 200 | <a href="#">51680.048.022</a> |
| ST2,2X19MM *  | 1000 | <a href="#">51680.022.019</a> | ST3,9X16MM    | 200  | <a href="#">51680.039.016</a> | ST4,8X25MM    | 200 | <a href="#">51680.048.025</a> |
| ST2,2X22MM *  | 1000 | <a href="#">51680.022.022</a> | ST3,9X19MM    | 200  | <a href="#">51680.039.019</a> | ST4,8X32MM    | 200 | <a href="#">51680.048.032</a> |
| ST2,2X25MM *  | 1000 | <a href="#">51680.022.025</a> | ST3,9X22MM    | 200  | <a href="#">51680.039.022</a> | ST4,8X38MM    | 200 | <a href="#">51680.048.038</a> |
|               |      |                               | ST3,9X25MM    | 200  | <a href="#">51680.039.025</a> | ST4,8X45MM    | 200 | <a href="#">51680.048.045</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51680.029.006</a> | ST3,9X32MM    | 200  | <a href="#">51680.039.032</a> | ST4,8X50MM    | 200 | <a href="#">51680.048.050</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51680.029.009</a> | ST3,9X38MM    | 200  | <a href="#">51680.039.038</a> | ST4,8X55MM *  | 200 | <a href="#">51680.048.055</a> |
| ST2,9X13MM    | 200  | <a href="#">51680.029.013</a> | ST3,9X45MM *  | 500  | <a href="#">51680.039.045</a> | ST4,8X60MM    | 200 | <a href="#">51680.048.060</a> |
| ST2,9X16MM    | 200  | <a href="#">51680.029.016</a> | ST3,9X50MM *  | 500  | <a href="#">51680.039.050</a> | ST4,8X70MM    | 200 | <a href="#">51680.048.070</a> |
| ST2,9X19MM    | 200  | <a href="#">51680.029.019</a> | ST3,9X60MM *  | 500  | <a href="#">51680.039.060</a> | ST4,8X80MM    | 200 | <a href="#">51680.048.080</a> |
| ST2,9X22MM    | 200  | <a href="#">51680.029.022</a> | ST3,9X70MM *  | 500  | <a href="#">51680.039.070</a> | ST4,8X90MM *  | 200 | <a href="#">51680.048.090</a> |
| ST2,9X25MM    | 200  | <a href="#">51680.029.025</a> |               |      |                               | ST4,8X100MM   | 100 | <a href="#">51680.048.100</a> |
| ST2,9X32MM *  | 1000 | <a href="#">51680.029.032</a> | ST4,2X9,5MM   | 200  | <a href="#">51680.042.009</a> | ST4,8X120MM * | 200 | <a href="#">51680.048.120</a> |
|               |      |                               | ST4,2X13MM    | 200  | <a href="#">51680.042.013</a> |               |     |                               |
| ST3,5X6,5MM * | 1000 | <a href="#">51680.035.006</a> | ST4,2X16MM    | 200  | <a href="#">51680.042.016</a> | ST5,5X13MM    | 200 | <a href="#">51680.055.013</a> |
| ST3,5X9,5MM   | 200  | <a href="#">51680.035.009</a> | ST4,2X19MM    | 200  | <a href="#">51680.042.019</a> | ST5,5X16MM    | 200 | <a href="#">51680.055.016</a> |
| ST3,5X13MM    | 200  | <a href="#">51680.035.013</a> | ST4,2X22MM    | 200  | <a href="#">51680.042.022</a> | ST5,5X19MM    | 200 | <a href="#">51680.055.019</a> |
| ST3,5X16MM    | 200  | <a href="#">51680.035.016</a> | ST4,2X25MM    | 200  | <a href="#">51680.042.025</a> | ST5,5X22MM    | 200 | <a href="#">51680.055.022</a> |
| ST3,5X19MM    | 200  | <a href="#">51680.035.019</a> | ST4,2X32MM    | 200  | <a href="#">51680.042.032</a> | ST5,5X25MM    | 200 | <a href="#">51680.055.025</a> |
| ST3,5X22MM    | 200  | <a href="#">51680.035.022</a> | ST4,2X38MM    | 200  | <a href="#">51680.042.038</a> | ST5,5X32MM    | 100 | <a href="#">51680.055.032</a> |
| ST3,5X25MM    | 200  | <a href="#">51680.035.025</a> | ST4,2X45MM    | 200  | <a href="#">51680.042.045</a> | ST5,5X38MM    | 100 | <a href="#">51680.055.038</a> |
| ST3,5X32MM    | 200  | <a href="#">51680.035.032</a> | ST4,2X50MM    | 200  | <a href="#">51680.042.050</a> | ST5,5X45MM    | 100 | <a href="#">51680.055.045</a> |
| ST3,5X38MM    | 200  | <a href="#">51680.035.038</a> | ST4,2X60MM    | 200  | <a href="#">51680.042.060</a> | ST5,5X50MM    | 100 | <a href="#">51680.055.050</a> |
| ST3,5X45MM *  | 500  | <a href="#">51680.035.045</a> | ST4,2X70MM *  | 200  | <a href="#">51680.042.070</a> | ST5,5X70MM *  | 200 | <a href="#">51680.055.070</a> |
| ST3,5X50MM *  | 500  | <a href="#">51680.035.050</a> | ST4,2X80MM *  | 200  | <a href="#">51680.042.080</a> | ST5,5X80MM *  | 200 | <a href="#">51680.055.080</a> |
| ST3,5X60MM *  | 500  | <a href="#">51680.035.060</a> |               |      |                               | ST5,5X90MM *  | 200 | <a href="#">51680.055.090</a> |
| ST3,5X70MM *  | 500  | <a href="#">51680.035.070</a> | ST4,8X9,5MM   | 200  | <a href="#">51680.048.009</a> | ST5,5X120MM * | 200 | <a href="#">51680.055.120</a> |
|               |      |                               | ST4,8X13MM    | 200  | <a href="#">51680.048.013</a> |               |     |                               |

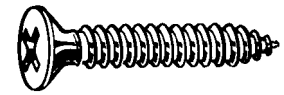
**51680 Cross recessed countersunk head tapping screw Phillips**

| d x L      | ☒   | Art.number                    | d x L        | ☒   | Art.number                    | d x L         | ☒   | Art.number                    |
|------------|-----|-------------------------------|--------------|-----|-------------------------------|---------------|-----|-------------------------------|
| ST6,3X16MM | 100 | <a href="#">51680.063.016</a> | ST6,3X38MM   | 100 | <a href="#">51680.063.038</a> | ST6,3X80MM *  | 200 | <a href="#">51680.063.080</a> |
| ST6,3X19MM | 100 | <a href="#">51680.063.019</a> | ST6,3X45MM   | 100 | <a href="#">51680.063.045</a> | ST6,3X90MM *  | 200 | <a href="#">51680.063.090</a> |
| ST6,3X22MM | 100 | <a href="#">51680.063.022</a> | ST6,3X50MM   | 100 | <a href="#">51680.063.050</a> | ST6,3X100MM * | 200 | <a href="#">51680.063.100</a> |
| ST6,3X25MM | 100 | <a href="#">51680.063.025</a> | ST6,3X60MM * | 200 | <a href="#">51680.063.060</a> |               |     |                               |
| ST6,3X32MM | 100 | <a href="#">51680.063.032</a> | ST6,3X70MM * | 200 | <a href="#">51680.063.070</a> |               |     |                               |

**55680 Cross recessed countersunk head tapping screw Phillips**

R41A

**Thread** Self tapping thread  
**Material** Stainless steel A4  
**Packaging** Standard  
ISO 7050 C-H  
DIN 7982 C-H



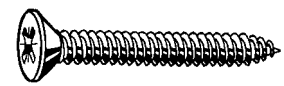
| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|------|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">55680.022.006</a> | ST3,9X45MM *  | 500  | <a href="#">55680.039.045</a> | ST4,8X100MM * | 200  | <a href="#">55680.048.100</a> |
| ST2,2X9,5MM * | 1000 | <a href="#">55680.022.009</a> | ST3,9X50MM *  | 500  | <a href="#">55680.039.050</a> | ST5,5X13MM *  | 1000 | <a href="#">55680.055.013</a> |
| ST2,9X6,5MM * | 1000 | <a href="#">55680.029.006</a> | ST4,2X9,5MM * | 1000 | <a href="#">55680.042.009</a> | ST5,5X16MM    | 200  | <a href="#">55680.055.016</a> |
| ST2,9X9,5MM   | 200  | <a href="#">55680.029.009</a> | ST4,2X13MM    | 200  | <a href="#">55680.042.013</a> | ST5,5X19MM    | 200  | <a href="#">55680.055.019</a> |
| ST2,9X13MM    | 200  | <a href="#">55680.029.013</a> | ST4,2X16MM    | 200  | <a href="#">55680.042.016</a> | ST5,5X22MM    | 200  | <a href="#">55680.055.022</a> |
| ST2,9X16MM    | 200  | <a href="#">55680.029.016</a> | ST4,2X19MM    | 200  | <a href="#">55680.042.019</a> | ST5,5X25MM    | 200  | <a href="#">55680.055.025</a> |
| ST2,9X19MM    | 200  | <a href="#">55680.029.019</a> | ST4,2X22MM    | 200  | <a href="#">55680.042.022</a> | ST5,5X32MM    | 100  | <a href="#">55680.055.032</a> |
| ST2,9X22MM *  | 1000 | <a href="#">55680.029.022</a> | ST4,2X25MM    | 200  | <a href="#">55680.042.025</a> | ST5,5X38MM    | 100  | <a href="#">55680.055.038</a> |
| ST2,9X32MM *  | 1000 | <a href="#">55680.029.032</a> | ST4,2X32MM    | 200  | <a href="#">55680.042.032</a> | ST5,5X45MM    | 100  | <a href="#">55680.055.045</a> |
| ST3,5X6,5MM * | 1000 | <a href="#">55680.035.006</a> | ST4,2X38MM    | 200  | <a href="#">55680.042.038</a> | ST5,5X50MM    | 100  | <a href="#">55680.055.050</a> |
| ST3,5X9,5MM   | 200  | <a href="#">55680.035.009</a> | ST4,2X45MM *  | 500  | <a href="#">55680.042.045</a> | ST5,5X60MM *  | 200  | <a href="#">55680.055.060</a> |
| ST3,5X13MM    | 200  | <a href="#">55680.035.013</a> | ST4,2X50MM *  | 200  | <a href="#">55680.042.050</a> | ST5,5X70MM *  | 200  | <a href="#">55680.055.070</a> |
| ST3,5X16MM    | 200  | <a href="#">55680.035.016</a> | ST4,2X60MM *  | 200  | <a href="#">55680.042.060</a> | ST5,5X100MM * | 200  | <a href="#">55680.055.100</a> |
| ST3,5X19MM    | 200  | <a href="#">55680.035.019</a> | ST4,2X70MM *  | 200  | <a href="#">55680.042.070</a> | ST6,3X13MM *  | 500  | <a href="#">55680.063.013</a> |
| ST3,5X22MM    | 200  | <a href="#">55680.035.022</a> | ST4,8X9,5MM * | 1000 | <a href="#">55680.048.009</a> | ST6,3X16MM    | 100  | <a href="#">55680.063.016</a> |
| ST3,5X25MM    | 200  | <a href="#">55680.035.025</a> | ST4,8X13MM *  | 1000 | <a href="#">55680.048.013</a> | ST6,3X19MM    | 100  | <a href="#">55680.063.019</a> |
| ST3,5X32MM    | 200  | <a href="#">55680.035.032</a> | ST4,8X16MM    | 200  | <a href="#">55680.048.016</a> | ST6,3X22MM    | 100  | <a href="#">55680.063.022</a> |
| ST3,5X38MM *  | 1000 | <a href="#">55680.035.038</a> | ST4,8X19MM    | 200  | <a href="#">55680.048.019</a> | ST6,3X25MM    | 100  | <a href="#">55680.063.025</a> |
| ST3,9X9,5MM * | 1000 | <a href="#">55680.039.009</a> | ST4,8X22MM    | 200  | <a href="#">55680.048.022</a> | ST6,3X32MM    | 100  | <a href="#">55680.063.032</a> |
| ST3,9X13MM    | 200  | <a href="#">55680.039.013</a> | ST4,8X25MM    | 200  | <a href="#">55680.048.025</a> | ST6,3X38MM    | 100  | <a href="#">55680.063.038</a> |
| ST3,9X16MM    | 200  | <a href="#">55680.039.016</a> | ST4,8X32MM    | 200  | <a href="#">55680.048.032</a> | ST6,3X45MM    | 100  | <a href="#">55680.063.045</a> |
| ST3,9X19MM    | 200  | <a href="#">55680.039.019</a> | ST4,8X38MM    | 200  | <a href="#">55680.048.038</a> | ST6,3X50MM    | 100  | <a href="#">55680.063.050</a> |
| ST3,9X22MM    | 200  | <a href="#">55680.039.022</a> | ST4,8X45MM *  | 200  | <a href="#">55680.048.045</a> | ST6,3X60MM *  | 200  | <a href="#">55680.063.060</a> |
| ST3,9X25MM    | 200  | <a href="#">55680.039.025</a> | ST4,8X50MM *  | 200  | <a href="#">55680.048.050</a> | ST6,3X70MM *  | 200  | <a href="#">55680.063.070</a> |
| ST3,9X32MM *  | 1000 | <a href="#">55680.039.032</a> | ST4,8X60MM *  | 200  | <a href="#">55680.048.060</a> | ST6,3X80MM *  | 200  | <a href="#">55680.063.080</a> |
| ST3,9X38MM *  | 500  | <a href="#">55680.039.038</a> | ST4,8X70MM *  | 200  | <a href="#">55680.048.070</a> |               |      |                               |
|               |      |                               | ST4,8X80MM *  | 200  | <a href="#">55680.048.080</a> |               |      |                               |

6

**26770 Cross recessed countersunk head tapping screw Pozidriv**

J01A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard  
ISO 7050 C-Z  
DIN 7982 C-Z  
NF E25-656 C



| d x L       | ☒   | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X9,5MM | 200 | <a href="#">26770.029.009</a> | ST4,2X9,5MM | 200 | <a href="#">26770.042.009</a> | ST5,5X16MM | 200 | <a href="#">26770.055.016</a> |
| ST2,9X13MM  | 200 | <a href="#">26770.029.013</a> | ST4,2X13MM  | 200 | <a href="#">26770.042.013</a> | ST5,5X19MM | 200 | <a href="#">26770.055.019</a> |
| ST2,9X16MM  | 200 | <a href="#">26770.029.016</a> | ST4,2X16MM  | 200 | <a href="#">26770.042.016</a> | ST5,5X25MM | 100 | <a href="#">26770.055.025</a> |
| ST2,9X19MM  | 200 | <a href="#">26770.029.019</a> | ST4,2X19MM  | 200 | <a href="#">26770.042.019</a> | ST5,5X32MM | 100 | <a href="#">26770.055.032</a> |
| ST2,9X25MM  | 200 | <a href="#">26770.029.025</a> | ST4,2X25MM  | 200 | <a href="#">26770.042.025</a> | ST5,5X38MM | 100 | <a href="#">26770.055.038</a> |
| ST3,5X9,5MM | 200 | <a href="#">26770.035.009</a> | ST4,2X32MM  | 200 | <a href="#">26770.042.032</a> | ST5,5X45MM | 100 | <a href="#">26770.055.045</a> |
| ST3,5X13MM  | 200 | <a href="#">26770.035.013</a> | ST4,2X38MM  | 200 | <a href="#">26770.042.038</a> | ST5,5X50MM | 100 | <a href="#">26770.055.050</a> |
| ST3,5X16MM  | 200 | <a href="#">26770.035.016</a> | ST4,2X45MM  | 200 | <a href="#">26770.042.045</a> | ST6,3X16MM | 100 | <a href="#">26770.063.016</a> |
| ST3,5X19MM  | 200 | <a href="#">26770.035.019</a> | ST4,8X13MM  | 200 | <a href="#">26770.048.013</a> | ST6,3X19MM | 100 | <a href="#">26770.063.019</a> |
| ST3,5X25MM  | 200 | <a href="#">26770.035.025</a> | ST4,8X16MM  | 200 | <a href="#">26770.048.016</a> | ST6,3X25MM | 100 | <a href="#">26770.063.025</a> |
| ST3,5X32MM  | 200 | <a href="#">26770.035.032</a> | ST4,8X19MM  | 200 | <a href="#">26770.048.019</a> | ST6,3X32MM | 100 | <a href="#">26770.063.032</a> |
| ST3,5X38MM  | 200 | <a href="#">26770.035.038</a> | ST4,8X25MM  | 200 | <a href="#">26770.048.025</a> | ST6,3X38MM | 100 | <a href="#">26770.063.038</a> |
| ST3,9X9,5MM | 200 | <a href="#">26770.039.009</a> | ST4,8X32MM  | 100 | <a href="#">26770.048.032</a> | ST6,3X45MM | 100 | <a href="#">26770.063.045</a> |
| ST3,9X13MM  | 200 | <a href="#">26770.039.013</a> | ST4,8X38MM  | 100 | <a href="#">26770.048.038</a> | ST6,3X50MM | 100 | <a href="#">26770.063.050</a> |
| ST3,9X16MM  | 200 | <a href="#">26770.039.016</a> | ST4,8X45MM  | 100 | <a href="#">26770.048.045</a> | ST6,3X60MM | 100 | <a href="#">26770.063.060</a> |
| ST3,9X19MM  | 200 | <a href="#">26770.039.019</a> | ST4,8X50MM  | 100 | <a href="#">26770.048.050</a> |            |     |                               |
| ST3,9X25MM  | 200 | <a href="#">26770.039.025</a> | ST5,5X13MM  | 200 | <a href="#">26770.055.013</a> |            |     |                               |
| ST3,9X32MM  | 200 | <a href="#">26770.039.032</a> |             |     |                               |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26432 Cross recessed countersunk head tapping screw Pozidriv |   | J03B  |
|--|---|---|
| <b>Thread</b>  | Self tapping thread                                 |  |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>                                     | Zinc plated black passivated                        |   |
| <b>Packaging</b>   | Standard  |   |
|  | ISO 7050 C-Z<br><b>DIN 7982 C-Z</b><br>NF E25-656 C |   |

| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X13MM  | 200 | <a href="#">26432.029.013</a> | ST3,5X19MM | 200 | <a href="#">26432.035.019</a> | ST4,2X19MM | 200 | <a href="#">26432.042.019</a> |
| ST3,5X9,5MM | 200 | <a href="#">26432.035.009</a> |            |     |                               |            |     |                               |
| ST3,5X16MM  | 200 | <a href="#">26432.035.016</a> | ST4,2X16MM | 200 | <a href="#">26432.042.016</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 51681 Cross recessed countersunk head tapping screw Pozidriv |   | R01A  |
|--|---|---|
| <b>Thread</b>  | Self tapping thread                                 |  |
| <b>Material</b>  | Stainless steel A2                                  |   |
| <b>Packaging</b>   | Standard  |   |
|  | ISO 7050 C-Z<br><b>DIN 7982 C-Z</b><br>NF E25-656 C |   |
|  |   |   |

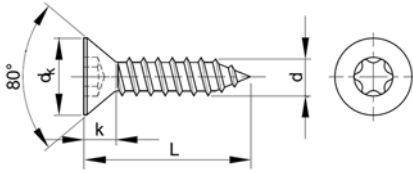
| d x L         | ☒    | Art.number                    | d x L        | ☒    | Art.number                    | d x L         | ☒    | Art.number                    |
|---------------|------|-------------------------------|--------------|------|-------------------------------|---------------|------|-------------------------------|
| ST2,2X9,5MM * | 1000 | <a href="#">51681.022.009</a> | ST3,9X32MM   | 200  | <a href="#">51681.039.032</a> | ST4,8X100MM * | 200  | <a href="#">51681.048.100</a> |
| ST2,2X25MM *  | 1000 | <a href="#">51681.022.025</a> | ST3,9X38MM * | 100  | <a href="#">51681.039.038</a> |               |      |                               |
|               |      |                               | ST3,9X45MM * | 500  | <a href="#">51681.039.045</a> | ST5,5X13MM *  | 1000 | <a href="#">51681.055.013</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51681.029.009</a> | ST3,9X50MM * | 500  | <a href="#">51681.039.050</a> | ST5,5X16MM *  | 1000 | <a href="#">51681.055.016</a> |
| ST2,9X13MM    | 200  | <a href="#">51681.029.013</a> |              |      |                               | ST5,5X19MM    | 200  | <a href="#">51681.055.019</a> |
| ST2,9X16MM    | 200  | <a href="#">51681.029.016</a> | ST4,2X13MM   | 200  | <a href="#">51681.042.013</a> | ST5,5X22MM *  | 1000 | <a href="#">51681.055.022</a> |
| ST2,9X19MM    | 200  | <a href="#">51681.029.019</a> | ST4,2X16MM   | 200  | <a href="#">51681.042.016</a> | ST5,5X32MM    | 100  | <a href="#">51681.055.032</a> |
| ST2,9X22MM *  | 1000 | <a href="#">51681.029.022</a> | ST4,2X19MM   | 200  | <a href="#">51681.042.019</a> | ST5,5X38MM    | 100  | <a href="#">51681.055.038</a> |
| ST2,9X25MM    | 200  | <a href="#">51681.029.025</a> | ST4,2X22MM * | 1000 | <a href="#">51681.042.022</a> | ST5,5X45MM    | 100  | <a href="#">51681.055.045</a> |
| ST2,9X32MM *  | 1000 | <a href="#">51681.029.032</a> | ST4,2X25MM   | 200  | <a href="#">51681.042.025</a> | ST5,5X50MM    | 100  | <a href="#">51681.055.050</a> |
|               |      |                               | ST4,2X32MM   | 200  | <a href="#">51681.042.032</a> | ST5,5X70MM *  | 200  | <a href="#">51681.055.070</a> |
| ST3,5X6,5MM * | 1000 | <a href="#">51681.035.006</a> | ST4,2X38MM   | 200  | <a href="#">51681.042.038</a> | ST5,5X100MM * | 200  | <a href="#">51681.055.100</a> |
| ST3,5X9,5MM   | 200  | <a href="#">51681.035.009</a> | ST4,2X45MM   | 200  | <a href="#">51681.042.045</a> |               |      |                               |
| ST3,5X13MM    | 200  | <a href="#">51681.035.013</a> | ST4,2X50MM   | 200  | <a href="#">51681.042.050</a> | ST6,3X16MM *  | 500  | <a href="#">51681.063.016</a> |
| ST3,5X16MM    | 200  | <a href="#">51681.035.016</a> | ST4,2X60MM * | 200  | <a href="#">51681.042.060</a> | ST6,3X19MM *  | 500  | <a href="#">51681.063.019</a> |
| ST3,5X19MM    | 200  | <a href="#">51681.035.019</a> | ST4,2X70MM * | 200  | <a href="#">51681.042.070</a> | ST6,3X22MM *  | 500  | <a href="#">51681.063.022</a> |
| ST3,5X22MM *  | 1000 | <a href="#">51681.035.022</a> |              |      |                               | ST6,3X25MM    | 100  | <a href="#">51681.063.025</a> |
| ST3,5X25MM    | 200  | <a href="#">51681.035.025</a> | ST4,8X16MM   | 200  | <a href="#">51681.048.016</a> | ST6,3X32MM    | 100  | <a href="#">51681.063.032</a> |
| ST3,5X32MM    | 200  | <a href="#">51681.035.032</a> | ST4,8X19MM   | 200  | <a href="#">51681.048.019</a> | ST6,3X38MM    | 100  | <a href="#">51681.063.038</a> |
| ST3,5X38MM    | 200  | <a href="#">51681.035.038</a> | ST4,8X22MM * | 1000 | <a href="#">51681.048.022</a> | ST6,3X45MM    | 100  | <a href="#">51681.063.045</a> |
|               |      |                               | ST4,8X25MM   | 200  | <a href="#">51681.048.025</a> | ST6,3X50MM    | 100  | <a href="#">51681.063.050</a> |
| ST3,9X13MM    | 200  | <a href="#">51681.039.013</a> | ST4,8X32MM   | 200  | <a href="#">51681.048.032</a> | ST6,3X60MM *  | 200  | <a href="#">51681.063.060</a> |
| ST3,9X16MM    | 200  | <a href="#">51681.039.016</a> | ST4,8X38MM   | 200  | <a href="#">51681.048.038</a> | ST6,3X70MM *  | 200  | <a href="#">51681.063.070</a> |
| ST3,9X19MM    | 200  | <a href="#">51681.039.019</a> | ST4,8X45MM   | 200  | <a href="#">51681.048.045</a> | ST6,3X80MM *  | 200  | <a href="#">51681.063.080</a> |
| ST3,9X22MM *  | 1000 | <a href="#">51681.039.022</a> | ST4,8X50MM   | 200  | <a href="#">51681.048.050</a> |               |      |                               |
| ST3,9X25MM    | 200  | <a href="#">51681.039.025</a> | ST4,8X90MM * | 200  | <a href="#">51681.048.090</a> |               |      |                               |

6



## Hexalobular socket countersunk head tapping screw

ISO 14586 C



### Technical data

| d            | P   | dk   | k ≈  | Socket |
|--------------|-----|------|------|--------|
| ST2,9        | 1,1 | 5,5  | 1,7  | No.10  |
| ST3,5        | 1,3 | 7,3  | 2,35 | No.15  |
| ST3,9 (#ISO) | 1,3 | 7,5  | 2,3  | No.20  |
| ST4,2        | 1,4 | 8,4  | 2,6  | No.20  |
| ST4,8        | 1,6 | 9,3  | 2,8  | No.25  |
| ST5,5        | 1,8 | 10,3 | 3    | No.25  |
| ST6,3        | 1,8 | 11,3 | 3,15 | No.30  |

### 26521 Hexalobular socket countersunk head tapping screw

J03A

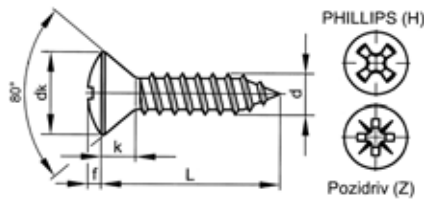
|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



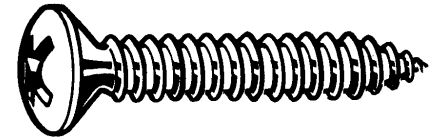
| d x L       | ☒    | Art.number                    | d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|------|-------------------------------|-------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X9,5MM | 200  | <a href="#">26521.029.009</a> | ST3,9X19MM  | 500 | <a href="#">26521.039.019</a> | ST4,8X16MM | 500 | <a href="#">26521.048.016</a> |
| ST2,9X13MM  | 200  | <a href="#">26521.029.013</a> | ST3,9X22MM  | 500 | <a href="#">26521.039.022</a> | ST4,8X19MM | 200 | <a href="#">26521.048.019</a> |
| ST2,9X16MM  | 500  | <a href="#">26521.029.016</a> | ST3,9X25MM  | 500 | <a href="#">26521.039.025</a> | ST4,8X22MM | 500 | <a href="#">26521.048.022</a> |
| ST2,9X19MM  | 500  | <a href="#">26521.029.019</a> | ST3,9X32MM  | 500 | <a href="#">26521.039.032</a> | ST4,8X25MM | 200 | <a href="#">26521.048.025</a> |
|             |      |                               | ST3,9X38MM  | 200 | <a href="#">26521.039.038</a> | ST4,8X32MM | 200 | <a href="#">26521.048.032</a> |
| ST3,5X9,5MM | 1000 | <a href="#">26521.035.009</a> | ST4,2X9,5MM | 500 | <a href="#">26521.042.009</a> | ST4,8X38MM | 200 | <a href="#">26521.048.038</a> |
| ST3,5X13MM  | 1000 | <a href="#">26521.035.013</a> | ST4,2X13MM  | 500 | <a href="#">26521.042.013</a> | ST4,8X45MM | 200 | <a href="#">26521.048.045</a> |
| ST3,5X16MM  | 200  | <a href="#">26521.035.016</a> | ST4,2X16MM  | 500 | <a href="#">26521.042.016</a> | ST4,8X50MM | 100 | <a href="#">26521.048.050</a> |
| ST3,5X19MM  | 200  | <a href="#">26521.035.019</a> | ST4,2X19MM  | 200 | <a href="#">26521.042.019</a> |            |     |                               |
| ST3,5X22MM  | 500  | <a href="#">26521.035.022</a> | ST4,2X22MM  | 500 | <a href="#">26521.042.022</a> | ST5,5X45MM | 100 | <a href="#">26521.055.045</a> |
| ST3,5X25MM  | 500  | <a href="#">26521.035.025</a> | ST4,2X25MM  | 500 | <a href="#">26521.042.025</a> | ST6,3X45MM | 100 | <a href="#">26521.063.045</a> |
| ST3,5X32MM  | 200  | <a href="#">26521.035.032</a> | ST4,2X32MM  | 200 | <a href="#">26521.042.032</a> | ST6,3X50MM | 100 | <a href="#">26521.063.050</a> |
| ST3,5X38MM  | 200  | <a href="#">26521.035.038</a> | ST4,2X38MM  | 200 | <a href="#">26521.042.038</a> |            |     |                               |
| ST3,9X9,5MM | 200  | <a href="#">26521.039.009</a> | ST4,2X45MM  | 200 | <a href="#">26521.042.045</a> |            |     |                               |
| ST3,9X16MM  | 500  | <a href="#">26521.039.016</a> | ST4,2X50MM  | 200 | <a href="#">26521.042.050</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Cross recessed raised countersunk head tapping screw



ISO 7051 C  
DIN 7983 C



### Technical data

| d     | P   | d <sub>k</sub> | k ≈ | f ≈ | No. cross recess |
|-------|-----|----------------|-----|-----|------------------|
| ST2,2 | 0,8 | 4,3            | 1,3 | 0,7 | 1                |
| ST2,9 | 1,1 | 5,5            | 1,7 | 0,9 | 1                |
| ST3,5 | 1,3 | 6,8            | 2,1 | 1,2 | 2                |
| ST3,9 | 1,4 | 7,5            | 2,3 | 1,3 | 2                |
| ST4,2 | 1,4 | 8,1            | 2,5 | 1,4 | 2                |
| ST4,8 | 1,6 | 9,5            | 3   | 1,5 | 2                |
| ST5,5 | 1,8 | 10,8           | 3,4 | 1,7 | 3                |
| ST6,3 | 1,8 | 12,4           | 3,8 | 2   | 3                |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page |
|--------|------------------|-----------|-------------------|-----------|-------|------|
| ST     | Phillips         | St        | Zipl              | Standard  | 26700 | 6-82 |
| ST     | Phillips         | St        | Ni.pl.            | Standard  | 26240 | 6-83 |
| ST     | Phillips         | St        | Zipl blk p.       | Standard  | 26450 | 6-83 |
| ST     | Phillips         | St.St. A2 |                   | Standard  | 51690 | 6-83 |
| ST     | Phillips         | St.St. A4 |                   | Standard  | 55690 | 6-84 |
| ST     | Pozidriv         | St        | Zipl              | Standard  | 26780 | 6-84 |
| ST     | Pozidriv         | St        | Zipl blk p.       | Standard  | 26452 | 6-85 |
| ST     | Pozidriv         | St.St. A2 |                   | Standard  | 51689 | 6-85 |

6

### 26700 Cross recessed raised countersunk head tapping screw Phillips

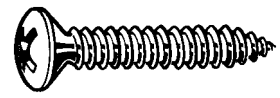
J01B

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |
|                          | ISO 7051 C-H        |
|                          | DIN 7983 C-H        |



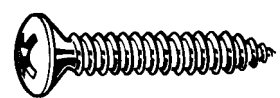
| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X9,5MM | 200 | <a href="#">26700.029.009</a> | ST3,9X22MM | 200 | <a href="#">26700.039.022</a> | ST5,5X13MM | 200 | <a href="#">26700.055.013</a> |
| ST2,9X13MM  | 200 | <a href="#">26700.029.013</a> | ST3,9X25MM | 200 | <a href="#">26700.039.025</a> | ST5,5X16MM | 200 | <a href="#">26700.055.016</a> |
| ST2,9X16MM  | 200 | <a href="#">26700.029.016</a> |            |     |                               | ST5,5X19MM | 200 | <a href="#">26700.055.019</a> |
| ST2,9X19MM  | 200 | <a href="#">26700.029.019</a> | ST4,2X13MM | 200 | <a href="#">26700.042.013</a> | ST5,5X25MM | 100 | <a href="#">26700.055.025</a> |
| ST2,9X22MM  | 200 | <a href="#">26700.029.022</a> | ST4,2X16MM | 200 | <a href="#">26700.042.016</a> | ST5,5X32MM | 100 | <a href="#">26700.055.032</a> |
| ST2,9X25MM  | 200 | <a href="#">26700.029.025</a> | ST4,2X19MM | 200 | <a href="#">26700.042.019</a> | ST5,5X38MM | 100 | <a href="#">26700.055.038</a> |
|             |     |                               | ST4,2X22MM | 200 | <a href="#">26700.042.022</a> | ST5,5X45MM | 100 | <a href="#">26700.055.045</a> |
| ST3,5X9,5MM | 200 | <a href="#">26700.035.009</a> | ST4,2X25MM | 200 | <a href="#">26700.042.025</a> | ST5,5X50MM | 100 | <a href="#">26700.055.050</a> |
| ST3,5X13MM  | 200 | <a href="#">26700.035.013</a> | ST4,2X32MM | 200 | <a href="#">26700.042.032</a> |            |     |                               |
| ST3,5X16MM  | 200 | <a href="#">26700.035.016</a> | ST4,2X38MM | 200 | <a href="#">26700.042.038</a> |            |     |                               |
| ST3,5X19MM  | 200 | <a href="#">26700.035.019</a> |            |     |                               | ST6,3X16MM | 100 | <a href="#">26700.063.016</a> |
| ST3,5X22MM  | 200 | <a href="#">26700.035.022</a> | ST4,8X13MM | 200 | <a href="#">26700.048.013</a> | ST6,3X19MM | 100 | <a href="#">26700.063.019</a> |
| ST3,5X25MM  | 200 | <a href="#">26700.035.025</a> | ST4,8X16MM | 200 | <a href="#">26700.048.016</a> | ST6,3X22MM | 100 | <a href="#">26700.063.022</a> |
| ST3,5X32MM  | 200 | <a href="#">26700.035.032</a> | ST4,8X19MM | 200 | <a href="#">26700.048.019</a> | ST6,3X25MM | 100 | <a href="#">26700.063.025</a> |
| ST3,5X38MM  | 200 | <a href="#">26700.035.038</a> | ST4,8X22MM | 200 | <a href="#">26700.048.022</a> | ST6,3X32MM | 100 | <a href="#">26700.063.032</a> |
|             |     |                               | ST4,8X25MM | 200 | <a href="#">26700.048.025</a> | ST6,3X38MM | 100 | <a href="#">26700.063.038</a> |
| ST3,9X9,5MM | 200 | <a href="#">26700.039.009</a> | ST4,8X32MM | 100 | <a href="#">26700.048.032</a> | ST6,3X45MM | 100 | <a href="#">26700.063.045</a> |
| ST3,9X13MM  | 200 | <a href="#">26700.039.013</a> | ST4,8X38MM | 100 | <a href="#">26700.048.038</a> | ST6,3X50MM | 100 | <a href="#">26700.063.050</a> |
| ST3,9X16MM  | 200 | <a href="#">26700.039.016</a> | ST4,8X45MM | 100 | <a href="#">26700.048.045</a> |            |     |                               |
| ST3,9X19MM  | 200 | <a href="#">26700.039.019</a> | ST4,8X50MM | 100 | <a href="#">26700.048.050</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|  |   |  |   |  |  |
|--|---|--|---|--|--|
| <b>26240 Cross recessed raised countersunk head tapping screw Phillips</b> |   |  | <b>J03B</b>   |  |  |
| <b>Thread</b>  | Self tapping thread                             |  |  |  |  |
| <b>Material</b>  | Steel   |  |   |  |  |
| <b>Surface treatment</b>   | Nickel plated                                   |  |   |  |  |
| <b>Packaging</b>   | Standard<br>ISO 7051 C-H<br><b>DIN 7983 C-H</b> |  |   |  |  |

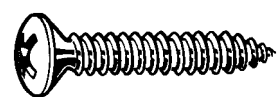
| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X13MM | 200 | <a href="#">26240.029.013</a> | ST4,2X19MM | 200 | <a href="#">26240.042.019</a> | ST4,8X38MM | 100 | <a href="#">26240.048.038</a> |
| ST2,9X19MM | 200 | <a href="#">26240.029.019</a> | ST4,2X25MM | 200 | <a href="#">26240.042.025</a> | ST4,8X50MM | 100 | <a href="#">26240.048.050</a> |
| ST3,5X13MM | 200 | <a href="#">26240.035.013</a> | ST4,2X32MM | 200 | <a href="#">26240.042.032</a> | ST5,5X19MM | 200 | <a href="#">26240.055.019</a> |
| ST3,5X16MM | 200 | <a href="#">26240.035.016</a> | ST4,2X38MM | 200 | <a href="#">26240.042.038</a> | ST5,5X25MM | 100 | <a href="#">26240.055.025</a> |
| ST3,5X19MM | 200 | <a href="#">26240.035.019</a> | ST4,2X45MM | 200 | <a href="#">26240.042.045</a> | ST5,5X32MM | 100 | <a href="#">26240.055.032</a> |
| ST3,5X25MM | 200 | <a href="#">26240.035.025</a> | ST4,8X13MM | 200 | <a href="#">26240.048.013</a> | ST5,5X38MM | 100 | <a href="#">26240.055.038</a> |
| ST3,5X32MM | 200 | <a href="#">26240.035.032</a> | ST4,8X16MM | 200 | <a href="#">26240.048.016</a> | ST6,3X25MM | 100 | <a href="#">26240.063.025</a> |
| ST4,2X13MM | 200 | <a href="#">26240.042.013</a> | ST4,8X19MM | 200 | <a href="#">26240.048.019</a> | ST6,3X38MM | 100 | <a href="#">26240.063.038</a> |
| ST4,2X16MM | 200 | <a href="#">26240.042.016</a> | ST4,8X25MM | 200 | <a href="#">26240.048.025</a> |            |     |                               |
|            |     |                               | ST4,8X32MM | 100 | <a href="#">26240.048.032</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|  |   |  |   |  |  |
|--|---|--|---|--|--|
| <b>26450 Cross recessed raised countersunk head tapping screw Phillips</b> |   |  | <b>J03B</b>   |  |  |
| <b>Thread</b>  | Self tapping thread                             |  |  |  |  |
| <b>Material</b>  | Steel   |  |   |  |  |
| <b>Surface treatment</b>   | Zinc plated black passivated                    |  |   |  |  |
| <b>Packaging</b>   | Standard<br>ISO 7051 C-H<br><b>DIN 7983 C-H</b> |  |   |  |  |

| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X9,5MM | 200 | <a href="#">26450.029.009</a> | ST3,9X13MM | 200 | <a href="#">26450.039.013</a> | ST4,8X25MM | 200 | <a href="#">26450.048.025</a> |
| ST2,9X13MM  | 200 | <a href="#">26450.029.013</a> | ST3,9X16MM | 200 | <a href="#">26450.039.016</a> | ST4,8X32MM | 100 | <a href="#">26450.048.032</a> |
| ST2,9X16MM  | 200 | <a href="#">26450.029.016</a> | ST3,9X19MM | 200 | <a href="#">26450.039.019</a> | ST4,8X38MM | 100 | <a href="#">26450.048.038</a> |
| ST2,9X19MM  | 200 | <a href="#">26450.029.019</a> | ST3,9X25MM | 200 | <a href="#">26450.039.025</a> | ST4,8X45MM | 100 | <a href="#">26450.048.045</a> |
| ST2,9X25MM  | 200 | <a href="#">26450.029.025</a> | ST4,2X13MM | 200 | <a href="#">26450.042.013</a> | ST4,8X50MM | 100 | <a href="#">26450.048.050</a> |
| ST3,5X9,5MM | 200 | <a href="#">26450.035.009</a> | ST4,2X16MM | 200 | <a href="#">26450.042.016</a> | ST5,5X16MM | 200 | <a href="#">26450.055.016</a> |
| ST3,5X13MM  | 200 | <a href="#">26450.035.013</a> | ST4,2X19MM | 200 | <a href="#">26450.042.019</a> | ST5,5X19MM | 200 | <a href="#">26450.055.019</a> |
| ST3,5X16MM  | 200 | <a href="#">26450.035.016</a> | ST4,2X25MM | 200 | <a href="#">26450.042.025</a> | ST5,5X25MM | 100 | <a href="#">26450.055.025</a> |
| ST3,5X19MM  | 200 | <a href="#">26450.035.019</a> | ST4,2X32MM | 200 | <a href="#">26450.042.032</a> | ST5,5X32MM | 100 | <a href="#">26450.055.032</a> |
| ST3,5X25MM  | 200 | <a href="#">26450.035.025</a> | ST4,2X38MM | 200 | <a href="#">26450.042.038</a> | ST5,5X38MM | 100 | <a href="#">26450.055.038</a> |
| ST3,5X32MM  | 200 | <a href="#">26450.035.032</a> | ST4,8X13MM | 200 | <a href="#">26450.048.013</a> | ST5,5X50MM | 100 | <a href="#">26450.055.050</a> |
| ST3,5X38MM  | 200 | <a href="#">26450.035.038</a> | ST4,8X16MM | 200 | <a href="#">26450.048.016</a> |            |     |                               |
| ST3,9X9,5MM | 200 | <a href="#">26450.039.009</a> | ST4,8X19MM | 200 | <a href="#">26450.048.019</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|  |   |  |   |  |  |
|--|---|--|---|--|--|
| <b>51690 Cross recessed raised countersunk head tapping screw Phillips</b> |   |  | <b>R01A</b>   |  |  |
| <b>Thread</b>  | Self tapping thread                             |  |  |  |  |
| <b>Material</b>  | Stainless steel A2                              |  |   |  |  |
| <b>Packaging</b>   | Standard<br>ISO 7051 C-H<br><b>DIN 7983 C-H</b> |  |   |  |  |

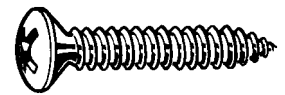
| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L        | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|--------------|-----|-------------------------------|
| ST2,2X6,5MM * | 1000 | <a href="#">51690.022.006</a> | ST3,5X32MM    | 200  | <a href="#">51690.035.032</a> | ST4,2X13MM   | 200 | <a href="#">51690.042.013</a> |
| ST2,2X9,5MM * | 1000 | <a href="#">51690.022.009</a> | ST3,5X38MM    | 200  | <a href="#">51690.035.038</a> | ST4,2X16MM   | 200 | <a href="#">51690.042.016</a> |
| ST2,2X13MM *  | 1000 | <a href="#">51690.022.013</a> | ST3,5X45MM *  | 500  | <a href="#">51690.035.045</a> | ST4,2X19MM   | 200 | <a href="#">51690.042.019</a> |
| ST2,2X16MM *  | 1000 | <a href="#">51690.022.016</a> | ST3,5X50MM *  | 500  | <a href="#">51690.035.050</a> | ST4,2X22MM   | 200 | <a href="#">51690.042.022</a> |
| ST2,2X19MM *  | 1000 | <a href="#">51690.022.019</a> | ST3,5X60MM *  | 500  | <a href="#">51690.035.060</a> | ST4,2X25MM   | 200 | <a href="#">51690.042.025</a> |
| ST2,2X25MM *  | 1000 | <a href="#">51690.022.025</a> | ST3,5X70MM *  | 500  | <a href="#">51690.035.070</a> | ST4,2X32MM   | 200 | <a href="#">51690.042.032</a> |
| ST2,9X6,5MM   | 200  | <a href="#">51690.029.006</a> | ST3,9X6,5MM * | 1000 | <a href="#">51690.039.006</a> | ST4,2X38MM   | 200 | <a href="#">51690.042.038</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51690.029.009</a> | ST3,9X9,5MM   | 200  | <a href="#">51690.039.009</a> | ST4,2X45MM   | 200 | <a href="#">51690.042.045</a> |
| ST2,9X13MM    | 200  | <a href="#">51690.029.013</a> | ST3,9X13MM    | 200  | <a href="#">51690.039.013</a> | ST4,2X50MM   | 200 | <a href="#">51690.042.050</a> |
| ST2,9X16MM    | 200  | <a href="#">51690.029.016</a> | ST3,9X16MM    | 200  | <a href="#">51690.039.016</a> | ST4,2X60MM   | 200 | <a href="#">51690.042.060</a> |
| ST2,9X19MM    | 200  | <a href="#">51690.029.019</a> | ST3,9X19MM    | 200  | <a href="#">51690.039.019</a> | ST4,2X70MM * | 200 | <a href="#">51690.042.070</a> |
| ST2,9X22MM    | 200  | <a href="#">51690.029.022</a> | ST3,9X22MM    | 200  | <a href="#">51690.039.022</a> | ST4,8X9,5MM  | 200 | <a href="#">51690.048.009</a> |
| ST2,9X25MM    | 200  | <a href="#">51690.029.025</a> | ST3,9X25MM    | 200  | <a href="#">51690.039.025</a> | ST4,8X13MM   | 200 | <a href="#">51690.048.013</a> |
| ST2,9X32MM *  | 1000 | <a href="#">51690.029.032</a> | ST3,9X32MM    | 200  | <a href="#">51690.039.032</a> | ST4,8X16MM   | 200 | <a href="#">51690.048.016</a> |
| ST3,5X9,5MM   | 200  | <a href="#">51690.035.009</a> | ST3,9X38MM    | 200  | <a href="#">51690.039.038</a> | ST4,8X19MM   | 200 | <a href="#">51690.048.019</a> |
| ST3,5X13MM    | 200  | <a href="#">51690.035.013</a> | ST3,9X45MM *  | 500  | <a href="#">51690.039.045</a> | ST4,8X22MM   | 200 | <a href="#">51690.048.022</a> |
| ST3,5X16MM    | 200  | <a href="#">51690.035.016</a> | ST3,9X50MM *  | 500  | <a href="#">51690.039.050</a> | ST4,8X25MM   | 200 | <a href="#">51690.048.025</a> |
| ST3,5X19MM    | 200  | <a href="#">51690.035.019</a> | ST3,9X60MM *  | 500  | <a href="#">51690.039.060</a> | ST4,8X32MM   | 200 | <a href="#">51690.048.032</a> |
| ST3,5X22MM    | 200  | <a href="#">51690.035.022</a> | ST3,9X70MM *  | 500  | <a href="#">51690.039.070</a> | ST4,8X38MM   | 200 | <a href="#">51690.048.038</a> |
| ST3,5X25MM    | 200  | <a href="#">51690.035.025</a> | ST4,2X9,5MM   | 200  | <a href="#">51690.042.009</a> | ST4,8X45MM   | 200 | <a href="#">51690.048.045</a> |
|               |      |                               |               |      |                               | ST4,8X50MM   | 200 | <a href="#">51690.048.050</a> |

**51690 Cross recessed raised countersunk head tapping screw Phillips**

| d x L         | Art.number                        | d x L        | Art.number                        | d x L         | Art.number                        |
|---------------|-----------------------------------|--------------|-----------------------------------|---------------|-----------------------------------|
| ST4,8X60MM    | 200 <a href="#">51690.048.060</a> | ST5,5X32MM   | 100 <a href="#">51690.055.032</a> | ST6,3X22MM    | 100 <a href="#">51690.063.022</a> |
| ST4,8X70MM    | 200 <a href="#">51690.048.070</a> | ST5,5X38MM   | 100 <a href="#">51690.055.038</a> | ST6,3X25MM    | 100 <a href="#">51690.063.025</a> |
| ST4,8X80MM    | 200 <a href="#">51690.048.080</a> | ST5,5X45MM   | 100 <a href="#">51690.055.045</a> | ST6,3X32MM    | 100 <a href="#">51690.063.032</a> |
| ST4,8X90MM *  | 200 <a href="#">51690.048.090</a> | ST5,5X50MM   | 100 <a href="#">51690.055.050</a> | ST6,3X38MM    | 100 <a href="#">51690.063.038</a> |
| ST4,8X100MM   | 100 <a href="#">51690.048.100</a> | ST5,5X60MM * | 200 <a href="#">51690.055.060</a> | ST6,3X45MM    | 100 <a href="#">51690.063.045</a> |
| ST4,8X110MM * | 200 <a href="#">51690.048.110</a> | ST5,5X70MM * | 200 <a href="#">51690.055.070</a> | ST6,3X50MM    | 100 <a href="#">51690.063.050</a> |
| ST5,5X13MM    | 200 <a href="#">51690.055.013</a> | ST5,5X80MM * | 200 <a href="#">51690.055.080</a> | ST6,3X60MM *  | 200 <a href="#">51690.063.060</a> |
| ST5,5X16MM    | 200 <a href="#">51690.055.016</a> | ST5,5X90MM * | 200 <a href="#">51690.055.090</a> | ST6,3X70MM *  | 200 <a href="#">51690.063.070</a> |
| ST5,5X19MM    | 200 <a href="#">51690.055.019</a> | ST6,3X13MM * | 500 <a href="#">51690.063.013</a> | ST6,3X80MM *  | 200 <a href="#">51690.063.080</a> |
| ST5,5X22MM    | 200 <a href="#">51690.055.022</a> | ST6,3X16MM   | 100 <a href="#">51690.063.016</a> | ST6,3X90MM *  | 200 <a href="#">51690.063.090</a> |
| ST5,5X25MM    | 200 <a href="#">51690.055.025</a> | ST6,3X19MM   | 100 <a href="#">51690.063.019</a> | ST6,3X100MM * | 200 <a href="#">51690.063.100</a> |

**55690 Cross recessed raised countersunk head tapping screw Phillips**
**R41A**

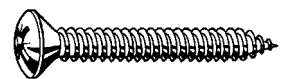
**Thread** Self tapping thread  
**Material** Stainless steel A4  
**Packaging** Standard  
 ISO 7051 C-H  
**DIN 7983 C-H**



| d x L         | Art.number                         | d x L         | Art.number                         | d x L        | Art.number                         |
|---------------|------------------------------------|---------------|------------------------------------|--------------|------------------------------------|
| ST2,2X9,5MM * | 1000 <a href="#">55690.022.009</a> | ST3,9X32MM *  | 1000 <a href="#">55690.039.032</a> | ST4,8X38MM   | 200 <a href="#">55690.048.038</a>  |
| ST2,2X9,5MM   | 200 <a href="#">55690.029.009</a>  | ST3,9X38MM *  | 500 <a href="#">55690.039.038</a>  | ST4,8X45MM * | 200 <a href="#">55690.048.045</a>  |
| ST2,2X13MM    | 200 <a href="#">55690.029.013</a>  | ST3,9X45MM *  | 500 <a href="#">55690.039.045</a>  | ST4,8X50MM * | 200 <a href="#">55690.048.050</a>  |
| ST2,2X16MM    | 200 <a href="#">55690.029.016</a>  | ST3,9X50MM *  | 500 <a href="#">55690.039.050</a>  | ST4,8X60MM * | 200 <a href="#">55690.048.060</a>  |
| ST2,2X19MM    | 200 <a href="#">55690.029.019</a>  |               |                                    | ST4,8X70MM * | 200 <a href="#">55690.048.070</a>  |
| ST2,2X22MM *  | 1000 <a href="#">55690.029.022</a> | ST4,2X9,5MM * | 1000 <a href="#">55690.042.009</a> | ST5,5X13MM * | 1000 <a href="#">55690.055.013</a> |
| ST2,2X25MM *  | 1000 <a href="#">55690.029.025</a> | ST4,2X13MM    | 200 <a href="#">55690.042.013</a>  | ST5,5X16MM * | 1000 <a href="#">55690.055.016</a> |
| ST2,2X32MM *  | 1000 <a href="#">55690.029.032</a> | ST4,2X16MM    | 200 <a href="#">55690.042.016</a>  | ST5,5X19MM   | 200 <a href="#">55690.055.019</a>  |
|               |                                    | ST4,2X19MM    | 200 <a href="#">55690.042.019</a>  | ST5,5X22MM * | 1000 <a href="#">55690.055.022</a> |
| ST3,5X9,5MM   | 200 <a href="#">55690.035.009</a>  | ST4,2X22MM    | 200 <a href="#">55690.042.022</a>  | ST5,5X25MM   | 200 <a href="#">55690.055.025</a>  |
| ST3,5X13MM    | 200 <a href="#">55690.035.013</a>  | ST4,2X25MM    | 200 <a href="#">55690.042.025</a>  | ST5,5X32MM * | 500 <a href="#">55690.055.032</a>  |
| ST3,5X16MM    | 200 <a href="#">55690.035.016</a>  | ST4,2X32MM    | 200 <a href="#">55690.042.032</a>  | ST5,5X38MM   | 100 <a href="#">55690.055.038</a>  |
| ST3,5X19MM    | 200 <a href="#">55690.035.019</a>  | ST4,2X38MM    | 200 <a href="#">55690.042.038</a>  | ST5,5X45MM   | 100 <a href="#">55690.055.045</a>  |
| ST3,5X22MM *  | 1000 <a href="#">55690.035.022</a> | ST4,2X45MM *  | 500 <a href="#">55690.042.045</a>  | ST5,5X50MM   | 100 <a href="#">55690.055.050</a>  |
| ST3,5X25MM *  | 1000 <a href="#">55690.035.025</a> | ST4,2X50MM *  | 200 <a href="#">55690.042.050</a>  |              |                                    |
| ST3,5X32MM *  | 1000 <a href="#">55690.035.032</a> | ST4,2X60MM *  | 200 <a href="#">55690.042.060</a>  | ST6,3X25MM * | 200 <a href="#">55690.063.025</a>  |
| ST3,5X38MM *  | 1000 <a href="#">55690.035.038</a> | ST4,2X70MM *  | 200 <a href="#">55690.042.070</a>  | ST6,3X32MM * | 200 <a href="#">55690.063.032</a>  |
|               |                                    |               |                                    | ST6,3X38MM * | 200 <a href="#">55690.063.038</a>  |
| ST3,9X9,5MM * | 1000 <a href="#">55690.039.009</a> | ST4,8X13MM *  | 1000 <a href="#">55690.048.013</a> | ST6,3X50MM * | 200 <a href="#">55690.063.050</a>  |
| ST3,9X13MM    | 200 <a href="#">55690.039.013</a>  | ST4,8X16MM    | 200 <a href="#">55690.048.016</a>  | ST6,3X60MM * | 200 <a href="#">55690.063.060</a>  |
| ST3,9X16MM    | 200 <a href="#">55690.039.016</a>  | ST4,8X19MM    | 200 <a href="#">55690.048.019</a>  | ST6,3X80MM * | 200 <a href="#">55690.063.080</a>  |
| ST3,9X19MM    | 200 <a href="#">55690.039.019</a>  | ST4,8X22MM    | 200 <a href="#">55690.048.022</a>  |              |                                    |
| ST3,9X22MM    | 200 <a href="#">55690.039.022</a>  | ST4,8X25MM    | 200 <a href="#">55690.048.025</a>  |              |                                    |
| ST3,9X25MM    | 200 <a href="#">55690.039.025</a>  | ST4,8X32MM    | 200 <a href="#">55690.048.032</a>  |              |                                    |

**26780 Cross recessed raised countersunk head tapping screw Pozidriv**
**J01A**

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard  
 ISO 7051 C-Z  
**DIN 7983 C-Z**  
 NF E25-657 C




| d x L       | Art.number                        | d x L      | Art.number                        | d x L      | Art.number                        |
|-------------|-----------------------------------|------------|-----------------------------------|------------|-----------------------------------|
| ST2,2X9,5MM | 200 <a href="#">26780.029.009</a> | ST3,9X32MM | 200 <a href="#">26780.039.032</a> | ST5,5X13MM | 200 <a href="#">26780.055.013</a> |
| ST2,2X13MM  | 200 <a href="#">26780.029.013</a> |            |                                   | ST5,5X16MM | 200 <a href="#">26780.055.016</a> |
| ST2,2X16MM  | 200 <a href="#">26780.029.016</a> | ST4,2X13MM | 200 <a href="#">26780.042.013</a> | ST5,5X19MM | 200 <a href="#">26780.055.019</a> |
| ST2,2X19MM  | 200 <a href="#">26780.029.019</a> | ST4,2X16MM | 200 <a href="#">26780.042.016</a> | ST5,5X25MM | 100 <a href="#">26780.055.025</a> |
| ST2,2X25MM  | 200 <a href="#">26780.029.025</a> | ST4,2X19MM | 200 <a href="#">26780.042.019</a> | ST5,5X32MM | 100 <a href="#">26780.055.032</a> |
|             |                                   | ST4,2X25MM | 200 <a href="#">26780.042.025</a> | ST5,5X38MM | 100 <a href="#">26780.055.038</a> |
| ST3,5X9,5MM | 200 <a href="#">26780.035.009</a> | ST4,2X32MM | 200 <a href="#">26780.042.032</a> | ST5,5X45MM | 100 <a href="#">26780.055.045</a> |
| ST3,5X13MM  | 200 <a href="#">26780.035.013</a> | ST4,2X38MM | 200 <a href="#">26780.042.038</a> | ST5,5X50MM | 100 <a href="#">26780.055.050</a> |
| ST3,5X16MM  | 200 <a href="#">26780.035.016</a> | ST4,2X45MM | 200 <a href="#">26780.042.045</a> |            |                                   |
| ST3,5X19MM  | 200 <a href="#">26780.035.019</a> |            |                                   | ST6,3X16MM | 100 <a href="#">26780.063.016</a> |
| ST3,5X25MM  | 200 <a href="#">26780.035.025</a> | ST4,8X13MM | 200 <a href="#">26780.048.013</a> | ST6,3X19MM | 100 <a href="#">26780.063.019</a> |
| ST3,5X32MM  | 200 <a href="#">26780.035.032</a> | ST4,8X16MM | 200 <a href="#">26780.048.016</a> | ST6,3X22MM | 100 <a href="#">26780.063.022</a> |
| ST3,5X38MM  | 200 <a href="#">26780.035.038</a> | ST4,8X19MM | 200 <a href="#">26780.048.019</a> | ST6,3X25MM | 100 <a href="#">26780.063.025</a> |
|             |                                   | ST4,8X25MM | 200 <a href="#">26780.048.025</a> | ST6,3X32MM | 100 <a href="#">26780.063.032</a> |
| ST3,9X9,5MM | 200 <a href="#">26780.039.009</a> | ST4,8X32MM | 100 <a href="#">26780.048.032</a> | ST6,3X38MM | 100 <a href="#">26780.063.038</a> |
| ST3,9X13MM  | 200 <a href="#">26780.039.013</a> | ST4,8X38MM | 100 <a href="#">26780.048.038</a> | ST6,3X45MM | 100 <a href="#">26780.063.045</a> |
| ST3,9X16MM  | 200 <a href="#">26780.039.016</a> | ST4,8X45MM | 100 <a href="#">26780.048.045</a> | ST6,3X50MM | 100 <a href="#">26780.063.050</a> |
| ST3,9X19MM  | 200 <a href="#">26780.039.019</a> | ST4,8X50MM | 100 <a href="#">26780.048.050</a> |            |                                   |
| ST3,9X25MM  | 200 <a href="#">26780.039.025</a> |            |                                   |            |                                   |

| 26452 Cross recessed raised countersunk head tapping screw Pozidriv |   | J03B  |
|---|---|---|
| <b>Thread</b>   | Self tapping thread                                 |  |
| <b>Material</b>   | Steel   |   |
| <b>Surface treatment</b>  | Zinc plated black passivated                        |   |
| <b>Packaging</b>  | Standard  |   |
|   | ISO 7051 C-Z<br><b>DIN 7983 C-Z</b><br>NF E25-657 C |   |

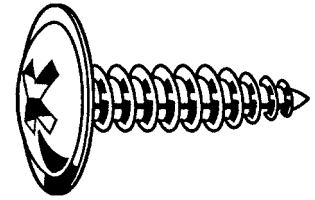
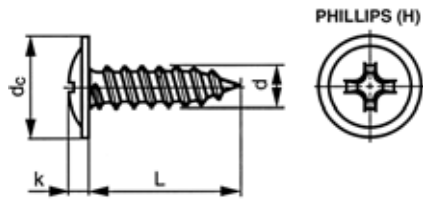
| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X13MM | 200 | <a href="#">26452.029.013</a> | ST3,9X19MM | 200 | <a href="#">26452.039.019</a> | ST4,8X16MM | 200 | <a href="#">26452.048.016</a> |
| ST2,9X19MM | 200 | <a href="#">26452.029.019</a> | ST4,2X13MM | 200 | <a href="#">26452.042.013</a> | ST4,8X19MM | 200 | <a href="#">26452.048.019</a> |
| ST3,5X13MM | 200 | <a href="#">26452.035.013</a> | ST4,2X16MM | 200 | <a href="#">26452.042.016</a> | ST4,8X25MM | 200 | <a href="#">26452.048.025</a> |
| ST3,5X16MM | 200 | <a href="#">26452.035.016</a> | ST4,2X19MM | 200 | <a href="#">26452.042.019</a> | ST4,8X32MM | 100 | <a href="#">26452.048.032</a> |
| ST3,5X19MM | 200 | <a href="#">26452.035.019</a> | ST4,2X25MM | 200 | <a href="#">26452.042.025</a> | ST4,8X38MM | 100 | <a href="#">26452.048.038</a> |
| ST3,5X25MM | 200 | <a href="#">26452.035.025</a> | ST4,2X32MM | 200 | <a href="#">26452.042.032</a> |            |     |                               |
| ST3,5X32MM | 200 | <a href="#">26452.035.032</a> | ST4,2X38MM | 200 | <a href="#">26452.042.038</a> |            |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 51689 Cross recessed raised countersunk head tapping screw Pozidriv |   | R01A  |
|---|---|---|
| <b>Thread</b>   | Self tapping thread                                 |  |
| <b>Material</b>   | Stainless steel A2                                  |   |
| <b>Packaging</b>  | Standard  |   |
|   | ISO 7051 C-Z<br><b>DIN 7983 C-Z</b><br>NF E25-657 C |   |

| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|------|-------------------------------|
| ST2,2X9,5MM * | 1000 | <a href="#">51689.022.009</a> | ST4,2X9,5MM * | 1000 | <a href="#">51689.042.009</a> | ST4,8X80MM *  | 200  | <a href="#">51689.048.080</a> |
| ST2,9X9,5MM   | 200  | <a href="#">51689.029.009</a> | ST4,2X13MM    | 200  | <a href="#">51689.042.013</a> | ST4,8X100MM * | 200  | <a href="#">51689.048.100</a> |
| ST2,9X13MM    | 200  | <a href="#">51689.029.013</a> | ST4,2X16MM    | 200  | <a href="#">51689.042.016</a> | ST5,5X13MM *  | 1000 | <a href="#">51689.055.013</a> |
| ST2,9X16MM    | 200  | <a href="#">51689.029.016</a> | ST4,2X19MM    | 200  | <a href="#">51689.042.019</a> | ST5,5X16MM *  | 1000 | <a href="#">51689.055.016</a> |
| ST2,9X19MM    | 200  | <a href="#">51689.029.019</a> | ST4,2X22MM *  | 1000 | <a href="#">51689.042.022</a> | ST5,5X19MM *  | 1000 | <a href="#">51689.055.019</a> |
| ST2,9X25MM    | 200  | <a href="#">51689.029.025</a> | ST4,2X25MM    | 200  | <a href="#">51689.042.025</a> | ST5,5X22MM *  | 1000 | <a href="#">51689.055.022</a> |
| ST2,9X32MM *  | 1000 | <a href="#">51689.029.032</a> | ST4,2X32MM    | 200  | <a href="#">51689.042.032</a> | ST5,5X25MM    | 200  | <a href="#">51689.055.025</a> |
| ST3,5X6,5MM * | 1000 | <a href="#">51689.035.006</a> | ST4,2X38MM    | 200  | <a href="#">51689.042.038</a> | ST5,5X32MM    | 100  | <a href="#">51689.055.032</a> |
| ST3,5X13MM    | 200  | <a href="#">51689.035.013</a> | ST4,2X45MM    | 200  | <a href="#">51689.042.045</a> | ST5,5X38MM    | 100  | <a href="#">51689.055.038</a> |
| ST3,5X16MM    | 200  | <a href="#">51689.035.016</a> | ST4,2X50MM    | 200  | <a href="#">51689.042.050</a> | ST5,5X45MM    | 100  | <a href="#">51689.055.045</a> |
| ST3,5X19MM    | 200  | <a href="#">51689.035.019</a> | ST4,2X70MM *  | 200  | <a href="#">51689.042.070</a> | ST5,5X50MM    | 100  | <a href="#">51689.055.050</a> |
| ST3,5X22MM *  | 1000 | <a href="#">51689.035.022</a> | ST4,8X9,5MM * | 1000 | <a href="#">51689.048.009</a> | ST5,5X60MM *  | 200  | <a href="#">51689.055.060</a> |
| ST3,5X25MM    | 200  | <a href="#">51689.035.025</a> | ST4,8X13MM *  | 1000 | <a href="#">51689.048.013</a> | ST6,3X16MM    | 100  | <a href="#">51689.063.016</a> |
| ST3,5X32MM    | 200  | <a href="#">51689.035.032</a> | ST4,8X16MM    | 200  | <a href="#">51689.048.016</a> | ST6,3X19MM *  | 500  | <a href="#">51689.063.019</a> |
| ST3,5X38MM *  | 1000 | <a href="#">51689.035.038</a> | ST4,8X19MM    | 200  | <a href="#">51689.048.019</a> | ST6,3X22MM *  | 500  | <a href="#">51689.063.022</a> |
| ST3,9X13MM    | 200  | <a href="#">51689.039.013</a> | ST4,8X22MM *  | 1000 | <a href="#">51689.048.022</a> | ST6,3X25MM    | 100  | <a href="#">51689.063.025</a> |
| ST3,9X16MM    | 200  | <a href="#">51689.039.016</a> | ST4,8X25MM    | 200  | <a href="#">51689.048.025</a> | ST6,3X32MM    | 100  | <a href="#">51689.063.032</a> |
| ST3,9X19MM    | 200  | <a href="#">51689.039.019</a> | ST4,8X32MM    | 200  | <a href="#">51689.048.032</a> | ST6,3X38MM    | 100  | <a href="#">51689.063.038</a> |
| ST3,9X22MM *  | 1000 | <a href="#">51689.039.022</a> | ST4,8X38MM    | 200  | <a href="#">51689.048.038</a> | ST6,3X45MM *  | 200  | <a href="#">51689.063.045</a> |
| ST3,9X25MM    | 200  | <a href="#">51689.039.025</a> | ST4,8X45MM    | 200  | <a href="#">51689.048.045</a> | ST6,3X50MM    | 100  | <a href="#">51689.063.050</a> |
| ST3,9X32MM    | 200  | <a href="#">51689.039.032</a> | ST4,8X50MM    | 200  | <a href="#">51689.048.050</a> |               |      |                               |
| ST3,9X38MM    | 200  | <a href="#">51689.039.038</a> | ST4,8X60MM *  | 200  | <a href="#">51689.048.060</a> |               |      |                               |

**Cross recessed mushroom head tapping screw with flange**

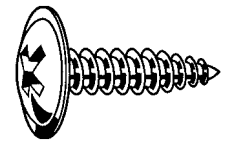


**Technical data**

|                             |              |              |              |              |
|-----------------------------|--------------|--------------|--------------|--------------|
| <b>d</b>                    | <b>ST3,5</b> | <b>ST3,9</b> | <b>ST4,2</b> | <b>ST4,8</b> |
| <b>P</b>                    | 1,3          | 1,4          | 1,4          | 1,6          |
| <b>d<sub>c</sub> (max.)</b> | 9            | 10           | 10           | 11,5         |
| <b>k</b>                    | 2,3          | 2,5          | 2,6          | 2,7          |
| <b>No. cross recess</b>     | 2            | 2            | 2            | 2            |

**26456** Cross recessed mushroom head tapping screw with flange Phillips **J03A**

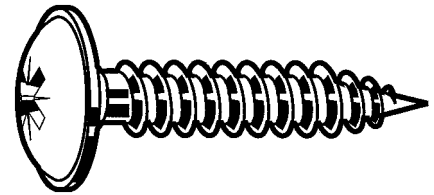
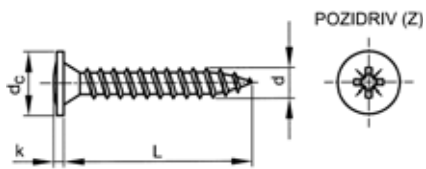
**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated black passivated  
**Packaging** Standard



| <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| ST3,5X16MM   | 100 | <a href="#">26456.035.016</a> | ST4,2X13MM   | 100 | <a href="#">26456.042.013</a> | ST4,8X16MM   | 100 | <a href="#">26456.048.016</a> |
| ST3,9X9,5MM  | 100 | <a href="#">26456.039.009</a> | ST4,2X16MM   | 100 | <a href="#">26456.042.016</a> | ST4,8X19MM   | 100 | <a href="#">26456.048.019</a> |
| ST3,9X13MM   | 100 | <a href="#">26456.039.013</a> | ST4,2X19MM   | 100 | <a href="#">26456.042.019</a> | ST4,8X25MM   | 100 | <a href="#">26456.048.025</a> |
| ST3,9X16MM   | 100 | <a href="#">26456.039.016</a> | ST4,2X22MM   | 100 | <a href="#">26456.042.022</a> |              |     |                               |
| ST3,9X19MM   | 100 | <a href="#">26456.039.019</a> | ST4,2X25MM   | 100 | <a href="#">26456.042.025</a> |              |     |                               |
| ST3,9X25MM   | 100 | <a href="#">26456.039.025</a> |              |     |                               |              |     |                               |
|              |     |                               | ST4,8X13MM   | 100 | <a href="#">26456.048.013</a> |              |     |                               |

6

## Cross recessed screw for back panels



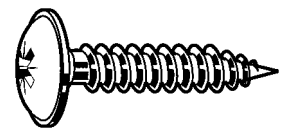
### Technical data

| d   | d <sub>c</sub> | k   | No. cross recess |
|-----|----------------|-----|------------------|
| 3,5 | 8              | 1,4 | 2                |
| 4   | 9              | 1,7 | 2                |
| 4,5 | 10             | 1,9 | 2                |
| 5   | 11,5           | 2,1 | 2                |

### 29570 Cross recessed screw for back panels Pozidriv

K04A

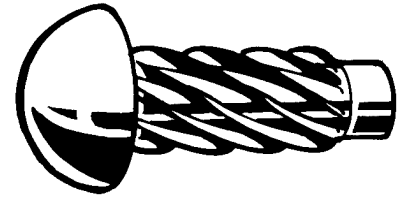
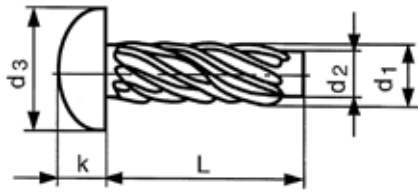
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L            | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|------------------|-----|-------------------------------|
| 3,5X17MM | 200 | <a href="#">29570.035.017</a> | 4X30MM   | 200 | <a href="#">29570.040.030</a> | 5X40MM<br>5X60MM | 100 | <a href="#">29570.050.040</a> |
| 3,5X20MM | 200 | <a href="#">29570.035.020</a> | 4X35MM   | 200 | <a href="#">29570.040.035</a> |                  | 100 | <a href="#">29570.050.060</a> |
| 3,5X25MM | 200 | <a href="#">29570.035.025</a> | 4X40MM   | 200 | <a href="#">29570.040.040</a> |                  |     |                               |
| 3,5X30MM | 200 | <a href="#">29570.035.030</a> | 4,5X40MM | 200 | <a href="#">29570.045.040</a> |                  |     |                               |
| 3,5X35MM | 200 | <a href="#">29570.035.035</a> | 4,5X45MM | 200 | <a href="#">29570.045.045</a> |                  |     |                               |

- Heco-fix plus chip board screw thread.
- Depending on availability the dimensions may deviate.

**Drive screw**



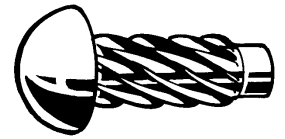
**Technical data**

| d1  | d2   | d3  | k   | Hole ø ≈ |
|-----|------|-----|-----|----------|
| 1,5 | 1,35 | 2,5 | 0,8 | 1,4      |
| 1,9 | 1,7  | 3,2 | 1,2 | 1,7      |
| 2,5 | 2,15 | 4,1 | 1,7 | 2,2      |
| 2,9 | 2,65 | 5,3 | 2,1 | 2,6      |
| 3,5 | 3,1  | 6,6 | 2,6 | 3,1      |

**27410 Drive screw**

J04A

**Material** Steel  
**Surface treatment** Nickel plated  
**Packaging** Standard

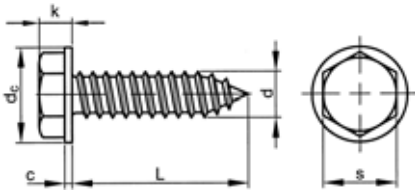


| d1 x L    | ☒   | Art.number                    | d1 x L    | ☒   | Art.number                    | d1 x L    | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 1,5X3,2MM | 500 | <a href="#">27410.015.003</a> | 2,5X3,2MM | 500 | <a href="#">27410.025.003</a> | 3,5X6,5MM | 500 | <a href="#">27410.035.006</a> |
| 1,5X4,7MM | 500 | <a href="#">27410.015.004</a> | 2,5X4,7MM | 500 | <a href="#">27410.025.004</a> | 3,5X8MM   | 500 | <a href="#">27410.035.008</a> |
| 1,5X6,5MM | 500 | <a href="#">27410.015.006</a> | 2,5X6,5MM | 500 | <a href="#">27410.025.006</a> | 3,5X9,5MM | 500 | <a href="#">27410.035.009</a> |
| 1,9X3,2MM | 500 | <a href="#">27410.019.003</a> | 2,9X4,7MM | 500 | <a href="#">27410.029.004</a> |           |     |                               |
| 1,9X4,7MM | 500 | <a href="#">27410.019.004</a> | 2,9X6,5MM | 500 | <a href="#">27410.029.006</a> |           |     |                               |
| 1,9X6,5MM | 500 | <a href="#">27410.019.006</a> | 2,9X8MM   | 500 | <a href="#">27410.029.008</a> |           |     |                               |

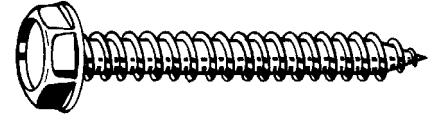
6



## Hexagon washer faced head tapping screw



ISO ≈7053 C  
DIN ≈6928 C  
BS ≈7599



### Technical data

|                      | ST3,5 | ST4,2 | ST4,8 |
|----------------------|-------|-------|-------|
| <b>d</b>             | 3,5   | 4,2   | 4,8   |
| <b>P</b>             | 1,3   | 1,4   | 1,6   |
| <b>d<sub>c</sub></b> | 7,2   | 9     | 10    |
| <b>k</b>             | 2,5   | 2,8   | 3,1   |
| <b>c</b>             | 0,5   | 0,6   | 0,7   |
| <b>s</b>             | 5,5   | 7     | 8     |

### 28100 SEMA Hexagon washer faced head tapping screw

J04A

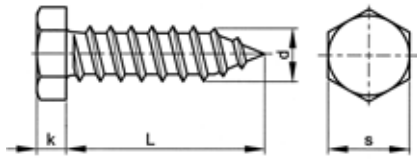
**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



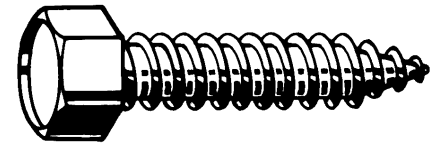
| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST3,5X9,5MM | 200 | <a href="#">28100.035.009</a> | ST4,2X13MM | 200 | <a href="#">28100.042.013</a> | ST4,8X16MM | 200 | <a href="#">28100.048.016</a> |
| ST3,5X13MM  | 200 | <a href="#">28100.035.013</a> | ST4,2X16MM | 200 | <a href="#">28100.042.016</a> | ST4,8X19MM | 200 | <a href="#">28100.048.019</a> |
| ST3,5X16MM  | 200 | <a href="#">28100.035.016</a> | ST4,2X19MM | 200 | <a href="#">28100.042.019</a> | ST4,8X25MM | 200 | <a href="#">28100.048.025</a> |
| ST3,5X19MM  | 200 | <a href="#">28100.035.019</a> | ST4,2X25MM | 200 | <a href="#">28100.042.025</a> | ST4,8X32MM | 200 | <a href="#">28100.048.032</a> |
| ST4,2X9,5MM | 200 | <a href="#">28100.042.009</a> | ST4,8X13MM | 200 | <a href="#">28100.048.013</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexagon head tapping screw



ISO 1479 C  
**DIN 7976 C**  
 ANSI B18.6.5M  
 NF E25-662 C  
 BS 4174



### Technical data

| d     | P   | k   | s   |
|-------|-----|-----|-----|
| ST2,9 | 1,1 | 1,5 | 5   |
| ST3,5 | 1,3 | 2,3 | 5,5 |
| ST3,9 | 1,3 | 2,3 | 7   |
| ST4,2 | 1,4 | 2,8 | 7   |
| ST4,8 | 1,6 | 3   | 8   |
| ST5,5 | 1,8 | 4   | 8   |
| ST6,3 | 1,8 | 4,8 | 10  |
| ST8   | 2,1 | 5,8 | 13  |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging     | Code  | Page |
|--------|------------------|-----------|-------------------|---------------|-------|------|
| ST     | hexagon          | St        | Zipl              | Standard      | 26080 | 6-90 |
| ST     | hexagon          | St        | Zipl              | without point | 26180 | 6-90 |
| ST     | hexagon          | St.St. A2 |                   | Standard      | 51650 | 6-91 |

6

| 26080 Hexagon head tapping screw |                     | J04A |
|----------------------------------|---------------------|------|
| <b>Thread</b>                    | Self tapping thread |      |
| <b>Material</b>                  | Steel               |      |
| <b>Surface treatment</b>         | Zinc plated         |      |
| <b>Packaging</b>                 | Standard            |      |



| d x L       | ☒    | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|------|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST4,2X25MM  | 1000 | <a href="#">26080.042.025</a> | ST5,5X16MM | 250 | <a href="#">26080.055.016</a> | ST6,3X38MM | 100 | <a href="#">26080.063.038</a> |
| ST4,8X9,5MM | 200  | <a href="#">26080.048.009</a> | ST6,3X13MM | 100 | <a href="#">26080.063.013</a> | ST6,3X45MM | 100 | <a href="#">26080.063.045</a> |
| ST4,8X13MM  | 250  | <a href="#">26080.048.013</a> | ST6,3X16MM | 100 | <a href="#">26080.063.016</a> | ST6,3X50MM | 100 | <a href="#">26080.063.050</a> |
| ST4,8X25MM  | 100  | <a href="#">26080.048.025</a> | ST6,3X19MM | 100 | <a href="#">26080.063.019</a> |            |     |                               |
| ST4,8X38MM  | 200  | <a href="#">26080.048.038</a> | ST6,3X25MM | 100 | <a href="#">26080.063.025</a> |            |     |                               |
|             |      |                               | ST6,3X32MM | 100 | <a href="#">26080.063.032</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 26180 Hexagon head tapping screw without point |                     | J04A |
|--|---------------------|------|
| <b>Thread</b>                                  | Self tapping thread |      |
| <b>Material</b>                                | Steel               |      |
| <b>Surface treatment</b>                       | Zinc plated         |      |
| <b>Packaging</b>                               | Standard            |      |
|  | ISO 1479 F          |      |
|  | <b>DIN 7976 F</b>   |      |
|  | NF E25-662 F        |      |

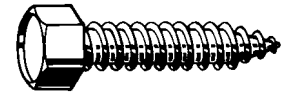


| d x L       | ☒   | Art.number                    | d x L         | ☒   | Art.number                    | d x L         | ☒   | Art.number                    |
|-------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| ST4,8X9,5MM | 200 | <a href="#">26180.048.009</a> | ST6,3X13MM    | 100 | <a href="#">26180.063.013</a> | ST8(7,9)X19MM | 100 | <a href="#">26180.079.019</a> |
| ST4,8X13MM  | 200 | <a href="#">26180.048.013</a> | ST6,3X16MM    | 100 | <a href="#">26180.063.016</a> | ST8(7,9)X25MM | 100 | <a href="#">26180.079.025</a> |
| ST4,8X16MM  | 200 | <a href="#">26180.048.016</a> | ST6,3X19MM    | 100 | <a href="#">26180.063.019</a> |               |     |                               |
| ST4,8X19MM  | 200 | <a href="#">26180.048.019</a> | ST6,3X25MM    | 100 | <a href="#">26180.063.025</a> |               |     |                               |
| ST4,8X25MM  | 200 | <a href="#">26180.048.025</a> |               |     |                               |               |     |                               |
|             |     |                               | ST8(7,9)X16MM | 100 | <a href="#">26180.079.016</a> |               |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

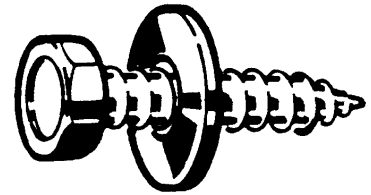
**51650 Hexagon head tapping screw**
**R01A**

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L         | ☒    | Art.number                    | d x L         | ☒    | Art.number                    | d x L         | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| ST2,9X9,5MM * | 1000 | <a href="#">51650.029.009</a> | ST4,2X38MM *  | 500  | <a href="#">51650.042.038</a> | ST5,5X90MM *  | 200 | <a href="#">51650.055.090</a> |
| ST2,9X13MM *  | 1000 | <a href="#">51650.029.013</a> | ST4,2X45MM *  | 500  | <a href="#">51650.042.045</a> | ST6,3X13MM    | 100 | <a href="#">51650.063.013</a> |
| ST2,9X16MM *  | 1000 | <a href="#">51650.029.016</a> | ST4,2X50MM *  | 200  | <a href="#">51650.042.050</a> | ST6,3X16MM    | 100 | <a href="#">51650.063.016</a> |
| ST2,9X19MM *  | 1000 | <a href="#">51650.029.019</a> |               |      |                               | ST6,3X19MM    | 100 | <a href="#">51650.063.019</a> |
|               |      |                               | ST4,8X9,5MM * | 1000 | <a href="#">51650.048.009</a> | ST6,3X22MM    | 100 | <a href="#">51650.063.022</a> |
| ST3,5X13MM *  | 1000 | <a href="#">51650.035.013</a> | ST4,8X13MM    | 100  | <a href="#">51650.048.013</a> | ST6,3X25MM    | 100 | <a href="#">51650.063.025</a> |
| ST3,5X16MM *  | 1000 | <a href="#">51650.035.016</a> | ST4,8X16MM    | 100  | <a href="#">51650.048.016</a> | ST6,3X32MM *  | 500 | <a href="#">51650.063.032</a> |
| ST3,5X19MM *  | 1000 | <a href="#">51650.035.019</a> | ST4,8X19MM    | 100  | <a href="#">51650.048.019</a> | ST6,3X45MM *  | 200 | <a href="#">51650.063.045</a> |
| ST3,5X22MM *  | 1000 | <a href="#">51650.035.022</a> | ST4,8X25MM    | 100  | <a href="#">51650.048.025</a> | ST6,3X50MM *  | 200 | <a href="#">51650.063.050</a> |
| ST3,5X25MM *  | 1000 | <a href="#">51650.035.025</a> | ST4,8X32MM *  | 500  | <a href="#">51650.048.032</a> | ST6,3X60MM *  | 200 | <a href="#">51650.063.060</a> |
| ST3,5X32MM *  | 1000 | <a href="#">51650.035.032</a> | ST4,8X38MM *  | 500  | <a href="#">51650.048.038</a> | ST6,3X70MM *  | 200 | <a href="#">51650.063.070</a> |
|               |      |                               | ST4,8X45MM *  | 200  | <a href="#">51650.048.045</a> | ST6,3X80MM *  | 200 | <a href="#">51650.063.080</a> |
| ST3,9X9,5MM * | 1000 | <a href="#">51650.039.009</a> | ST4,8X50MM *  | 200  | <a href="#">51650.048.050</a> | ST6,3X90MM *  | 200 | <a href="#">51650.063.090</a> |
| ST3,9X16MM *  | 1000 | <a href="#">51650.039.016</a> | ST4,8X60MM *  | 200  | <a href="#">51650.048.060</a> | ST6,3X100MM * | 200 | <a href="#">51650.063.100</a> |
| ST3,9X19MM *  | 1000 | <a href="#">51650.039.019</a> | ST4,8X70MM *  | 200  | <a href="#">51650.048.070</a> |               |     |                               |
| ST3,9X22MM *  | 1000 | <a href="#">51650.039.022</a> | ST4,8X80MM *  | 200  | <a href="#">51650.048.080</a> |               |     |                               |
| ST3,9X25MM *  | 1000 | <a href="#">51650.039.025</a> |               |      |                               | ST8,0X16MM *  | 200 | <a href="#">51650.080.016</a> |
| ST3,9X32MM *  | 1000 | <a href="#">51650.039.032</a> | ST5,5X13MM *  | 1000 | <a href="#">51650.055.013</a> | ST8,0X19MM *  | 200 | <a href="#">51650.080.019</a> |
| ST3,9X38MM *  | 500  | <a href="#">51650.039.038</a> | ST5,5X16MM *  | 1000 | <a href="#">51650.055.016</a> | ST8,0X22MM *  | 200 | <a href="#">51650.080.022</a> |
| ST3,9X45MM *  | 500  | <a href="#">51650.039.045</a> | ST5,5X19MM *  | 1000 | <a href="#">51650.055.019</a> | ST8,0X25MM *  | 200 | <a href="#">51650.080.025</a> |
|               |      |                               | ST5,5X22MM *  | 1000 | <a href="#">51650.055.022</a> | ST8,0X32MM *  | 200 | <a href="#">51650.080.032</a> |
| ST4,2X9,5MM * | 1000 | <a href="#">51650.042.009</a> | ST5,5X25MM *  | 500  | <a href="#">51650.055.025</a> | ST8,0X38MM *  | 200 | <a href="#">51650.080.038</a> |
| ST4,2X13MM    | 100  | <a href="#">51650.042.013</a> | ST5,5X38MM *  | 500  | <a href="#">51650.055.038</a> | ST8,0X45MM *  | 200 | <a href="#">51650.080.045</a> |
| ST4,2X16MM    | 100  | <a href="#">51650.042.016</a> | ST5,5X45MM *  | 200  | <a href="#">51650.055.045</a> | ST8,0X50MM *  | 200 | <a href="#">51650.080.050</a> |
| ST4,2X19MM *  | 1000 | <a href="#">51650.042.019</a> | ST5,5X50MM *  | 200  | <a href="#">51650.055.050</a> | ST8,0X60MM *  | 200 | <a href="#">51650.080.060</a> |
| ST4,2X22MM    | 100  | <a href="#">51650.042.022</a> | ST5,5X60MM *  | 200  | <a href="#">51650.055.060</a> | ST8,0X70MM *  | 200 | <a href="#">51650.080.070</a> |
| ST4,2X25MM *  | 1000 | <a href="#">51650.042.025</a> | ST5,5X70MM *  | 200  | <a href="#">51650.055.070</a> |               |     |                               |
| ST4,2X32MM *  | 500  | <a href="#">51650.042.032</a> | ST5,5X80MM *  | 200  | <a href="#">51650.055.080</a> |               |     |                               |

**Hexagon tapping screw with cone end and captive washer**



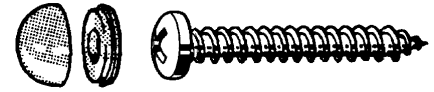
| Technical data |          |
|----------------|----------|
| d              | Ring ø   |
| ST4,8          | 12x1,6   |
| ST5,6          | 14,8x1,6 |
| ST6,5          | 18x1,6   |

| 72045 Hexagon tapping screw with cone end and captive washer |                     | Y92D |
|--|---------------------|------|
| Thread   | Self tapping thread |      |
| Material   | Steel               |      |
| Surface treatment  | Zinc plated         |      |
| Packaging  | Standard            |      |

| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST4,8X16MM | 200 | <a href="#">72045.048.016</a> | ST5,6X16MM | 200 | <a href="#">72045.056.016</a> | ST6,5X25MM | 200 | <a href="#">72045.065.025</a> |
| ST4,8X19MM | 200 | <a href="#">72045.048.019</a> | ST5,6X19MM | 200 | <a href="#">72045.056.019</a> |            |     |                               |
| ST5,6X13MM | 200 | <a href="#">72045.056.013</a> | ST6,5X20MM | 200 | <a href="#">72045.065.020</a> |            |     |                               |

6

**Cross recessed tapping screw for license plates**



**Article groups**

| Thread | Driving features | Material | Surface treatment | Packaging     | Code  | Page |
|--------|------------------|----------|-------------------|---------------|-------|------|
| ST     | Phillips         | St       | Zipl              | Standard      | 72008 | 6-93 |
| ST     | Phillips         | St       | Zipl              | with snap cap | 72005 | 6-93 |
| ST     | Pozidriv         | St       | FLZNYC            | self-drilling | 72022 | 6-93 |

**72008 Cross recessed Phillips (H) tapping screw Y92D**

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



| d x L      | Art.number                        | d x L      | Art.number                        | d x L      | Art.number                        |
|------------|-----------------------------------|------------|-----------------------------------|------------|-----------------------------------|
| ST4,8X16MM | 100 <a href="#">72008.048.016</a> | ST4,8X25MM | 100 <a href="#">72008.048.025</a> | ST4,8X32MM | 100 <a href="#">72008.048.032</a> |
| ST4,8X19MM | 100 <a href="#">72008.048.020</a> |            |                                   |            |                                   |

**72005 Cross recessed Phillips (H) pan head tapping screw with snap cap Y92D**

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



| d x L         | Art.number                        | d x L | Art.number | d x L | Art.number |
|---------------|-----------------------------------|-------|------------|-------|------------|
| 4,8X13 WHITE  | 100 <a href="#">72005.048.013</a> |       |            |       |            |
| 4,8X19 YELLOW | 100 <a href="#">72005.048.019</a> |       |            |       |            |

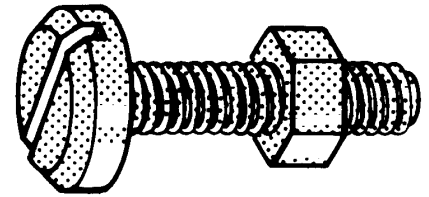
**72022 Cross recessed Pozidriv self-drilling screw Delta-Magni Y92A**

|                          |                                    |
|--------------------------|------------------------------------|
| <b>Thread</b>            | Self tapping thread                |
| <b>Material</b>          | Steel                              |
| <b>Surface treatment</b> | Zinc flake with Chrome - ISO 10683 |
| <b>Packaging</b>         | Standard                           |



| d x L    | Art.number                        | d x L | Art.number | d x L | Art.number |
|----------|-----------------------------------|-------|------------|-------|------------|
| 5,0X16MM | 100 <a href="#">72022.050.016</a> |       |            |       |            |
| 5,0X19MM | 100 <a href="#">72022.050.019</a> |       |            |       |            |
| 5,0X25MM | 100 <a href="#">72022.050.025</a> |       |            |       |            |

## Slotted screw for license plates



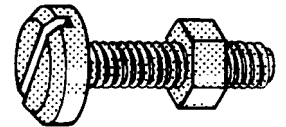
### Article groups

| Thread | Driving features | Material      | Colour | Packaging | Code  | Page |
|--------|------------------|---------------|--------|-----------|-------|------|
| M      | slotted          | Plastic Nylon | Yellow | Standard  | 72000 | 6-94 |
| M      | slotted          | Plastic Nylon | Black  | Standard  | 72002 | 6-94 |

#### 72000 Slotted screw for license plates

Y92D

|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Nylon (polyamide) |
| <b>Colour</b>    | Yellow                    |
| <b>Packaging</b> | Standard                  |



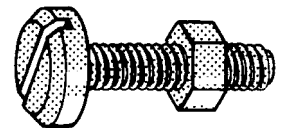
| d x L | ☒   | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|-------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| M6X16 | 100 | <a href="#">72000.060.016</a> |       |   |            |       |   |            |
| M6X25 | 100 | <a href="#">72000.060.025</a> |       |   |            |       |   |            |

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#### 72002 Slotted screw for license plates

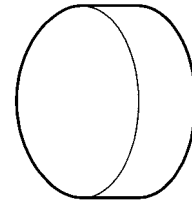
Y92D

|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Nylon (polyamide) |
| <b>Colour</b>    | Black                     |
| <b>Packaging</b> | Standard                  |



| d x L | ☒   | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|-------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| M6X16 | 100 | <a href="#">72002.060.016</a> |       |   |            |       |   |            |

## Cap (Snap)



### Article groups

| Material                   | Packaging | Code  | Page |
|----------------------------|-----------|-------|------|
| Plastic Nylon              | Standard  | 72011 | 6-95 |
| Plastic Nylon for Phillips | Standard  | 72018 | 6-95 |

| 72011 Cap (Snap) |                           | Y92D |
|------------------|---------------------------|------|
| <b>Material</b>  | Plastic Nylon (polyamide) |      |
| <b>Packaging</b> | Standard                  |      |

| Type          | ☒   | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|---------------|-----|-------------------------------|------|---|------------|------|---|------------|
| CAP YELLOW M5 | 100 | <a href="#">72011.050.001</a> |      |   |            |      |   |            |
| CAP BLACK M5  | 100 | <a href="#">72011.050.002</a> |      |   |            |      |   |            |

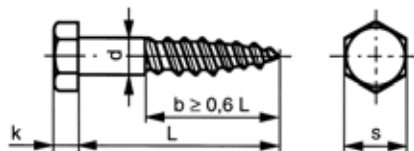
- For screws.

| 72018 Cap (Snap) |                           | Y92D |
|------------------|---------------------------|------|
| <b>Material</b>  | Plastic Nylon (polyamide) |      |
| <b>Packaging</b> | Standard                  |      |

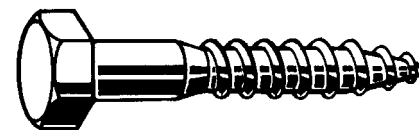
| Type   | ☒   | Art.number                    | Type  | ☒   | Art.number                    | Type | ☒ | Art.number |
|--------|-----|-------------------------------|-------|-----|-------------------------------|------|---|------------|
| BLUE   | 100 | <a href="#">72018.000.002</a> | WHITE | 100 | <a href="#">72018.000.011</a> |      |   |            |
| YELLOW | 100 | <a href="#">72018.000.004</a> | BLACK | 100 | <a href="#">72018.000.012</a> |      |   |            |

- For cross recessed Phillips (H) tapping screws an for self-drilling cross recessed Phillips (H) tapping screws

## Hexagon head wood screw



DIN 571  
NEN 2260  
NF E25-607



### Technical data

| d | k   | s  | d  | k   | s  | d  | k  | s  |
|---|-----|----|----|-----|----|----|----|----|
| 4 | 2,8 | 7  | 7  | 5   | 12 | 12 | 8  | 19 |
| 5 | 3,5 | 8  | 8  | 5,5 | 13 | 16 | 10 | 24 |
| 6 | 4   | 10 | 10 | 7   | 17 | 20 | 13 | 30 |

- Wood screw thread acc. to DIN 7998.

### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page |
|------------------|-----------|-------------------|-----------|-------|------|
| hexagon          | St        | Zipl              | Standard  | 08280 | 6-96 |
| hexagon          | St        | Hot d.g.          | Standard  | 08450 | 6-97 |
| hexagon          | St.St. A2 | bitumen washer    | Standard  | 51890 | 6-97 |
| hexagon          | St.St. A2 |                   | Standard  | 51900 | 6-97 |
| hexagon          | St.St. A4 |                   | Standard  | 55900 | 6-98 |

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| 08280 Hexagon head wood screw |             | E07A |
|-------------------------------|-------------|------|
| Material                      | Steel       |      |
| Surface treatment             | Zinc plated |      |
| Packaging                     | Standard    |      |

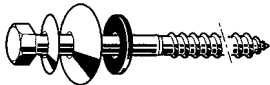


| d x L   | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 5X20MM  | 200 | <a href="#">08280.050.020</a> | 7X170MM  | 50  | <a href="#">08280.070.170</a> | 10X180MM | 50  | <a href="#">08280.100.180</a> |
| 5X25MM  | 200 | <a href="#">08280.050.025</a> | 7X200MM  | 50  | <a href="#">08280.070.200</a> | 10X200MM | 50  | <a href="#">08280.100.200</a> |
| 5X30MM  | 200 | <a href="#">08280.050.030</a> | 7X230MM  | 50  | <a href="#">08280.070.230</a> | 10X220MM | 25  | <a href="#">08280.100.220</a> |
| 5X35MM  | 200 | <a href="#">08280.050.035</a> |          |     |                               | 10X240MM | 25  | <a href="#">08280.100.240</a> |
| 5X40MM  | 200 | <a href="#">08280.050.040</a> | 8X25MM   | 200 | <a href="#">08280.080.025</a> | 10X260MM | 25  | <a href="#">08280.100.260</a> |
| 5X45MM  | 200 | <a href="#">08280.050.045</a> | 8X30MM   | 200 | <a href="#">08280.080.030</a> | 12X45MM  | 100 | <a href="#">08280.120.045</a> |
| 5X50MM  | 200 | <a href="#">08280.050.050</a> | 8X35MM   | 200 | <a href="#">08280.080.035</a> | 12X50MM  | 100 | <a href="#">08280.120.050</a> |
| 5X60MM  | 200 | <a href="#">08280.050.060</a> | 8X40MM   | 200 | <a href="#">08280.080.040</a> | 12X60MM  | 100 | <a href="#">08280.120.060</a> |
| 6X20MM  | 200 | <a href="#">08280.060.020</a> | 8X45MM   | 200 | <a href="#">08280.080.045</a> | 12X70MM  | 50  | <a href="#">08280.120.070</a> |
| 6X25MM  | 200 | <a href="#">08280.060.025</a> | 8X50MM   | 200 | <a href="#">08280.080.050</a> | 12X80MM  | 50  | <a href="#">08280.120.080</a> |
| 6X30MM  | 200 | <a href="#">08280.060.030</a> | 8X55MM   | 200 | <a href="#">08280.080.055</a> | 12X90MM  | 50  | <a href="#">08280.120.090</a> |
| 6X35MM  | 200 | <a href="#">08280.060.035</a> | 8X60MM   | 200 | <a href="#">08280.080.060</a> | 12X100MM | 50  | <a href="#">08280.120.100</a> |
| 6X40MM  | 200 | <a href="#">08280.060.040</a> | 8X65MM   | 200 | <a href="#">08280.080.065</a> | 12X110MM | 50  | <a href="#">08280.120.110</a> |
| 6X45MM  | 200 | <a href="#">08280.060.045</a> | 8X70MM   | 200 | <a href="#">08280.080.070</a> | 12X120MM | 50  | <a href="#">08280.120.120</a> |
| 6X50MM  | 200 | <a href="#">08280.060.050</a> | 8X80MM   | 200 | <a href="#">08280.080.080</a> | 12X130MM | 50  | <a href="#">08280.120.130</a> |
| 6X55MM  | 200 | <a href="#">08280.060.055</a> | 8X90MM   | 100 | <a href="#">08280.080.090</a> | 12X140MM | 50  | <a href="#">08280.120.140</a> |
| 6X60MM  | 200 | <a href="#">08280.060.060</a> | 8X100MM  | 100 | <a href="#">08280.080.100</a> | 12X150MM | 50  | <a href="#">08280.120.150</a> |
| 6X65MM  | 200 | <a href="#">08280.060.065</a> | 8X110MM  | 100 | <a href="#">08280.080.110</a> | 12X160MM | 25  | <a href="#">08280.120.160</a> |
| 6X70MM  | 200 | <a href="#">08280.060.070</a> | 8X120MM  | 100 | <a href="#">08280.080.120</a> | 12X180MM | 25  | <a href="#">08280.120.180</a> |
| 6X80MM  | 200 | <a href="#">08280.060.080</a> | 8X130MM  | 100 | <a href="#">08280.080.130</a> | 12X200MM | 25  | <a href="#">08280.120.200</a> |
| 6X90MM  | 100 | <a href="#">08280.060.090</a> | 8X140MM  | 50  | <a href="#">08280.080.140</a> | 12X220MM | 25  | <a href="#">08280.120.220</a> |
| 6X100MM | 100 | <a href="#">08280.060.100</a> | 8X150MM  | 50  | <a href="#">08280.080.150</a> |          |     |                               |
| 6X110MM | 100 | <a href="#">08280.060.110</a> | 8X160MM  | 50  | <a href="#">08280.080.160</a> |          |     |                               |
| 6X120MM | 100 | <a href="#">08280.060.120</a> | 8X180MM  | 50  | <a href="#">08280.080.180</a> | 16X60MM  | 25  | <a href="#">08280.160.060</a> |
| 6X130MM | 100 | <a href="#">08280.060.130</a> |          |     |                               | 16X70MM  | 25  | <a href="#">08280.160.070</a> |
| 6X140MM | 100 | <a href="#">08280.060.140</a> | 10X30MM  | 200 | <a href="#">08280.100.030</a> | 16X80MM  | 25  | <a href="#">08280.160.080</a> |
|         |     |                               | 10X40MM  | 100 | <a href="#">08280.100.040</a> | 16X100MM | 25  | <a href="#">08280.160.100</a> |
|         |     |                               | 10X45MM  | 100 | <a href="#">08280.100.045</a> | 16X120MM | 25  | <a href="#">08280.160.120</a> |
|         |     |                               | 10X50MM  | 100 | <a href="#">08280.100.050</a> | 16X140MM | 25  | <a href="#">08280.160.140</a> |
|         |     |                               | 10X55MM  | 100 | <a href="#">08280.100.055</a> | 16X160MM | 25  | <a href="#">08280.160.160</a> |
|         |     |                               | 10X60MM  | 100 | <a href="#">08280.100.060</a> | 16X180MM | 25  | <a href="#">08280.160.180</a> |
|         |     |                               | 10X70MM  | 100 | <a href="#">08280.100.070</a> | 16X200MM | 25  | <a href="#">08280.160.200</a> |
|         |     |                               | 10X80MM  | 100 | <a href="#">08280.100.080</a> |          |     |                               |
|         |     |                               | 10X90MM  | 100 | <a href="#">08280.100.090</a> | 20X120MM | 25  | <a href="#">08280.200.120</a> |
|         |     |                               | 10X100MM | 100 | <a href="#">08280.100.100</a> | 20X140MM | 25  | <a href="#">08280.200.140</a> |
|         |     |                               | 10X110MM | 50  | <a href="#">08280.100.110</a> | 20X160MM | 10  | <a href="#">08280.200.160</a> |
|         |     |                               | 10X120MM | 50  | <a href="#">08280.100.120</a> | 20X180MM | 10  | <a href="#">08280.200.180</a> |
|         |     |                               | 10X130MM | 50  | <a href="#">08280.100.130</a> | 20X200MM | 10  | <a href="#">08280.200.200</a> |
|         |     |                               | 10X140MM | 50  | <a href="#">08280.100.140</a> |          |     |                               |
|         |     |                               | 10X150MM | 50  | <a href="#">08280.100.150</a> |          |     |                               |
|         |     |                               | 10X160MM | 50  | <a href="#">08280.100.160</a> |          |     |                               |



| 08450 Hexagon head wood screw |                    | E10A  |
|-------------------------------|--------------------|---|
| <b>Material</b>               | Steel              |  |
| <b>Surface treatment</b>      | Hot dip galvanized |   |
| <b>Packaging</b>              | Standard           |   |

| d x L    | ✉   | Art.number                    | d x L    | ✉   | Art.number                    | d x L    | ✉  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| 8X40MM   | 200 | <a href="#">08450.080.040</a> | 10X160MM | 50  | <a href="#">08450.100.160</a> | 12X200MM | 25 | <a href="#">08450.120.200</a> |
| 8X50MM   | 200 | <a href="#">08450.080.050</a> | 10X180MM | 50  | <a href="#">08450.100.180</a> | 12X220MM | 25 | <a href="#">08450.120.220</a> |
| 8X60MM   | 200 | <a href="#">08450.080.060</a> | 10X200MM | 50  | <a href="#">08450.100.200</a> | 12X240MM | 25 | <a href="#">08450.120.240</a> |
| 8X70MM   | 200 | <a href="#">08450.080.070</a> | 10X220MM | 25  | <a href="#">08450.100.220</a> |          |    |                               |
| 8X80MM   | 200 | <a href="#">08450.080.080</a> | 10X240MM | 25  | <a href="#">08450.100.240</a> |          |    |                               |
| 8X100MM  | 100 | <a href="#">08450.080.100</a> |          |     |                               | 16X60MM  | 25 | <a href="#">08450.160.060</a> |
| 8X120MM  | 100 | <a href="#">08450.080.120</a> | 12X60MM  | 100 | <a href="#">08450.120.060</a> | 16X80MM  | 25 | <a href="#">08450.160.080</a> |
|          |     |                               | 12X70MM  | 50  | <a href="#">08450.120.070</a> | 16X100MM | 25 | <a href="#">08450.160.100</a> |
| 10X60MM  | 100 | <a href="#">08450.100.060</a> | 12X80MM  | 50  | <a href="#">08450.120.080</a> | 16X120MM | 25 | <a href="#">08450.160.120</a> |
| 10X70MM  | 100 | <a href="#">08450.100.070</a> | 12X100MM | 50  | <a href="#">08450.120.100</a> | 16X160MM | 25 | <a href="#">08450.160.160</a> |
| 10X80MM  | 100 | <a href="#">08450.100.080</a> | 12X120MM | 50  | <a href="#">08450.120.120</a> | 16X180MM | 25 | <a href="#">08450.160.180</a> |
| 10X100MM | 100 | <a href="#">08450.100.100</a> | 12X140MM | 50  | <a href="#">08450.120.140</a> | 16X200MM | 25 | <a href="#">08450.160.200</a> |
| 10X120MM | 50  | <a href="#">08450.100.120</a> | 12X160MM | 25  | <a href="#">08450.120.160</a> | 16X220MM | 25 | <a href="#">08450.160.220</a> |
| 10X140MM | 50  | <a href="#">08450.100.140</a> | 12X180MM | 25  | <a href="#">08450.120.180</a> | 16X240MM | 25 | <a href="#">08450.160.240</a> |

| 51890 Hexagon head wood screw with stainless steel-lead-bitumen washers |                        | R03A  |
|---|------------------------|---|
| <b>Material</b>   | Stainless steel A2     |  |
| <b>Packaging</b>  | Standard<br>DIN ≈571/- |   |
|   |                        |   |

| d x L   | ✉   | Art.number                    | d x L | ✉ | Art.number | d x L | ✉ | Art.number |
|---------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| 7X110MM | 100 | <a href="#">51890.070.110</a> |       |   |            |       |   |            |
| 7X130MM | 100 | <a href="#">51890.070.130</a> |       |   |            |       |   |            |
| 7X150MM | 100 | <a href="#">51890.070.150</a> |       |   |            |       |   |            |

| 51900 Hexagon head wood screw |                    | R03A  |
|-------------------------------|--------------------|---|
| <b>Material</b>               | Stainless steel A2 |  |
| <b>Packaging</b>              | Standard           |   |
|                               |                    |   |

| d x L     | ✉   | Art.number                    | d x L     | ✉   | Art.number                    | d x L      | ✉   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| 4X25MM *  | 200 | <a href="#">51900.040.025</a> | 7X70MM    | 50  | <a href="#">51900.070.070</a> | 8X180MM    | 10  | <a href="#">51900.080.180</a> |
| 5X20MM *  | 200 | <a href="#">51900.050.020</a> | 7X80MM    | 50  | <a href="#">51900.070.080</a> | 8X200MM    | 10  | <a href="#">51900.080.200</a> |
| 5X30MM    | 100 | <a href="#">51900.050.030</a> | 7X90MM    | 50  | <a href="#">51900.070.090</a> |            |     |                               |
| 5X35MM *  | 200 | <a href="#">51900.050.035</a> | 7X100MM   | 50  | <a href="#">51900.070.100</a> | 10X40MM    | 25  | <a href="#">51900.100.040</a> |
| 5X40MM    | 100 | <a href="#">51900.050.040</a> | 7X110MM   | 50  | <a href="#">51900.070.110</a> | 10X45MM *  | 100 | <a href="#">51900.100.045</a> |
| 5X45MM *  | 200 | <a href="#">51900.050.045</a> | 7X120MM   | 25  | <a href="#">51900.070.120</a> | 10X50MM    | 25  | <a href="#">51900.100.050</a> |
| 5X50MM    | 100 | <a href="#">51900.050.050</a> | 7X130MM   | 25  | <a href="#">51900.070.130</a> | 10X55MM *  | 100 | <a href="#">51900.100.055</a> |
| 5X60MM    | 100 | <a href="#">51900.050.060</a> | 7X140MM * | 100 | <a href="#">51900.070.140</a> | 10X60MM    | 25  | <a href="#">51900.100.060</a> |
| 5X70MM    | 100 | <a href="#">51900.050.070</a> | 7X150MM   | 25  | <a href="#">51900.070.150</a> | 10X70MM    | 25  | <a href="#">51900.100.070</a> |
| 5X80MM *  | 200 | <a href="#">51900.050.080</a> | 7X160MM * | 100 | <a href="#">51900.070.160</a> | 10X80MM    | 10  | <a href="#">51900.100.080</a> |
| 5X90MM *  | 200 | <a href="#">51900.050.090</a> | 7X170MM   | 25  | <a href="#">51900.070.170</a> | 10X90MM    | 10  | <a href="#">51900.100.090</a> |
|           |     |                               | 7X180MM * | 100 | <a href="#">51900.070.180</a> | 10X100MM   | 10  | <a href="#">51900.100.100</a> |
|           |     |                               | 7X210MM * | 100 | <a href="#">51900.070.210</a> | 10X110MM   | 10  | <a href="#">51900.100.110</a> |
| 6X25MM    | 100 | <a href="#">51900.060.025</a> |           |     |                               | 10X120MM   | 10  | <a href="#">51900.100.120</a> |
| 6X30MM    | 100 | <a href="#">51900.060.030</a> | 8X25MM *  | 100 | <a href="#">51900.080.025</a> | 10X130MM   | 10  | <a href="#">51900.100.130</a> |
| 6X35MM    | 100 | <a href="#">51900.060.035</a> | 8X30MM    | 50  | <a href="#">51900.080.030</a> | 10X140MM   | 10  | <a href="#">51900.100.140</a> |
| 6X40MM    | 100 | <a href="#">51900.060.040</a> | 8X35MM *  | 100 | <a href="#">51900.080.035</a> | 10X150MM   | 10  | <a href="#">51900.100.150</a> |
| 6X45MM    | 100 | <a href="#">51900.060.045</a> | 8X40MM    | 50  | <a href="#">51900.080.040</a> | 10X160MM   | 10  | <a href="#">51900.100.160</a> |
| 6X50MM    | 100 | <a href="#">51900.060.050</a> | 8X45MM    | 50  | <a href="#">51900.080.045</a> | 10X180MM   | 10  | <a href="#">51900.100.180</a> |
| 6X55MM *  | 200 | <a href="#">51900.060.055</a> | 8X50MM    | 50  | <a href="#">51900.080.050</a> | 10X200MM   | 10  | <a href="#">51900.100.200</a> |
| 6X60MM    | 50  | <a href="#">51900.060.060</a> | 8X55MM    | 50  | <a href="#">51900.080.055</a> | 10X220MM * | 50  | <a href="#">51900.100.220</a> |
| 6X65MM *  | 100 | <a href="#">51900.060.065</a> | 8X60MM    | 50  | <a href="#">51900.080.060</a> | 10X240MM * | 50  | <a href="#">51900.100.240</a> |
| 6X70MM    | 50  | <a href="#">51900.060.070</a> | 8X65MM *  | 100 | <a href="#">51900.080.065</a> | 10X260MM * | 25  | <a href="#">51900.100.260</a> |
| 6X80MM    | 50  | <a href="#">51900.060.080</a> | 8X70MM    | 25  | <a href="#">51900.080.070</a> | 10X280MM * | 25  | <a href="#">51900.100.280</a> |
| 6X90MM    | 50  | <a href="#">51900.060.090</a> | 8X75MM *  | 100 | <a href="#">51900.080.075</a> | 10X300MM * | 25  | <a href="#">51900.100.300</a> |
| 6X100MM   | 50  | <a href="#">51900.060.100</a> | 8X80MM    | 25  | <a href="#">51900.080.080</a> |            |     |                               |
| 6X110MM   | 25  | <a href="#">51900.060.110</a> | 8X90MM    | 25  | <a href="#">51900.080.090</a> | 12X50MM    | 10  | <a href="#">51900.120.050</a> |
| 6X120MM   | 25  | <a href="#">51900.060.120</a> | 8X100MM   | 25  | <a href="#">51900.080.100</a> | 12X60MM    | 10  | <a href="#">51900.120.060</a> |
| 6X130MM * | 100 | <a href="#">51900.060.130</a> | 8X110MM   | 25  | <a href="#">51900.080.110</a> | 12X70MM    | 10  | <a href="#">51900.120.070</a> |
| 6X140MM * | 100 | <a href="#">51900.060.140</a> | 8X120MM   | 10  | <a href="#">51900.080.120</a> | 12X80MM    | 10  | <a href="#">51900.120.080</a> |
|           |     |                               | 8X130MM   | 10  | <a href="#">51900.080.130</a> | 12X90MM    | 10  | <a href="#">51900.120.090</a> |
| 7X30MM    | 50  | <a href="#">51900.070.030</a> | 8X140MM   | 10  | <a href="#">51900.080.140</a> | 12X100MM   | 10  | <a href="#">51900.120.100</a> |
| 7X40MM    | 50  | <a href="#">51900.070.040</a> | 8X150MM   | 10  | <a href="#">51900.080.150</a> | 12X110MM   | 10  | <a href="#">51900.120.110</a> |
| 7X50MM    | 50  | <a href="#">51900.070.050</a> | 8X160MM   | 10  | <a href="#">51900.080.160</a> | 12X120MM   | 10  | <a href="#">51900.120.120</a> |
| 7X60MM    | 50  | <a href="#">51900.070.060</a> |           |     |                               |            |     |                               |

**51900 Hexagon head wood screw**

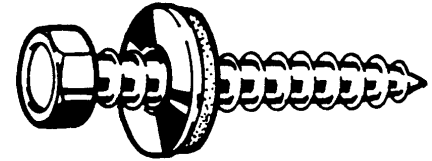
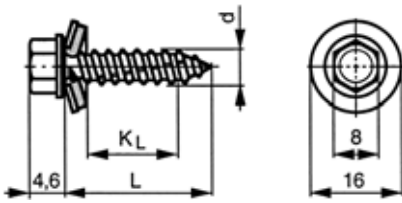
| d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 12X130MM   | 10 | <a href="#">51900.120.130</a> | 12X260MM * | 25 | <a href="#">51900.120.260</a> | 16X110MM * | 25 | <a href="#">51900.160.110</a> |
| 12X140MM   | 10 | <a href="#">51900.120.140</a> | 12X280MM * | 25 | <a href="#">51900.120.280</a> | 16X120MM * | 25 | <a href="#">51900.160.120</a> |
| 12X150MM   | 10 | <a href="#">51900.120.150</a> | 12X300MM * | 25 | <a href="#">51900.120.300</a> | 16X130MM * | 25 | <a href="#">51900.160.130</a> |
| 12X160MM   | 10 | <a href="#">51900.120.160</a> |            |    |                               | 16X140MM * | 25 | <a href="#">51900.160.140</a> |
| 12X180MM   | 10 | <a href="#">51900.120.180</a> | 16X60MM *  | 25 | <a href="#">51900.160.060</a> | 16X150MM * | 25 | <a href="#">51900.160.150</a> |
| 12X200MM   | 10 | <a href="#">51900.120.200</a> | 16X70MM *  | 25 | <a href="#">51900.160.070</a> | 16X160MM * | 25 | <a href="#">51900.160.160</a> |
| 12X220MM * | 25 | <a href="#">51900.120.220</a> | 16X80MM *  | 25 | <a href="#">51900.160.080</a> | 16X180MM * | 25 | <a href="#">51900.160.180</a> |
| 12X240MM * | 25 | <a href="#">51900.120.240</a> | 16X90MM *  | 25 | <a href="#">51900.160.090</a> | 16X200MM * | 25 | <a href="#">51900.160.200</a> |
| 12X250MM * | 25 | <a href="#">51900.120.250</a> | 16X100MM * | 25 | <a href="#">51900.160.100</a> |            |    |                               |

**55900 Hexagon head wood screw**
**R43A**
**Material** Stainless steel A4  
**Packaging** Standard


| d x L     | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 5X30MM *  | 200 | <a href="#">55900.050.030</a> | 8X40MM     | 50  | <a href="#">55900.080.040</a> | 10X140MM * | 50  | <a href="#">55900.100.140</a> |
| 5X35MM *  | 200 | <a href="#">55900.050.035</a> | 8X45MM *   | 100 | <a href="#">55900.080.045</a> | 10X150MM * | 50  | <a href="#">55900.100.150</a> |
| 5X40MM *  | 200 | <a href="#">55900.050.040</a> | 8X50MM     | 50  | <a href="#">55900.080.050</a> | 10X160MM * | 50  | <a href="#">55900.100.160</a> |
| 5X45MM *  | 200 | <a href="#">55900.050.045</a> | 8X60MM     | 50  | <a href="#">55900.080.060</a> | 10X180MM * | 50  | <a href="#">55900.100.180</a> |
| 5X50MM *  | 200 | <a href="#">55900.050.050</a> | 8X65MM *   | 100 | <a href="#">55900.080.065</a> | 10X200MM * | 50  | <a href="#">55900.100.200</a> |
| 5X60MM *  | 200 | <a href="#">55900.050.060</a> | 8X70MM     | 25  | <a href="#">55900.080.070</a> |            |     |                               |
| 5X70MM *  | 200 | <a href="#">55900.050.070</a> | 8X75MM *   | 100 | <a href="#">55900.080.075</a> | 12X50MM *  | 100 | <a href="#">55900.120.050</a> |
|           |     |                               | 8X80MM     | 25  | <a href="#">55900.080.080</a> | 12X60MM *  | 100 | <a href="#">55900.120.060</a> |
| 6X25MM    | 100 | <a href="#">55900.060.025</a> | 8X90MM     | 25  | <a href="#">55900.080.090</a> | 12X65MM *  | 100 | <a href="#">55900.120.065</a> |
| 6X30MM    | 100 | <a href="#">55900.060.030</a> | 8X100MM    | 25  | <a href="#">55900.080.100</a> | 12X75MM *  | 50  | <a href="#">55900.120.075</a> |
| 6X35MM *  | 200 | <a href="#">55900.060.035</a> | 8X110MM *  | 100 | <a href="#">55900.080.110</a> | 12X90MM *  | 50  | <a href="#">55900.120.090</a> |
| 6X40MM    | 100 | <a href="#">55900.060.040</a> | 8X120MM *  | 100 | <a href="#">55900.080.120</a> | 12X110MM * | 25  | <a href="#">55900.120.110</a> |
| 6X45MM    | 100 | <a href="#">55900.060.045</a> | 8X130MM *  | 100 | <a href="#">55900.080.130</a> | 12X120MM * | 25  | <a href="#">55900.120.120</a> |
| 6X50MM    | 100 | <a href="#">55900.060.050</a> | 8X140MM *  | 50  | <a href="#">55900.080.140</a> | 12X130MM * | 25  | <a href="#">55900.120.130</a> |
| 6X60MM    | 50  | <a href="#">55900.060.060</a> | 8X150MM *  | 50  | <a href="#">55900.080.150</a> | 12X140MM * | 25  | <a href="#">55900.120.140</a> |
| 6X65MM *  | 100 | <a href="#">55900.060.065</a> | 8X160MM *  | 50  | <a href="#">55900.080.160</a> | 12X150MM * | 25  | <a href="#">55900.120.150</a> |
| 6X70MM    | 50  | <a href="#">55900.060.070</a> | 8X180MM *  | 50  | <a href="#">55900.080.180</a> | 12X160MM * | 25  | <a href="#">55900.120.160</a> |
| 6X75MM *  | 100 | <a href="#">55900.060.075</a> | 8X200MM *  | 50  | <a href="#">55900.080.200</a> | 12X180MM * | 25  | <a href="#">55900.120.180</a> |
| 6X80MM    | 50  | <a href="#">55900.060.080</a> |            |     |                               | 12X200MM * | 25  | <a href="#">55900.120.200</a> |
| 6X90MM *  | 100 | <a href="#">55900.060.090</a> | 10X40MM    | 25  | <a href="#">55900.100.040</a> |            |     |                               |
| 6X100MM * | 100 | <a href="#">55900.060.100</a> | 10X50MM    | 25  | <a href="#">55900.100.050</a> | 16X60MM *  | 25  | <a href="#">55900.160.060</a> |
| 6X110MM * | 100 | <a href="#">55900.060.110</a> | 10X60MM    | 25  | <a href="#">55900.100.060</a> | 16X70MM *  | 25  | <a href="#">55900.160.070</a> |
| 6X120MM * | 100 | <a href="#">55900.060.120</a> | 10X65MM *  | 100 | <a href="#">55900.100.065</a> | 16X80MM *  | 25  | <a href="#">55900.160.080</a> |
| 6X130MM * | 100 | <a href="#">55900.060.130</a> | 10X70MM    | 25  | <a href="#">55900.100.070</a> | 16X90MM *  | 25  | <a href="#">55900.160.090</a> |
|           |     |                               | 10X75MM *  | 100 | <a href="#">55900.100.075</a> | 16X100MM * | 25  | <a href="#">55900.160.100</a> |
| 7X100MM * | 100 | <a href="#">55900.070.100</a> | 10X80MM    | 10  | <a href="#">55900.100.080</a> | 16X110MM * | 25  | <a href="#">55900.160.110</a> |
| 7X110MM   | 100 | <a href="#">55900.070.110</a> | 10X90MM *  | 50  | <a href="#">55900.100.090</a> | 16X120MM * | 25  | <a href="#">55900.160.120</a> |
|           |     |                               | 10X100MM   | 10  | <a href="#">55900.100.100</a> | 16X140MM * | 25  | <a href="#">55900.160.140</a> |
| 8X25MM *  | 100 | <a href="#">55900.080.025</a> | 10X110MM * | 50  | <a href="#">55900.100.110</a> | 16X150MM * | 25  | <a href="#">55900.160.150</a> |
| 8X30MM    | 50  | <a href="#">55900.080.030</a> | 10X120MM * | 50  | <a href="#">55900.100.120</a> | 16X160MM * | 25  | <a href="#">55900.160.160</a> |
| 8X35MM *  | 100 | <a href="#">55900.080.035</a> | 10X130MM * | 50  | <a href="#">55900.100.130</a> |            |     |                               |

**6**

## Roofing and front bolt with elastomer sealing ring



- The stainless steel roofing and front bolts are zinc plated.

### Assembly data

|                                   |                 |                  |          |         |         |         |         |          |       |
|-----------------------------------|-----------------|------------------|----------|---------|---------|---------|---------|----------|-------|
| Material thickness                |                 | 0,63-1,1         | 1,25-1,5 | 2,0-3,0 | 3,0-3,9 | 4,0-4,9 | 5,0-5,9 | 6,1-10,0 | >10,0 |
| Recommended roof- front bolt      |                 | Type A           |          |         | Type B  |         |         |          |       |
| <b>MATERIAL</b>                   |                 | <b>HOLE SIZE</b> |          |         |         |         |         |          |       |
| Roof- front bolt                  | Construction    |                  |          |         |         |         |         |          |       |
| Stainless steel                   | Steel and Alum. | 4,0              | 4,5      | 5,0     | 5,05    | 5,35    | 5,65    | 5,8      | 5,85  |
| Aluminium                         | Aluminium       | 4,0-4,5          |          |         | --      |         |         |          |       |
| Aluminium                         | Wood            | 4,0              |          |         | --      |         |         |          |       |
| Grip length KL in steel and Alum. |                 | L-12             |          |         | L-10    |         |         |          |       |
| Bolt length L in wood             |                 | Min. 30 mm       |          |         | --      |         |         |          |       |

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code     | Page        |
|--------|------------------|-----------|-------------------|-----------|----------|-------------|
| ST     | hexagon          | St.St. A2 | Zipl              | A         | Large    | 31710 6-99  |
| ST     | hexagon          | St.St. A2 | Zipl              | A         | Standard | 31711 6-99  |
| ST     | hexagon          | St.St. A2 | Zipl              | B         | Standard | 31720 6-100 |
| ST     | hexagon          | St        | Zipl              | A         | Standard | 31705 6-100 |

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#### 31710 SFS-TOPFORM Roofing and front bolt with elastomer sealing ring type A

J07A

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Surface treatment** Zinc plated  
**Packaging** Large



| d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 6,5X19MM | 500 | <a href="#">31710.065.019</a> | 6,5X51MM  | 100 | <a href="#">31710.065.050</a> | 6,5X115MM | 100 | <a href="#">31710.065.115</a> |
| 6,5X25MM | 500 | <a href="#">31710.065.025</a> | 6,5X64MM  | 100 | <a href="#">31710.065.064</a> | 6,5X127MM | 100 | <a href="#">31710.065.130</a> |
| 6,5X32MM | 500 | <a href="#">31710.065.032</a> | 6,5X76MM  | 100 | <a href="#">31710.065.075</a> | 6,5X152MM | 50  | <a href="#">31710.065.150</a> |
| 6,5X38MM | 250 | <a href="#">31710.065.038</a> | 6,5X90MM  | 100 | <a href="#">31710.065.090</a> | 6,5X178MM | 50  | <a href="#">31710.065.175</a> |
| 6,5X45MM | 100 | <a href="#">31710.065.045</a> | 6,5X100MM | 100 | <a href="#">31710.065.100</a> |           |     |                               |

- Applicable for fastening f.i. thin purlins of steel up to 3 mm thickness (tensile strength about 370 N/mm<sup>2</sup>), in aluminium or in wood.

#### 31711 SFS-TOPFORM Roofing and front bolt with elastomer sealing ring type A



J07A

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L | ☒ | Art.number |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-------|---|------------|
| 6,5X19MM | 100 | <a href="#">31711.065.019</a> | 6,5X32MM | 100 | <a href="#">31711.065.032</a> |       |   |            |
| 6,5X25MM | 100 | <a href="#">31711.065.025</a> | 6,5X38MM | 100 | <a href="#">31711.065.038</a> |       |   |            |

- Applicable for fastening f.i. thin purlins of steel up to 3 mm thickness (tensile strength about 370 N/mm<sup>2</sup>), in aluminium or in wood.

|  |                     |  |
|--|---------------------|--|
| <b>31720 SFS-TOPFORM Roofing and front bolt with elastomer sealing ring without point type B</b> |                     | <b>J07A</b>  |
| <b>Thread</b>  | Self tapping thread |   |
| <b>Material</b>  | Stainless steel A2  |  |
| <b>Surface treatment</b>   | Zinc plated         |  |
| <b>Packaging</b>   | Standard            |  |

| d x L    | ☒   | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|----------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| 6,3X19MM | 500 | <a href="#">31720.063.019</a> |       |   |            |       |   |            |
| 6,3X25MM | 500 | <a href="#">31720.063.025</a> |       |   |            |       |   |            |

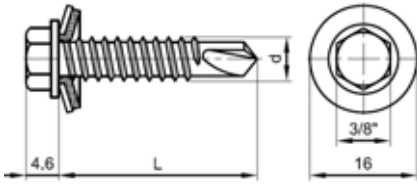
- The stainless steel roofing and front bolts are zinc plated.

|  |                     |   |
|--|---------------------|---|
| <b>31705 Roofing and front bolt with elastomer sealing ring type A</b> |                     | <b>J07A</b>   |
| <b>Thread</b>  | Self tapping thread |  |
| <b>Material</b>  | Steel               |   |
| <b>Surface treatment</b>   | Zinc plated         |   |
| <b>Packaging</b>   | Standard            |   |

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L     | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 6,5X19MM | 100 | <a href="#">31705.065.019</a> | 6,5X50MM | 100 | <a href="#">31705.065.050</a> | 6,5X115MM | 100 | <a href="#">31705.065.115</a> |
| 6,5X25MM | 100 | <a href="#">31705.065.025</a> | 6,5X64MM | 100 | <a href="#">31705.065.064</a> | 6,5X130MM | 100 | <a href="#">31705.065.130</a> |
| 6,5X32MM | 100 | <a href="#">31705.065.032</a> | 6,5X75MM | 100 | <a href="#">31705.065.075</a> | 6,5X150MM | 50  | <a href="#">31705.065.150</a> |
| 6,5X38MM | 100 | <a href="#">31705.065.038</a> | 6,5X90MM | 100 | <a href="#">31705.065.090</a> |           |     |                               |

- Applicable for fastening f.i. thin purlins of steel up to 3 mm thickness (tensile strength about 370 N/mm<sup>2</sup>), in aluminium or in wood.

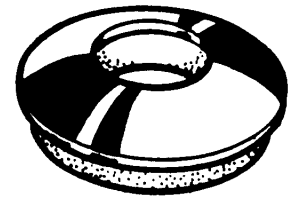
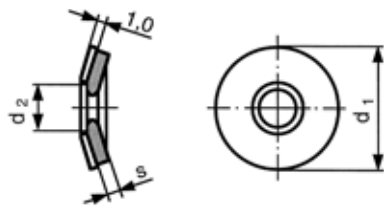
**Roofing and front bolt with elastomer sealing ring and drilling point**



|  |                     |             |
|--|---------------------|-------------|
| <b>31702 Roofing and front bolt with elastomer sealing ring and drilling point</b> |                     | <b>J07A</b> |
| <b>Thread</b>  | Self tapping thread |             |
| <b>Material</b>  | Steel               |             |
| <b>Surface treatment</b>   | Zinc plated         |             |
| <b>Packaging</b>   | Standard            |             |

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 6,3X19MM | 250 | <a href="#">31702.063.019</a> | 6,3X38MM | 250 | <a href="#">31702.063.038</a> | 6,3X75MM | 100 | <a href="#">31702.063.075</a> |
| 6,3X25MM | 250 | <a href="#">31702.063.025</a> | 6,3X50MM | 100 | <a href="#">31702.063.050</a> |          |     |                               |
| 6,3X32MM | 200 | <a href="#">31702.063.032</a> | 6,3X60MM | 100 | <a href="#">31702.063.060</a> |          |     |                               |

## Elastomer sealing ring



### Technical data

| d1 | d2  | s |
|----|-----|---|
| 16 | 6,7 | 2 |
| 19 | 6,7 | 3 |
| 22 | 6,7 | 3 |
| 29 | 6,7 | 3 |

### Assembly data

| Material thickness                | 0,63-1,1        | 1,25-1,5         | 2,0-3,0 | 3,0-3,9       | 4,0-4,9 | 5,0-5,9 | 6,1-10,0 | >10,0 |      |
|-----------------------------------|-----------------|------------------|---------|---------------|---------|---------|----------|-------|------|
| Recommended roof- front bolt      | <b>Type A</b>   |                  |         | <b>Type B</b> |         |         |          |       |      |
| <b>MATERIAL</b>                   |                 | <b>HOLE SIZE</b> |         |               |         |         |          |       |      |
| Roof- front bolt                  | Construction    |                  |         |               |         |         |          |       |      |
| Stainless steel                   | Steel and Alum. | 4,0              | 4,5     | 5,0           | 5,05    | 5,35    | 5,65     | 5,8   | 5,85 |
| Aluminium                         | Aluminium       | 4,0-4,5          |         |               | --      |         |          |       |      |
| Aluminium                         | Wood            | 4,0              |         |               | --      |         |          |       |      |
| Grip length KL in steel and Alum. |                 | L-12             |         |               | L-10    |         |          |       |      |
| Bolt length L in wood             |                 | Min. 30 mm       |         |               | --      |         |          |       |      |

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### Article groups

| Material  | Packaging | Code  | Page  |
|-----------|-----------|-------|-------|
| St.St. A2 | Large     | 31780 | 6-102 |
| St.St. A2 | Standard  | 31781 | 6-102 |

| 31780 Elastomer sealing ring |                    | J07A |  |
|------------------------------|--------------------|------|--|
| <b>Material</b>              | Stainless steel A2 |      |  |
| <b>Packaging</b>             | Large              |      |  |



| d1   | ☒   | Art.number                    | d1   | ☒   | Art.number                    | d1 | ☒ | Art.number |
|------|-----|-------------------------------|------|-----|-------------------------------|----|---|------------|
| 16MM | 500 | <a href="#">31780.160.001</a> | 22MM | 500 | <a href="#">31780.220.001</a> |    |   |            |
| 19MM | 500 | <a href="#">31780.190.001</a> | 29MM | 100 | <a href="#">31780.290.001</a> |    |   |            |

| 31781 Elastomer sealing ring |                    | J07A |  |
|------------------------------|--------------------|------|--|
| <b>Material</b>              | Stainless steel A2 |      |  |
| <b>Packaging</b>             | Standard           |      |  |



| d1   | ☒   | Art.number                    | d1   | ☒   | Art.number                    | d1   | ☒   | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|------|-----|-------------------------------|
| 16MM | 100 | <a href="#">31781.160.001</a> | 19MM | 100 | <a href="#">31781.190.001</a> | 22MM | 100 | <a href="#">31781.220.001</a> |

## FABORY-SPEDEC Selfdrilling screws

### General

With the FABORY-SPEDEC fastening system of DIRECT ASSEMBLY the correct core hole is drilled, the thread is tapped, and the construction parts are connected reliably in one single operation. Thus no drilling or punching of the hole and no thread tapping.

### Material

The FABORY-SPEDEC self-drilling screws are made of case-hardened steel (min. 560 HV 0.3), with the core remains tough (270-425 HV 0.3). FABORY-SPEDEC self-drilling screws meet the sizes, requirements and tests acc. to DIN 7504.

### System

Every FABORY-SPEDEC self-drilling screw drills the hole with its own integrated self-drilling point. Thus quicker and lighter assembly and no time consuming alignment and positioning of construction parts.

### Recess

FABORY-SPEDEC self-drilling screws are provided with a PHILLIPS recess, hexalobular recess or SR recess, thus equipped for mechanized mass-assembly with electrical setting tools.

### Standards

FABORY-SPEDEC self-drilling screw head forms and dimensions are according to DIN standards of normal screws.

### Threads

FABORY-SPEDEC self-drilling screws with self-tapping threads (designation ST) according to DIN 7970. Full thread to achieve good clamping in the joint.

### Application

Stainless steel A2 FABORY-SPEDEC self-drilling screws are only to be used in aluminium alloys with a Brinell hardness up to 75 HB, aluminium self-drilling screws are only to be used in plastics and aluminium alloys.

Guide values for STEEL FABORY-SPEDEC self-drilling screws type SN

| d   |              | ST2,9   | ST3,5   | ST3,9   | ST4,2   | ST4,8   | ST5,5   | ST6,3   |
|---|--------------|---------|---------|---------|---------|---------|---------|---------|
| Tensile force min. in N   |              | 4400    | 6300    | 8000    | 8300    | 12000   | 14000   | 21000   |
| Shear strength min. in N  |              | 2100    | 3700    | 3600    | 4100    | 6800    | 9000    | 13300   |
| Breaking torque in Nm   |              | 2       | 3,7     | 4,5     | 5,1     | 9,2     | 14,5    | 23      |
| Drillcapacity in steel cross members (St 37/52) incl. intervening space | (min.)       | 0,5     | 1       | 1       | 1,75    | 2,75    | 2,75    | 2,75    |
|   | (max.)       | 2       | 2       | 2,5     | 3,5/3   | 5/4     | 6       | 6       |
| Drilling machine (unloaded)   | r.p.m.       | 3500    | 3500    | 3500    | 3500    | 3500    | 2900    | 2900    |
|   | output watt  | 340-400 | 340-400 | 340-400 | 340-400 | 340-400 | 400-700 | 400-700 |
| Av. drilling time in St 37  | approx. sec. | 3,5     | 4       | 5,7     | 4,1     | 3,6     | 6,9     | 13      |

### Recess types

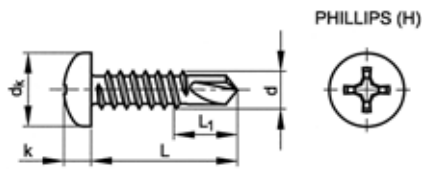
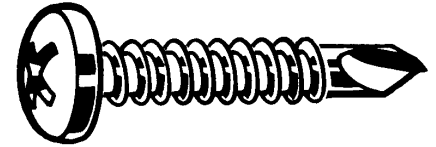
Screws have various types of recess, i.e.: slotted recess, Phillips-cross recess, Pozidriv-cross recess, hexalobular recess and **SR-recess**.

The first five types have one general disadvantage, dimensional deviation of the recess and tool result in excessive clearance between recess and tool, resulting in instability when starting the screw, (vibration and wobble). This excessive clearance can also be a problem when disassembling screws in a difficult location.

### SR-recess

The SR-recess has been developed to eliminate the problem of excessive clearance. The **SR-recess** is in principle a combination of a square-recess and cross-recess. The conical square-recess enables the SR-screw to be attached directly to the SR-tool. The screw, despite its own mass, remains firmly attached to the tool. The excellent connection ensures that wear between the recess and tool (bit) is kept to a minimum. The life expectancy of a SR-tool (bit) is **double** the life of a conventional tool.

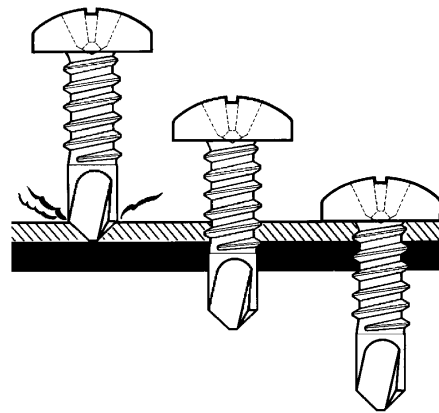
## Self-drilling cross recessed pan head screw


 ISO 15481  
 DIN 7504 M


### Technical data

|                  | ST2,9 | ST3,5 | ST3,9 | ST4,2 | ST4,8 |
|------------------|-------|-------|-------|-------|-------|
| d                |       |       |       |       |       |
| P                | 1,1   | 1,3   | 1,4   | 1,4   | 1,6   |
| dk               | 5,6   | 6,9   | 7,5   | 8,2   | 9,5   |
| k                | 2,2   | 2,6   | 2,8   | 3,05  | 3,55  |
| L <sub>1</sub> ≈ | 4,5   | 5     | 6     | 7     | 8     |
| No. cross recess | 1     | 2     | 2     | 2     | 2     |

- Max. grip length KL = L - L<sub>1</sub>.



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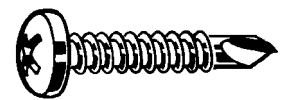
### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|-----------|-------------------|-----------|-------|-------|
| ST     | Phillips         | St        | Zipl              | Large     | 31250 | 6-104 |
| ST     | Phillips         | St        | Zipl              | Standard  | 31255 | 6-105 |
| ST     | Phillips         | St.St. A2 |                   | Standard  | 31120 | 6-105 |
| ST     | Phillips         | St        | Zipl              | Standard  | 31825 | 6-105 |
| ST     | Phillips         | St        | Zipl              | Large     | 31820 | 6-105 |
| ST     | Phillips         | St.St. A2 |                   | Standard  | 31870 | 6-106 |

#### 31250 SPEDEC SN Self-drilling cross recessed pan head screw Phillips

J09A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Large  
**DIN 7504 M-H**



| d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|-------------|------|-------------------------------|------------|------|-------------------------------|------------|------|-------------------------------|
| ST2,9X9,5MM | 1000 | <a href="#">31250.029.009</a> | ST3,9X25MM | 1000 | <a href="#">31250.039.025</a> | ST4,8X13MM | 1000 | <a href="#">31250.048.013</a> |
| ST3,5X9,5MM | 1000 | <a href="#">31250.035.009</a> | ST3,9X32MM | 1000 | <a href="#">31250.039.032</a> | ST4,8X16MM | 1000 | <a href="#">31250.048.016</a> |
| ST3,5X13MM  | 1000 | <a href="#">31250.035.013</a> |            |      |                               | ST4,8X19MM | 1000 | <a href="#">31250.048.019</a> |
| ST3,5X16MM  | 1000 | <a href="#">31250.035.016</a> | ST4,2X13MM | 1000 | <a href="#">31250.042.013</a> | ST4,8X22MM | 1000 | <a href="#">31250.048.022</a> |
| ST3,5X19MM  | 1000 | <a href="#">31250.035.019</a> | ST4,2X16MM | 1000 | <a href="#">31250.042.016</a> | ST4,8X25MM | 1000 | <a href="#">31250.048.025</a> |
| ST3,5X25MM  | 1000 | <a href="#">31250.035.025</a> | ST4,2X19MM | 1000 | <a href="#">31250.042.019</a> | ST4,8X32MM | 1000 | <a href="#">31250.048.032</a> |
|             |      |                               | ST4,2X22MM | 1000 | <a href="#">31250.042.022</a> | ST4,8X38MM | 500  | <a href="#">31250.048.038</a> |
| ST3,9X13MM  | 1000 | <a href="#">31250.039.013</a> | ST4,2X25MM | 1000 | <a href="#">31250.042.025</a> | ST4,8X50MM | 500  | <a href="#">31250.048.050</a> |
| ST3,9X16MM  | 1000 | <a href="#">31250.039.016</a> | ST4,2X32MM | 1000 | <a href="#">31250.042.032</a> |            |      |                               |
| ST3,9X19MM  | 1000 | <a href="#">31250.039.019</a> |            |      |                               |            |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



| 31255 SPEDEC SN Self-drilling cross recessed pan head screw Phillips |                          | J09A |
|--|--------------------------|------|
| <b>Thread</b>  | Self tapping thread      |      |
| <b>Material</b>  | Steel                    |      |
| <b>Surface treatment</b>   | Zinc plated              |      |
| <b>Packaging</b>   | Standard<br>DIN 7504 M-H |      |

| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒          | Art.number                    |                               |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|------------|-------------------------------|-------------------------------|
| ST3,5X9,5MM | 200 | <a href="#">31255.035.009</a> | ST3,9X19MM | 200 | <a href="#">31255.039.019</a> | ST4,8X13MM | 200        | <a href="#">31255.048.013</a> |                               |
| ST3,5X13MM  | 200 | <a href="#">31255.035.013</a> | ST4,2X13MM | 200 | <a href="#">31255.042.013</a> |            | ST4,8X16MM | 200                           | <a href="#">31255.048.016</a> |
| ST3,5X16MM  | 200 | <a href="#">31255.035.016</a> | ST4,2X16MM | 200 | <a href="#">31255.042.016</a> |            | ST4,8X19MM | 200                           | <a href="#">31255.048.019</a> |
| ST3,5X19MM  | 200 | <a href="#">31255.035.019</a> | ST4,2X19MM | 200 | <a href="#">31255.042.019</a> |            |            |                               |                               |
| ST3,5X25MM  | 200 | <a href="#">31255.035.025</a> | ST4,2X25MM | 200 | <a href="#">31255.042.025</a> |            |            |                               |                               |
| ST3,9X16MM  | 200 | <a href="#">31255.039.016</a> | ST4,2X32MM | 200 | <a href="#">31255.042.032</a> |            |            |                               |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 31120 SPEDEC SN Self-drilling cross recessed pan head screw Phillips |                          | J09A |
|--|--------------------------|------|
| <b>Thread</b>  | Self tapping thread      |      |
| <b>Material</b>  | Stainless steel A2       |      |
| <b>Surface treatment</b>   | Zinc plated              |      |
| <b>Packaging</b>   | Standard<br>DIN 7504 M-H |      |

| d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒          | Art.number                    |
|-------------|------|-------------------------------|------------|------|-------------------------------|------------|------------|-------------------------------|
| ST2,9X13MM  | 1000 | <a href="#">31120.029.013</a> | ST3,9X25MM | 1000 | <a href="#">31120.039.025</a> | ST4,8X16MM | 1000       | <a href="#">31120.048.016</a> |
| ST3,5X9,5MM | 1000 | <a href="#">31120.035.009</a> | ST4,2X13MM | 1000 | <a href="#">31120.042.013</a> |            | ST4,8X22MM | 1000                          |
| ST3,5X13MM  | 1000 | <a href="#">31120.035.013</a> | ST4,2X16MM | 1000 | <a href="#">31120.042.016</a> |            |            |                               |
| ST3,5X19MM  | 1000 | <a href="#">31120.035.019</a> | ST4,2X19MM | 1000 | <a href="#">31120.042.019</a> |            |            |                               |
| ST3,9X16MM  | 1000 | <a href="#">31120.039.016</a> | ST4,2X25MM | 1000 | <a href="#">31120.042.025</a> |            |            |                               |

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| 31825 Self-drilling cross recessed pan head screw |                          | J09B |
|---|--------------------------|------|
| <b>Thread</b>                                     | Self tapping thread      |      |
| <b>Material</b>                                   | Steel                    |      |
| <b>Surface treatment</b>                          | Zinc plated              |      |
| <b>Packaging</b>                                  | Standard<br>DIN 7504 M-H |      |

| d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒          | Art.number                    |
|-------------|------|-------------------------------|------------|------|-------------------------------|------------|------------|-------------------------------|
| ST3,5X9,5MM | 1000 | <a href="#">31825.035.009</a> | ST4,2X16MM | 1000 | <a href="#">31825.042.016</a> | ST4,8X19MM | 1000       | <a href="#">31825.048.019</a> |
| ST3,5X13MM  | 1000 | <a href="#">31825.035.013</a> | ST4,2X19MM | 1000 | <a href="#">31825.042.019</a> |            | ST4,8X22MM | 1000                          |
| ST3,5X16MM  | 1000 | <a href="#">31825.035.016</a> | ST4,2X25MM | 1000 | <a href="#">31825.042.025</a> | ST4,8X25MM | 1000       | <a href="#">31825.048.025</a> |
| ST3,5X19MM  | 1000 | <a href="#">31825.035.019</a> |            |      |                               |            |            |                               |
| ST4,2X13MM  | 1000 | <a href="#">31825.042.013</a> | ST4,8X13MM | 1000 | <a href="#">31825.048.013</a> |            |            |                               |
|             |      |                               | ST4,8X16MM | 1000 | <a href="#">31825.048.016</a> |            |            |                               |

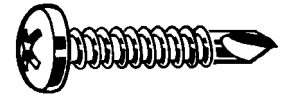
• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 31820 Self-drilling cross recessed pan head screw |                       | J09B |
|---|-----------------------|------|
| <b>Thread</b>                                     | Self tapping thread   |      |
| <b>Material</b>                                   | Steel                 |      |
| <b>Surface treatment</b>                          | Zinc plated           |      |
| <b>Packaging</b>                                  | Large<br>DIN 7504 M-H |      |

| d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒          | Art.number                    |
|-------------|------|-------------------------------|------------|------|-------------------------------|------------|------------|-------------------------------|
| ST3,5X9,5MM | 2000 | <a href="#">31820.035.009</a> | ST3,9X19MM | 2000 | <a href="#">31820.039.019</a> | ST4,8X13MM | 2000       | <a href="#">31820.048.013</a> |
| ST3,5X13MM  | 2000 | <a href="#">31820.035.013</a> | ST4,2X13MM | 2000 | <a href="#">31820.042.013</a> |            | ST4,8X16MM | 2000                          |
| ST3,5X16MM  | 2000 | <a href="#">31820.035.016</a> | ST4,2X16MM | 2000 | <a href="#">31820.042.016</a> | ST4,8X19MM | 2000       | <a href="#">31820.048.019</a> |
| ST3,5X19MM  | 2000 | <a href="#">31820.035.019</a> | ST4,2X19MM | 2000 | <a href="#">31820.042.019</a> | ST4,8X25MM | 2000       | <a href="#">31820.048.025</a> |
| ST3,5X25MM  | 2000 | <a href="#">31820.035.025</a> | ST4,2X25MM | 2000 | <a href="#">31820.042.025</a> |            |            |                               |
| ST3,9X16MM  | 2000 | <a href="#">31820.039.016</a> | ST4,2X32MM | 2000 | <a href="#">31820.042.032</a> |            |            |                               |

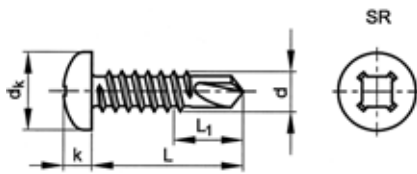
• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|  |                     |             |
|--|---------------------|-------------|
| <b>31870 Self-drilling cross recessed pan head screw</b> |                     | <b>J09B</b> |
| <b>Thread</b>  | Self tapping thread |             |
| <b>Material</b>  | Stainless steel A2  |             |
| <b>Packaging</b>   | Standard            |             |
|  | <b>DIN 7504 M-H</b> |             |

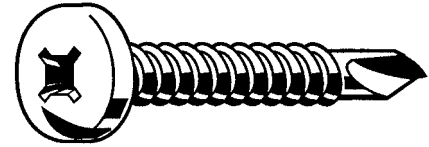


| d x L       | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|-------------|------|-------------------------------|------------|------|-------------------------------|------------|------|-------------------------------|
| ST3,5X9,5MM | 2000 | <a href="#">31870.035.009</a> | ST3,9X25MM | 2000 | <a href="#">31870.039.025</a> | ST4,2X25MM | 2000 | <a href="#">31870.042.025</a> |
| ST3,5X13MM  | 2000 | <a href="#">31870.035.013</a> | ST4,2X13MM | 2000 | <a href="#">31870.042.013</a> | ST4,8X16MM | 2000 | <a href="#">31870.048.016</a> |
| ST3,5X19MM  | 2000 | <a href="#">31870.035.019</a> | ST4,2X16MM | 2000 | <a href="#">31870.042.016</a> | ST4,8X22MM | 2000 | <a href="#">31870.048.022</a> |
| ST3,9X16MM  | 2000 | <a href="#">31870.039.016</a> | ST4,2X19MM | 2000 | <a href="#">31870.042.019</a> |            |      |                               |

**Self-drilling pan head screw with SR-recess**



ISO ≈15481  
DIN ≈7504 M



**Technical data**

|                  | ST3,5 | ST3,9 | ST4,2 | ST4,8 |
|------------------|-------|-------|-------|-------|
| d                |       |       |       |       |
| P                | 1,3   | 1,4   | 1,4   | 1,6   |
| dk               | 7     | 7,5   | 8     | 9,5   |
| k                | 2,6   | 2,95  | 3,25  | 3,7   |
| L <sub>1</sub> ≈ | 5     | 6     | 7     | 8     |
| No. SR           | 1     | 2     | 2     | 2     |

- SR-recess is a cross recess/square recess combination. Assembly with the electric setting tool DI 320 and with SR screwdriver bits, see group codes 31535 and 31640.
- Max. grip length KL = L – L<sub>1</sub>.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



**31480 SPEDEC SN Self-drilling pan head screw with SR-recess**

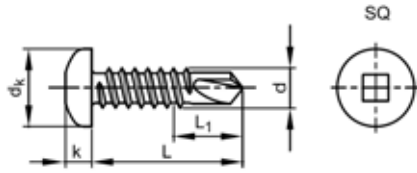
J08A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|------|-------------------------------|
| ST3,5X13MM | 1000 | <a href="#">31480.035.013</a> | ST3,9X25MM | 1000 | <a href="#">31480.039.025</a> | ST4,8X13MM | 1000 | <a href="#">31480.048.013</a> |
| ST3,5X16MM | 1000 | <a href="#">31480.035.016</a> |            |      |                               | ST4,8X16MM | 1000 | <a href="#">31480.048.016</a> |
| ST3,5X19MM | 1000 | <a href="#">31480.035.019</a> | ST4,2X13MM | 1000 | <a href="#">31480.042.013</a> | ST4,8X19MM | 1000 | <a href="#">31480.048.019</a> |
| ST3,5X25MM | 1000 | <a href="#">31480.035.025</a> | ST4,2X16MM | 1000 | <a href="#">31480.042.016</a> | ST4,8X25MM | 1000 | <a href="#">31480.048.025</a> |
|            |      |                               | ST4,2X19MM | 1000 | <a href="#">31480.042.019</a> | ST4,8X32MM | 1000 | <a href="#">31480.048.032</a> |
| ST3,9X13MM | 1000 | <a href="#">31480.039.013</a> | ST4,2X25MM | 1000 | <a href="#">31480.042.025</a> | ST4,8X38MM | 1000 | <a href="#">31480.048.038</a> |
| ST3,9X16MM | 1000 | <a href="#">31480.039.016</a> | ST4,2X32MM | 1000 | <a href="#">31480.042.032</a> |            |      |                               |
| ST3,9X19MM | 1000 | <a href="#">31480.039.019</a> |            |      |                               |            |      |                               |

## Self-drilling pan head screw with square socket



ISO ≈15481  
DIN ≈7504 M



### Technical data

|                  | ST3,5 | ST4,2 | ST4,8 |
|------------------|-------|-------|-------|
| d                |       |       |       |
| P                | 1,3   | 1,4   | 1,6   |
| d <sub>k</sub>   | 6,7   | 7,9   | 9,3   |
| k                | 2,6   | 3,25  | 3,7   |
| L <sub>1</sub> ≈ | 2     | 3     | 4     |
| No. Square       | 1     | 2     | 2     |

### 26820 Self-drilling pan head screw with square socket

J61A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L     | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|-----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3,5X9,5MM | 200 | <a href="#">26820.035.009</a> | 4,2X13MM | 200 | <a href="#">26820.042.013</a> | 4,2X32MM | 200 | <a href="#">26820.042.032</a> |
| 3,5X13MM  | 200 | <a href="#">26820.035.013</a> | 4,2X19MM | 200 | <a href="#">26820.042.019</a> |          |     |                               |
|           |     |                               | 4,2X25MM | 200 | <a href="#">26820.042.025</a> | 4,8X16MM | 200 | <a href="#">26820.048.016</a> |

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## Square screwdriver bit



### 26828 Square screwdriver bit

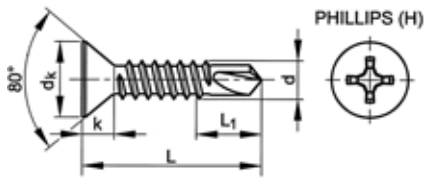
J61A

**Material** Steel  
**Packaging** Standard



| Size      | ☒ | Art.number                    | Size | ☒ | Art.number | Size | ☒ | Art.number |
|-----------|---|-------------------------------|------|---|------------|------|---|------------|
| 1 - 3,5MM | 1 | <a href="#">26828.035.001</a> |      |   |            |      |   |            |
| 2 - 4,2MM | 1 | <a href="#">26828.042.001</a> |      |   |            |      |   |            |

## Self-drilling cross recessed countersunk head screw



ISO 15482  
 DIN 7504 O-H



### Technical data

| d     | P   | dk   | L <sub>1</sub> ≈ | No. cross recess |
|-------|-----|------|------------------|------------------|
| ST3,5 | 1,3 | 6,8  | 5                | 2                |
| ST3,9 | 1,4 | 7,5  | 6                | 2                |
| ST4,2 | 1,4 | 8,1  | 7                | 2                |
| ST4,8 | 1,6 | 9,5  | 8                | 2                |
| ST5,5 | 1,8 | 10,8 | 10               | 3                |
| ST6,3 | 1,8 | 12,4 | 11               | 3                |

- Max. grip length KL = L - L<sub>1</sub>.

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|-----------|-------------------|-----------|-------|-------|
| ST     | Phillips         | St        | Zipl              | Standard  | 31256 | 6-109 |
| ST     | Phillips         | St        | Zipl              | Large     | 31260 | 6-109 |
| ST     | Phillips         | St        | Zipl              | Standard  | 31830 | 6-110 |
| ST     | Phillips         | St.St. A2 |                   | Standard  | 31140 | 6-110 |
| ST     | Phillips         | St.St. A2 |                   | Standard  | 31880 | 6-110 |

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|                          |   |             |
|--------------------------|---|-------------|
| <b>31256</b>             | <b>SPEDEC SN Self-drilling cross recessed countersunk head screw Phillips</b> | <b>J09A</b> |
| <b>Thread</b>            | Self tapping thread   |             |
| <b>Material</b>          | Steel   |             |
| <b>Surface treatment</b> | Zinc plated   |             |
| <b>Packaging</b>         | Standard  |             |



| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L | ☒ | Art.number |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-------|---|------------|
| ST3,5X13MM | 200 | <a href="#">31256.035.013</a> |            |     |                               |       |   |            |
| ST4,2X19MM | 200 | <a href="#">31256.042.019</a> | ST4,8X32MM | 200 | <a href="#">31256.048.032</a> |       |   |            |
| ST4,2X32MM | 200 | <a href="#">31256.042.032</a> | ST4,8X38MM | 200 | <a href="#">31256.048.038</a> |       |   |            |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|                          |   |             |
|--------------------------|---|-------------|
| <b>31260</b>             | <b>SPEDEC SN Self-drilling cross recessed countersunk head screw Phillips</b> | <b>J09A</b> |
| <b>Thread</b>            | Self tapping thread   |             |
| <b>Material</b>          | Steel   |             |
| <b>Surface treatment</b> | Zinc plated   |             |
| <b>Packaging</b>         | Large   |             |




| d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|-----|-------------------------------|
| ST3,5X13MM | 1000 | <a href="#">31260.035.013</a> | ST3,9X32MM | 1000 | <a href="#">31260.039.032</a> | ST4,8X38MM | 500 | <a href="#">31260.048.038</a> |
| ST3,5X16MM | 1000 | <a href="#">31260.035.016</a> |            |      |                               | ST4,8X45MM | 500 | <a href="#">31260.048.045</a> |
| ST3,5X19MM | 1000 | <a href="#">31260.035.019</a> | ST4,2X16MM | 1000 | <a href="#">31260.042.016</a> | ST4,8X50MM | 500 | <a href="#">31260.048.050</a> |
| ST3,5X25MM | 1000 | <a href="#">31260.035.025</a> | ST4,2X19MM | 1000 | <a href="#">31260.042.019</a> |            |     |                               |
|            |      |                               | ST4,2X22MM | 1000 | <a href="#">31260.042.022</a> | ST5,5X32MM | 500 | <a href="#">31260.055.032</a> |
| ST3,9X13MM | 1000 | <a href="#">31260.039.013</a> | ST4,2X25MM | 1000 | <a href="#">31260.042.025</a> | ST6,3X45MM | 500 | <a href="#">31260.063.045</a> |
| ST3,9X16MM | 1000 | <a href="#">31260.039.016</a> | ST4,2X32MM | 1000 | <a href="#">31260.042.032</a> | ST6,3X50MM | 500 | <a href="#">31260.063.050</a> |
| ST3,9X19MM | 1000 | <a href="#">31260.039.019</a> |            |      |                               | ST6,3X55MM | 500 | <a href="#">31260.063.055</a> |
| ST3,9X22MM | 1000 | <a href="#">31260.039.022</a> | ST4,8X25MM | 1000 | <a href="#">31260.048.025</a> |            |     |                               |
| ST3,9X25MM | 1000 | <a href="#">31260.039.025</a> | ST4,8X32MM | 1000 | <a href="#">31260.048.032</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 31830 Self-drilling cross recessed countersunk head screw Phillips |                     | J09B  |
|--|---------------------|---|
| <b>Thread</b>  | Self tapping thread |  |
| <b>Material</b>  | Steel               |   |
| <b>Surface treatment</b>   | Zinc plated         |   |
| <b>Packaging</b>   | Standard            |   |

| d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|------|-------------------------------|
| ST3,5X13MM | 2000 | <a href="#">31830.035.013</a> | ST3,9X25MM | 2000 | <a href="#">31830.039.025</a> | ST4,8X32MM | 2000 | <a href="#">31830.048.032</a> |
| ST3,5X16MM | 2000 | <a href="#">31830.035.016</a> | ST3,9X32MM | 2000 | <a href="#">31830.039.032</a> | ST4,8X38MM | 2000 | <a href="#">31830.048.038</a> |
| ST3,5X19MM | 2000 | <a href="#">31830.035.019</a> |            |      |                               | ST4,8X45MM | 2000 | <a href="#">31830.048.045</a> |
| ST3,5X25MM | 2000 | <a href="#">31830.035.025</a> | ST4,2X16MM | 2000 | <a href="#">31830.042.016</a> | ST4,8X50MM | 2000 | <a href="#">31830.048.050</a> |
|            |      |                               | ST4,2X25MM | 2000 | <a href="#">31830.042.025</a> |            |      |                               |
| ST3,9X13MM | 2000 | <a href="#">31830.039.013</a> | ST4,2X32MM | 2000 | <a href="#">31830.042.032</a> |            |      |                               |
| ST3,9X16MM | 2000 | <a href="#">31830.039.016</a> |            |      |                               |            |      |                               |
| ST3,9X19MM | 2000 | <a href="#">31830.039.019</a> | ST4,8X25MM | 2000 | <a href="#">31830.048.025</a> |            |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 31140 SPEDEC SN Self-drilling cross recessed countersunk head screw Phillips |                     | J09A  |
|--|---------------------|---|
| <b>Thread</b>  | Self tapping thread |  |
| <b>Material</b>  | Stainless steel A2  |   |
| <b>Packaging</b>   | Standard            |   |

| d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L | ☒ | Art.number |
|------------|------|-------------------------------|------------|------|-------------------------------|-------|---|------------|
| ST3,5X16MM | 1000 | <a href="#">31140.035.016</a> | ST4,2X25MM | 1000 | <a href="#">31140.042.025</a> |       |   |            |
| ST3,9X19MM | 1000 | <a href="#">31140.039.019</a> | ST4,8X25MM | 1000 | <a href="#">31140.048.025</a> |       |   |            |

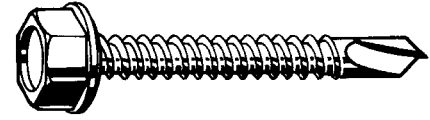
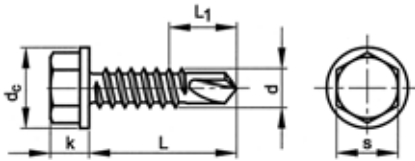
6

| 31880 Self-drilling cross recessed countersunk head screw Phillips |                     | J09B  |
|--|---------------------|---|
| <b>Thread</b>  | Self tapping thread |  |
| <b>Material</b>  | Stainless steel A2  |   |
| <b>Packaging</b>   | Standard            |   |

| d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|------|-------------------------------|
| ST3,5X16MM | 1000 | <a href="#">31880.035.016</a> | ST3,9X19MM | 1000 | <a href="#">31880.039.019</a> | ST4,2X25MM | 1000 | <a href="#">31880.042.025</a> |

## Self-drilling hexagon head screw with washer faced

ISO 15480  
 DIN 7504 K



### Technical data

| d     | P   | d <sub>c</sub> | k (max.) | s  | L <sub>1</sub> ≈ |
|-------|-----|----------------|----------|----|------------------|
| ST3,5 | -   | -              | -        | -  | -                |
| ST3,9 | -   | -              | -        | -  | -                |
| ST4,2 | 1,4 | 8,8            | 4,25     | 7  | 7                |
| ST4,8 | 1,6 | 10,5           | 4,45     | 8  | 8                |
| ST5,5 | 1,8 | 11             | 5,45     | 8  | 10               |
| ST6,3 | 1,8 | 13,2           | 6,45     | 10 | 11               |

- Max. grip length KL = L - L<sub>1</sub>.

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|-----------|-------------------|-----------|-------|-------|
| ST     | hexagon          | St        | Zipl              | Standard  | 31235 | 6-111 |
| ST     | hexagon          | St        | Zipl              | Large     | 31230 | 6-111 |
| ST     | hexagon          | St        | Zipl              | Standard  | 31815 | 6-112 |
| ST     | hexagon          | St        | Zipl              | Large     | 31810 | 6-112 |
| ST     | hexagon          | St.St. A2 |                   | Standard  | 31100 | 6-112 |
| ST     | hexagon          | St.St. A2 |                   | Standard  | 31860 | 6-112 |

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#### 31235 SPEDEC SN Self-drilling hexagon head screw washer faced

J09A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



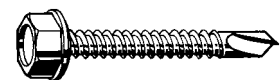
| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST4,2X13MM | 200 | <a href="#">31235.042.013</a> | ST4,8X25MM | 200 | <a href="#">31235.048.025</a> | ST6,3X19MM | 200 | <a href="#">31235.063.019</a> |
| ST4,2X16MM | 200 | <a href="#">31235.042.016</a> | ST4,8X32MM | 200 | <a href="#">31235.048.032</a> | ST6,3X22MM | 200 | <a href="#">31235.063.022</a> |
| ST4,2X19MM | 200 | <a href="#">31235.042.019</a> | ST4,8X38MM | 100 | <a href="#">31235.048.038</a> | ST6,3X25MM | 200 | <a href="#">31235.063.025</a> |
| ST4,2X25MM | 200 | <a href="#">31235.042.025</a> | ST4,8X45MM | 100 | <a href="#">31235.048.045</a> | ST6,3X32MM | 100 | <a href="#">31235.063.032</a> |
| ST4,2X32MM | 200 | <a href="#">31235.042.032</a> | ST4,8X50MM | 100 | <a href="#">31235.048.050</a> | ST6,3X38MM | 100 | <a href="#">31235.063.038</a> |
| ST4,8X13MM | 200 | <a href="#">31235.048.013</a> | ST5,5X19MM | 200 | <a href="#">31235.055.019</a> | ST6,3X45MM | 100 | <a href="#">31235.063.045</a> |
| ST4,8X16MM | 200 | <a href="#">31235.048.016</a> | ST5,5X22MM | 200 | <a href="#">31235.055.022</a> | ST6,3X50MM | 100 | <a href="#">31235.063.050</a> |
| ST4,8X19MM | 200 | <a href="#">31235.048.019</a> | ST5,5X25MM | 200 | <a href="#">31235.055.025</a> |            |     |                               |
| ST4,8X22MM | 200 | <a href="#">31235.048.022</a> | ST5,5X32MM | 100 | <a href="#">31235.055.032</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 31230 SPEDEC SN Self-drilling hexagon head screw washer faced

J09A

**Thread** Self tapping thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Large



| d x L      | ☒    | Art.number                    | d x L      | ☒    | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|-----|-------------------------------|
| ST4,2X13MM | 1000 | <a href="#">31230.042.013</a> | ST4,8X25MM | 1000 | <a href="#">31230.048.025</a> | ST5,5X38MM | 500 | <a href="#">31230.055.038</a> |
| ST4,2X16MM | 1000 | <a href="#">31230.042.016</a> | ST4,8X32MM | 1000 | <a href="#">31230.048.032</a> | ST6,3X19MM | 500 | <a href="#">31230.063.019</a> |
| ST4,2X19MM | 1000 | <a href="#">31230.042.019</a> | ST4,8X38MM | 500  | <a href="#">31230.048.038</a> | ST6,3X22MM | 500 | <a href="#">31230.063.022</a> |
| ST4,2X25MM | 1000 | <a href="#">31230.042.025</a> | ST4,8X45MM | 500  | <a href="#">31230.048.045</a> | ST6,3X25MM | 500 | <a href="#">31230.063.025</a> |
| ST4,2X32MM | 1000 | <a href="#">31230.042.032</a> | ST4,8X50MM | 500  | <a href="#">31230.048.050</a> | ST6,3X32MM | 500 | <a href="#">31230.063.032</a> |
| ST4,8X13MM | 1000 | <a href="#">31230.048.013</a> | ST5,5X19MM | 1000 | <a href="#">31230.055.019</a> | ST6,3X38MM | 500 | <a href="#">31230.063.038</a> |
| ST4,8X16MM | 1000 | <a href="#">31230.048.016</a> | ST5,5X22MM | 1000 | <a href="#">31230.055.022</a> | ST6,3X45MM | 500 | <a href="#">31230.063.045</a> |
| ST4,8X19MM | 1000 | <a href="#">31230.048.019</a> | ST5,5X25MM | 500  | <a href="#">31230.055.025</a> | ST6,3X50MM | 500 | <a href="#">31230.063.050</a> |
| ST4,8X22MM | 1000 | <a href="#">31230.048.022</a> | ST5,5X32MM | 500  | <a href="#">31230.055.032</a> |            |     |                               |

**31230 SPEDEC SN Self-drilling hexagon head screw washer faced**

| d x L | Art.number | d x L | Art.number | d x L | Art.number |
|-------|------------|-------|------------|-------|------------|
|-------|------------|-------|------------|-------|------------|

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**31815 Self-drilling hexagon head screw with washer faced**
**J09B**

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



| d x L      | Art.number                         | d x L      | Art.number                         | d x L      | Art.number                        |
|------------|------------------------------------|------------|------------------------------------|------------|-----------------------------------|
| ST4,2X13MM | 1000 <a href="#">31815.042.013</a> | ST4,8X19MM | 1000 <a href="#">31815.048.019</a> | ST6,3X19MM | 500 <a href="#">31815.063.019</a> |
| ST4,2X16MM | 1000 <a href="#">31815.042.016</a> | ST4,8X25MM | 1000 <a href="#">31815.048.025</a> | ST6,3X25MM | 500 <a href="#">31815.063.025</a> |
| ST4,2X19MM | 1000 <a href="#">31815.042.019</a> | ST4,8X32MM | 1000 <a href="#">31815.048.032</a> | ST6,3X32MM | 500 <a href="#">31815.063.032</a> |
| ST4,2X25MM | 1000 <a href="#">31815.042.025</a> | ST4,8X38MM | 1000 <a href="#">31815.048.038</a> | ST6,3X38MM | 500 <a href="#">31815.063.038</a> |
| ST4,2X32MM | 1000 <a href="#">31815.042.032</a> |            |                                    | ST6,3X50MM | 500 <a href="#">31815.063.050</a> |
| ST4,8X13MM | 1000 <a href="#">31815.048.013</a> | ST5,5X19MM | 1000 <a href="#">31815.055.019</a> |            |                                   |
| ST4,8X16MM | 1000 <a href="#">31815.048.016</a> | ST5,5X25MM | 500 <a href="#">31815.055.025</a>  |            |                                   |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**31810 Self-drilling hexagon head screw with washer faced**
**J09B**

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Large               |



| d x L      | Art.number                         | d x L      | Art.number                         | d x L      | Art.number                         |
|------------|------------------------------------|------------|------------------------------------|------------|------------------------------------|
| ST4,2X13MM | 2000 <a href="#">31810.042.013</a> | ST4,8X19MM | 2000 <a href="#">31810.048.019</a> | ST6,3X19MM | 1000 <a href="#">31810.063.019</a> |
| ST4,2X16MM | 2000 <a href="#">31810.042.016</a> | ST4,8X25MM | 2000 <a href="#">31810.048.025</a> | ST6,3X25MM | 1000 <a href="#">31810.063.025</a> |
| ST4,2X19MM | 2000 <a href="#">31810.042.019</a> | ST4,8X32MM | 2000 <a href="#">31810.048.032</a> | ST6,3X32MM | 1000 <a href="#">31810.063.032</a> |
| ST4,2X25MM | 2000 <a href="#">31810.042.025</a> | ST4,8X38MM | 2000 <a href="#">31810.048.038</a> | ST6,3X38MM | 1000 <a href="#">31810.063.038</a> |
| ST4,2X32MM | 2000 <a href="#">31810.042.032</a> |            |                                    | ST6,3X50MM | 1000 <a href="#">31810.063.050</a> |
| ST4,8X13MM | 2000 <a href="#">31810.048.013</a> | ST5,5X19MM | 2000 <a href="#">31810.055.019</a> |            |                                    |
| ST4,8X16MM | 2000 <a href="#">31810.048.016</a> | ST5,5X25MM | 1000 <a href="#">31810.055.025</a> |            |                                    |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**31100 SPEDEC SN Self-drilling hexagon head screw washer faced**
**J09A**

|                  |                     |
|------------------|---------------------|
| <b>Thread</b>    | Self tapping thread |
| <b>Material</b>  | Stainless steel A2  |
| <b>Packaging</b> | Standard            |



| d x L      | Art.number                         | d x L      | Art.number                         | d x L      | Art.number                        |
|------------|------------------------------------|------------|------------------------------------|------------|-----------------------------------|
| ST4,2X25MM | 1000 <a href="#">31100.042.025</a> | ST4,8X32MM | 1000 <a href="#">31100.048.032</a> | ST6,3X22MM | 500 <a href="#">31100.063.022</a> |
| ST4,8X19MM | 1000 <a href="#">31100.048.019</a> |            |                                    |            |                                   |

**31860 Self-drilling hexagon head screw with washer faced**
**J09B**

|                  |                     |
|------------------|---------------------|
| <b>Thread</b>    | Self tapping thread |
| <b>Material</b>  | Stainless steel A2  |
| <b>Packaging</b> | Standard            |

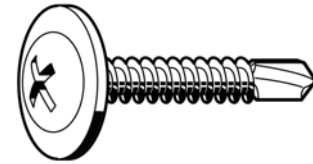
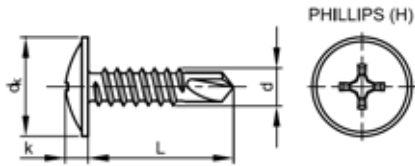


| d x L      | Art.number                         | d x L      | Art.number                         | d x L      | Art.number                         |
|------------|------------------------------------|------------|------------------------------------|------------|------------------------------------|
| ST4,2X25MM | 2000 <a href="#">31860.042.025</a> | ST4,8X32MM | 1000 <a href="#">31860.048.032</a> | ST5,5X22MM | 1000 <a href="#">31860.055.022</a> |
| ST4,8X19MM | 1000 <a href="#">31860.048.019</a> |            |                                    |            |                                    |

**6**



## Self drilling cross recessed screw for back panels



### Technical data

|                  |      |
|------------------|------|
| d                | 4,2  |
| dk               | 11   |
| k                | 2,5  |
| c                | 1,27 |
| No. cross recess | 2    |

### Article groups

| Thread | Driving features | Material | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|----------|-------------------|-----------|-------|-------|
| ST     | Phillips         | St       | Zipl              | Standard  | 29580 | 6-113 |
| ST     | Phillips         | St       | Zipl blk p.       | Standard  | 29581 | 6-113 |

| 29580 Self drilling cross recessed screw for back panels |                     | K04A |
|--|---------------------|------|
| <b>Thread</b>  | Self tapping thread |      |
| <b>Material</b>  | Steel               |      |
| <b>Surface treatment</b>                                 | Zinc plated         |      |
| <b>Packaging</b>   | Standard            |      |

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L | ☒ | Art.number |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-------|---|------------|
| 4,2X13MM | 200 | <a href="#">29580.042.013</a> | 4,2X19MM | 200 | <a href="#">29580.042.019</a> |       |   |            |
| 4,2X16MM | 200 | <a href="#">29580.042.016</a> | 4,2X25MM | 200 | <a href="#">29580.042.025</a> |       |   |            |

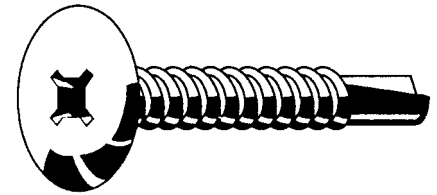
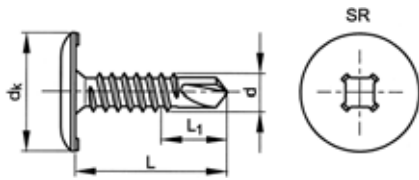
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 29581 Self drilling cross recessed screw for back panels |                              | K04A |
|--|------------------------------|------|
| <b>Thread</b>  | Self tapping thread          |      |
| <b>Material</b>  | Steel                        |      |
| <b>Surface treatment</b>                                 | Zinc plated black passivated |      |
| <b>Packaging</b>   | Standard                     |      |

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 4,2X13MM | 200 | <a href="#">29581.042.013</a> | 4,2X19MM | 200 | <a href="#">29581.042.019</a> | 4,2X25MM | 200 | <a href="#">29581.042.025</a> |
| 4,2X16MM | 200 | <a href="#">29581.042.016</a> |          |     |                               |          |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

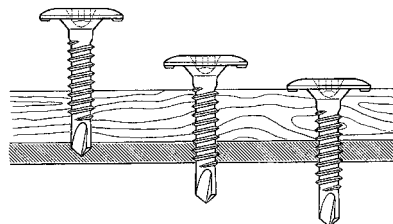
## Self-drilling mushroom head screw with SR recess



### Technical data

| d x L            | ST4,8x16 | ST4,8x19 | ST4,8x25 | ST4,8x32 |
|------------------|----------|----------|----------|----------|
| P                | 1,6      | 1,6      | 1,6      | 1,6      |
| d <sub>k</sub>   | 13       | 15       | 15       | 15       |
| L <sub>1</sub> ≈ | 9        | 9        | 9        | 9        |
| No. SR           | 2        | 2        | 2        | 2        |
| A                | 9000     | 9000     | 9000     | 9000     |
| B                | 6000     | 6000     | 6000     | 6000     |
| C                | 6,5      | 6,5      | 6,5      | 6,5      |
| D                | 1        | 1        | 1        | 1        |
| E                | 3        | 3        | 3        | 3        |
| F                | 1,5      | 1,5      | 1,5      | 1,5      |
| G                | 4        | 4        | 4        | 4        |

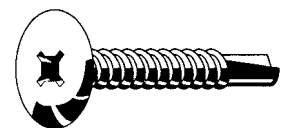
- A = Breaking load min. in N.
- B = Shear strength min. in N.
- C = Ultimate moment in Nm.
- D = Drillcap. in steel cross cross members (min.).
- E = Drillcap. in steel cross cross members (max.).
- F = Drillcap. in aluminium cross cross members (min.).
- G = Drillcap. in aluminium cross cross members (max.).
- Applicable for direct-assembly of plywood and particleboard liners on aluminium and steel cross members.
- Max. grip length KL = L – L<sub>1</sub>
- SR-recess is a cross recess/square recess combination. Assembly with the electric setting tool DI 320 and with SR screwdriver bits, see group code 31630 and 31640.
- Steel with pull-out force max. 540 N/mm<sup>2</sup>.



### 31445 SPEDEC SCI Self-drilling mushroom head screw with SR recess

J12A

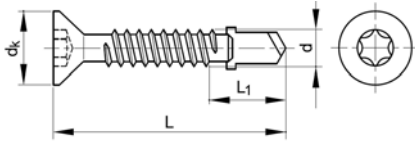
|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



| d x L      | ⊠    | Art.number                    | d x L      | ⊠    | Art.number                    | d x L      | ⊠    | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|------|-------------------------------|
| ST4,8X16MM | 1000 | <a href="#">31445.048.016</a> | ST4,8X25MM | 1000 | <a href="#">31445.048.025</a> | ST4,8X32MM | 1000 | <a href="#">31445.048.032</a> |
| ST4,8X19MM | 1000 | <a href="#">31445.048.019</a> |            |      |                               |            |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**Self-drilling counter screw with wings and Torx® metric**



**Technical data**

|                  |       |
|------------------|-------|
| d                | ST6,3 |
| P                | 1,8   |
| dk               | 12    |
| L <sub>1</sub> ≈ | 25    |
| No. Torx®        | T30   |

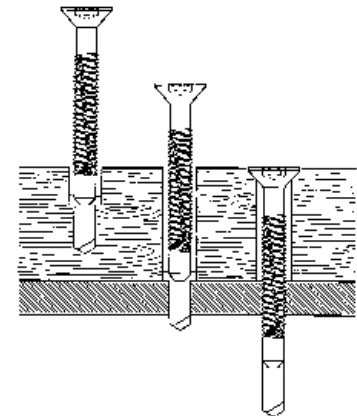
|   |       |
|---|-------|
| d | ST6,3 |
| A | 17000 |
| B | 10000 |
| C | 16    |
| D | 3     |

|   |       |
|---|-------|
| d | ST6,3 |
| E | 10    |
| F | 3     |
| G | 6     |

- A = Breaking load min. in N.
- B = Shear strength min. in N.
- C = Ultimate moment in Nm.
- D = Drillcap. in steel cross cross members St37 (min.).
- E = Drillcap. in steel cross cross members St37 (max.).
- F = Drillcap. in steel cross cross members St52 (min.).
- G = Drillcap. in steel cross cross members St52 (max.).
- Applicable for direct-assembly of soft wooden beams on steel cross members.
- Max. grip length KL = L – L<sub>1</sub>
- St52: With higher steelqualities the max. drilling thickness is reduced.

Special features of FABORY-SPEDEC self-drilling screws type **SCT**:

- the normal drilling point has been replaced by a drilling plate of special hardened steel. This type ensures, when the SC self-drilling screws cause problems, that the area of application can be extended considerably
- in one single operation: start of assembly, drilling through wood, drilling through steel, wings breaking off, forming thread, tightening screw, assembly finished (see assembly sequence)
- assembly with electric setting tool type type CF 250(P), see group codes 31570 (31572).



6

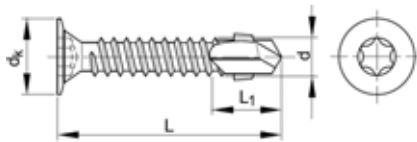
|                          |  |             |
|--------------------------|--|-------------|
| <b>31460</b>             | <b>SPEDEC SCT Self-drilling countersunk screw with wings and Torx®</b> | <b>J10A</b> |
| <b>Thread</b>            | Self tapping thread  |             |
| <b>Material</b>          | Steel  |             |
| <b>Surface treatment</b> | Zinc plated  |             |
| <b>Packaging</b>         | Standard   |             |



| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST6,3X50MM | 500 | <a href="#">31460.063.050</a> | ST6,3X70MM | 500 | <a href="#">31460.063.070</a> | ST6,3X90MM | 250 | <a href="#">31460.063.090</a> |
| ST6,3X60MM | 500 | <a href="#">31460.063.060</a> | ST6,3X80MM | 500 | <a href="#">31460.063.080</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Self-drilling countersunk screw with wings Torx®



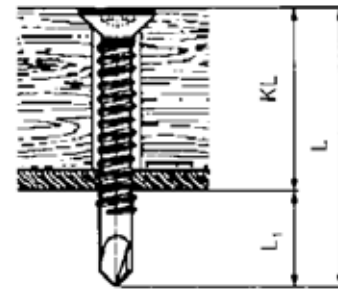
### Technical data

|                  |       |           |       |   |       |
|------------------|-------|-----------|-------|---|-------|
| d                | ST5,5 | d         | ST5,5 | d | ST5,5 |
| P                | 1,8   | No. Torx® | T30   | C | 10    |
| dk               | 12    | A         | 10000 | D | 2     |
| L <sub>1</sub> ≈ | 15    | B         | 8000  | E | 5     |

- A = Breaking load min. in N.
- B = Shear strength min. in N.
- C = Ultimate moment in Nm.
- D = Drillcap. in steel cross cross members St37 (min.).
- E = Drillcap. in steel cross cross members St37 (max.).
- Applicable for direct-assembly of soft wooden beams on steel cross members.
- Max. grip length KL = L - L<sub>1</sub>
- St37 With higher steelqualities the max. drilling thickness is reduced.

Special features of FABORY-SPEDEC self-drilling screws type **SC**:

- with **pressed** drilling point
- with a **double countersunk head** (31411) for a better bearing surface in soft wood
- with **underhead ribs** (31416) for countersinking in wood
- assembly with electric setting tool type type CF 250(P), see group codes 31570 (31572)



6

### Article groups

| Thread | Driving features | Material | Surface treatment | Packaging          | Code  | Page  |
|--------|------------------|----------|-------------------|--------------------|-------|-------|
| ST     | Torx®            | St       | Zipl              | Standard           | 31416 | 6-116 |
| ST     | Torx®            | St       | Zipl              | double countersunk | 31411 | 6-116 |

#### 31416 SPEDEC SC Self-drilling countersunk screw with wings and Torx® recessed

J10A

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



| d x L      | ⊗    | Art.number                    | d x L      | ⊗    | Art.number                    | d x L | ⊗ | Art.number |
|------------|------|-------------------------------|------------|------|-------------------------------|-------|---|------------|
| ST5,5X38MM | 1000 | <a href="#">31416.055.038</a> | ST5,5X50MM | 1000 | <a href="#">31416.055.050</a> |       |   |            |
| ST5,5X45MM | 1000 | <a href="#">31416.055.045</a> | ST5,5X55MM | 1000 | <a href="#">31416.055.055</a> |       |   |            |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 31411 SPEDEC SC Self-drilling countersunk screw with wings and Torx® recessed

J10A

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |

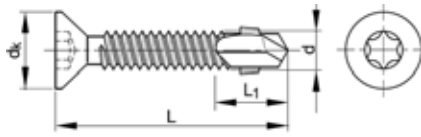


| d x L      | ⊗    | Art.number                    | d x L      | ⊗    | Art.number                    | d x L | ⊗ | Art.number |
|------------|------|-------------------------------|------------|------|-------------------------------|-------|---|------------|
| ST5,5X38MM | 1000 | <a href="#">31411.055.038</a> | ST5,5X50MM | 1000 | <a href="#">31411.055.050</a> |       |   |            |
| ST5,5X45MM | 1000 | <a href="#">31411.055.045</a> | ST5,5X55MM | 1000 | <a href="#">31411.055.055</a> |       |   |            |

| 31411 SPEDEC SC Self-drilling countersunk screw with wings and Torx® recessed |            |                               |            |
|---|------------|-------------------------------|------------|
| d x L   | Art.number | d x L                         | Art.number |
| ST5,5X60MM  | 1000       | <a href="#">31411.055.060</a> |            |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Self-drilling countersunk screw with wings Torx® UNC



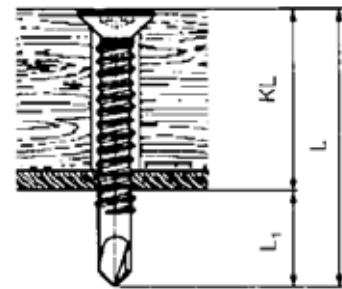
### Technical data

|                         |            |                  |            |          |            |
|-------------------------|------------|------------------|------------|----------|------------|
| <b>d</b>                | U6,3 (1/4) | <b>d</b>         | U6,3 (1/4) | <b>d</b> | U6,3 (1/4) |
| <b>Threads per inch</b> | 20         | <b>No. Torx®</b> | T30        | <b>C</b> | 16         |
| <b>d<sub>k</sub></b>    | 12         | <b>A</b>         | 17000      | <b>D</b> | 2,5        |
| <b>L<sub>1</sub> ≈</b>  | 16         | <b>B</b>         | 10000      | <b>E</b> | 6          |

- A = Breaking load min. in N.
- B = Shear strength min. in N.
- C = Ultimate moment in Nm.
- D = Drillcap. in steel cross cross members St37 (min.).
- E = Drillcap. in steel cross cross members St37 (max.).
- Applicable for direct-assembly of soft wooden beams on steel cross members.
- Max. grip length KL = L – L<sub>1</sub>
- St37 With higher steelqualities the max. drilling thickness is reduced.

Special features of FABORY-SPEDEC self-drilling screws type **SC**:

- with **pressed** drilling point
- with **under head ribs** for countersinking in wood
- assembly with electric setting tool type type CF 250(P), see group codes 31570 (31572)



6

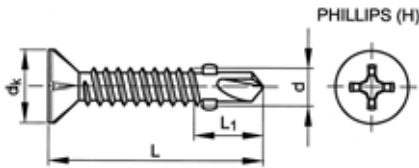
|                          |   |             |
|--------------------------|---|-------------|
| <b>31426</b>             | <b>SPEDEC SC Self-drilling countersunk screw with wings and Torx®</b> | <b>J10A</b> |
| <b>Thread</b>            | Unified National Coarse   |             |
| <b>Material</b>          | Steel   |             |
| <b>Surface treatment</b> | Zinc plated   |             |
| <b>Packaging</b>         | Standard  |             |



| d x L     | ✉    | Art.number                    | d x L     | ✉    | Art.number                    | d x L     | ✉   | Art.number                    |
|-----------|------|-------------------------------|-----------|------|-------------------------------|-----------|-----|-------------------------------|
| U6,3X45MM | 1000 | <a href="#">31426.063.045</a> | U6,3X60MM | 1000 | <a href="#">31426.063.060</a> | U6,3X80MM | 500 | <a href="#">31426.063.080</a> |
| U6,3X50MM | 1000 | <a href="#">31426.063.050</a> | U6,3X65MM | 1000 | <a href="#">31426.063.065</a> | U6,3X85MM | 500 | <a href="#">31426.063.085</a> |
| U6,3X55MM | 1000 | <a href="#">31426.063.055</a> | U6,3X70MM | 500  | <a href="#">31426.063.070</a> |           |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**Self-drilling cross recessed countersunk screw with wings**



**Technical data**

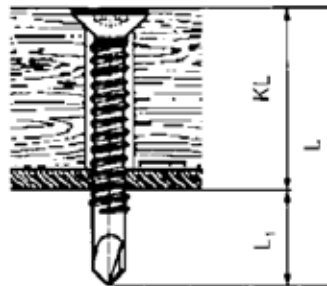
|     | ST4,2 | ST4,8 |
|-----|-------|-------|
| d   |       |       |
| P   | 1,4   | 1,6   |
| dk  | 8,1   | 9,5   |
| L ≈ | 9     | 10    |

|                  | ST4,2 | ST4,8 |
|------------------|-------|-------|
| d                |       |       |
| No. cross recess | 2     | 2     |
| A                | 7500  | 11000 |
| B                | 3500  | 6000  |

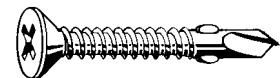
|   | ST4,2 | ST4,8 |
|---|-------|-------|
| d |       |       |
| C | 5     | 8,5   |
| D | 0,7   | 2     |
| E | 2     | 3     |

- A = Breaking load min. in N.
- B = Shear strength min. in N.
- C = Ultimate moment in Nm.
- D = Drillcap. in steel cross cross members St37 (min.).
- E = Drillcap. in steel cross cross members St37 (max.).
- Applicable for direct-assembly of soft wooden beams on steel cross members.
- Max. grip length  $KL = L - L_1$
- St37: With higher steel qualities the max. drilling thickness is reduced.

Special features of FABORY-SPEDEC self-drilling screws type **SC**:  
- with **underhead ribs** for countersinking in wood



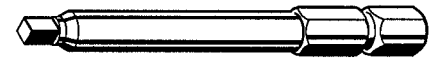
| 31282 SPEDEC SC Self-drilling cross recessed countersunk screw with wings Phillips |                     | J10A |
|--|---------------------|------|
| Thread   | Self tapping thread |      |
| Material   | Steel               |      |
| Surface treatment  | Zinc plated         |      |
| Packaging  | Standard            |      |



| d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST4,2X30MM | 500 | <a href="#">31282.042.030</a> | ST4,8X35MM | 500 | <a href="#">31282.048.035</a> | ST4,8X65MM | 500 | <a href="#">31282.048.065</a> |
| ST4,2X40MM | 500 | <a href="#">31282.042.040</a> | ST4,8X45MM | 500 | <a href="#">31282.048.045</a> |            |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Self-drilling screws installation tool

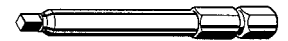


### Article groups

| Driving features | Packaging | Code  | Page  |
|------------------|-----------|-------|-------|
| SR               | Standard  | 31535 | 6-120 |
|                  | CF 250    | 31570 | 6-120 |
|                  | CF 250P   | 31572 | 6-120 |
| hexagon          | Standard  | 31536 | 6-121 |
| SR               | Standard  | 31640 | 6-121 |

#### 31535 SPEDEC Screwdriver bit type SR J90A

**Packaging** Standard

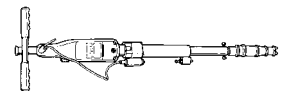


| Type   | Art.number                      | Type   | Art.number                      |
|--------|---------------------------------|--------|---------------------------------|
| SR2-49 | 2 <a href="#">31535.001.770</a> | SR1-49 | 2 <a href="#">31535.001.771</a> |

- For all setting tools with the exception of type DI 320
- With 1/4 inch hexagon drive
- Suitable for self-drilling screws with SR recess (cross recess/square recess combination)
- Length 49 mm

#### 31570 SPEDEC Setting tool type CF 250 J91A

**Packaging** Standard

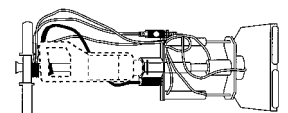


| Type          | Art.number                      |
|---------------|---------------------------------|
| COMPLETE TOOL | 1 <a href="#">31570.001.770</a> |

- Suitable for self-drilling screws type SC (with Torx® TX30) and type SCT (with Torx® TX30)
- Manufacturer screwdriver: Fein ASze 648 d
- Input 740 W
- Voltage 220 V/50 Hz
- Revolutions 0 - 1560 r.p.m. (loaded) and 1250-2600 r.p.m. (unloaded)
- Total length 1080 mm
- Weight 9,8 kg
- Right hand turning
- Adjustable depth-stop
- Upright working position
- Ergonomical
- Theoretical production 250 self-drilling screws by the hour!!

#### 31572 SPEDEC Pneumatic unit type CF 250 P J91A

**Packaging** Standard



| Type  | Art.number                      |
|-------|---------------------------------|
| CF250 | 1 <a href="#">31572.001.770</a> |

- To rebuild type CF 250.

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**31572 SPEDEC Pneumatic unit type CF 250 P** ←

| Type | ✉ | Art.number | Type | ✉ | Art.number | Type | ✉ | Art.number |
|------|---|------------|------|---|------------|------|---|------------|
|------|---|------------|------|---|------------|------|---|------------|

- No human power necessary!!
- Weight 16,3 kg.

**31536 SPEDEC Fix socket type E480** J90A

**Packaging**                      Standard



| Type | ✉ | Art.number | Type | ✉ | Art.number | Type | ✉ | Art.number |
|------|---|------------|------|---|------------|------|---|------------|
|------|---|------------|------|---|------------|------|---|------------|

E480                      1                      [31536.001.770](http://31536.001.770)

- With 1/4 inch hexagon drive
- Self-clamping
- Suitable for self drilling hexagon head screws with collar type SN with a width across flats of 8 mm
- Length 73 mm

**31640 SPEDEC Screwdriver bit type SR 2** J90A

**Packaging**                      Standard



| Type | ✉ | Art.number | Type | ✉ | Art.number | Type | ✉ | Art.number |
|------|---|------------|------|---|------------|------|---|------------|
|------|---|------------|------|---|------------|------|---|------------|

SR2                      1                      [31640.001.770](http://31640.001.770)

- With special connection for setting tool type DI 320
- Suitable for self-drilling screws with SR recess (cross recess/square recess combination)

## Chipboard Screws

### General

Chipboard screws, also called speedscrews or particle board screws, are specially developed to prevent the problems arising with the application of the conventional woodscrews in chipboard and different types of wood. Chipboard screws have many technical improvements which ensure easy, and with modern tools, fast assembly, so saving on total costs.

### Properties

The benefits are achieved by the following properties: adapted geometry of the thread, the thread angle of the wood thread has been diminished from 60° to 40°.

### Advantages

With the same major diameter the minor diameter is smaller and of equal thickness over the full screwlength (except the point). The normal length chipboard screws have thread, till just under the head. Depending on availability can be supplied fully threaded as well as partly threaded. A sharp selfcentering point, through which easier start of drilling and less risk of wobbling. Expensive and time-consuming pre-drilling is often unnecessary. The sharper and deeper profile of the thread does not push aside the material, but cuts into it. Less risk of crumbling and splitting of small, crosscut sides e.g. with the installation of door and window furniture. Besides this a better grip (up to 35% higher pull-out values) and up to 40% lower installation torque.

### Material

Chipboard screws are made of casehardened steel and surface-hardened. They are stronger and more wear resistant than woodscrews, increasing the cutting performance and preventing damage during installation. A toughened core avoids breaking of screw head at bending.

### Assembly

Chipboard screws are provided with a special corrosion resistant lubricant causing a decrease of the installation torque.

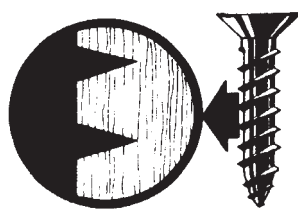
### Recess

Although chipboard screws are available from stock in the slotted condition, for industrial use screws with a **Pozidriv (Z)** cross recess are preferred, which can be efficiently tightened with automatic setting tools.

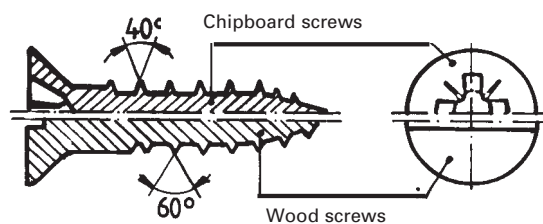
### Types

Besides the normal chipboard screws f.i. the slotted version, Pozidriv (Z) cross recessed and hexalobular recessed are also available the HECO-FIX and the VBA PLUS chipboard screws, see relevant product pages for more detailed information.

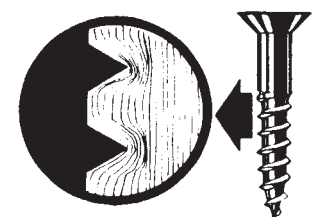
### Technical data



Chipboard screws

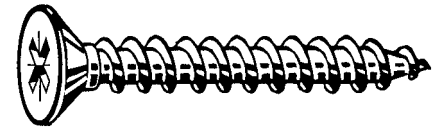
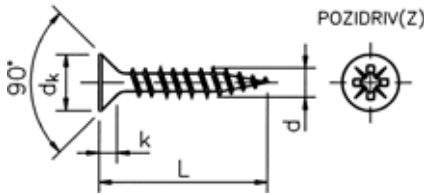


Wood screws



Wood screws

## Cross recessed countersunk head screw for chipboard



### Technical data

| d   | dk (max.) | k (max.) | No. cross recess |
|-----|-----------|----------|------------------|
| 2,4 | 4,8       | 1,7      | 1                |
| 2,5 | 5         | 1,2      | 1                |
| 3   | 5,9       | 1,9      | 1                |
| 3,5 | 6,9       | 2,1      | 2                |
| 4   | 7,9       | 2,5      | 2                |
| 4,5 | 8,9       | 2,7      | 2                |
| 5   | 9,6       | 3        | 2                |
| 6   | 11,6      | 3,6      | 3                |

- All dimensions are guide values and may deviate dependent on the manufacturer.

### Article groups

| Driving features | Material  | Surface treatment |                | Packaging | Code  | Page  |
|------------------|-----------|-------------------|----------------|-----------|-------|-------|
| Pozidriv         | St        | Zipl              |                | Standard  | 29240 | 6-123 |
| Pozidriv         | St        | Zipl              |                | Large     | 29242 | 6-124 |
| Pozidriv         | St        | Zipl              | HECO-FIX PLUS  | Standard  | 29248 | 6-124 |
| Pozidriv         | St        | Zipl              | VBA PLUS       | Standard  | 29710 | 6-124 |
| Pozidriv         | St        | Zipl yell.p.      |                | Standard  | 29440 | 6-125 |
| Pozidriv         | St.St. A2 |                   |                | Standard  | 51750 | 6-125 |
| Pozidriv         | St.St. A4 |                   |                | Standard  | 55750 | 6-126 |
| Pozidriv         | St        | Zipl              | HECO-TOPIX     | Standard  | 29349 | 6-126 |
| Pozidriv         | St        | Zipl yell.p.      | HECO-TOPIX     | Standard  | 29353 | 6-126 |
| Pozidriv         | St        | Zipl              | HECO-UNIX PLUS | Standard  | 29370 | 6-127 |

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### 29240 Cross recessed countersunk head screw for chipboard Pozidriv

K01A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 2,5X10MM | 200 | <a href="#">29240.025.010</a> | 4X35MM   | 200 | <a href="#">29240.040.035</a> | 5X50MM  | 200 | <a href="#">29240.050.050</a> |
| 2,5X12MM | 200 | <a href="#">29240.025.012</a> | 4X40MM   | 200 | <a href="#">29240.040.040</a> | 5X60MM  | 200 | <a href="#">29240.050.060</a> |
| 2,5X16MM | 200 | <a href="#">29240.025.016</a> | 4X45MM   | 200 | <a href="#">29240.040.045</a> | 5X70MM  | 200 | <a href="#">29240.050.070</a> |
|          |     |                               | 4X50MM   | 200 | <a href="#">29240.040.050</a> | 5X80MM  | 200 | <a href="#">29240.050.080</a> |
| 3X10MM   | 200 | <a href="#">29240.030.010</a> | 4X60MM   | 200 | <a href="#">29240.040.060</a> | 5X90MM  | 200 | <a href="#">29240.050.090</a> |
| 3X12MM   | 200 | <a href="#">29240.030.012</a> | 4X70MM   | 200 | <a href="#">29240.040.070</a> | 5X100MM | 200 | <a href="#">29240.050.100</a> |
| 3X16MM   | 200 | <a href="#">29240.030.016</a> |          |     |                               |         |     |                               |
| 3X20MM   | 200 | <a href="#">29240.030.020</a> | 4,5X16MM | 200 | <a href="#">29240.045.016</a> | 6X30MM  | 200 | <a href="#">29240.060.030</a> |
| 3X25MM   | 200 | <a href="#">29240.030.025</a> | 4,5X20MM | 200 | <a href="#">29240.045.020</a> | 6X35MM  | 200 | <a href="#">29240.060.035</a> |
| 3X30MM   | 200 | <a href="#">29240.030.030</a> | 4,5X25MM | 200 | <a href="#">29240.045.025</a> | 6X40MM  | 200 | <a href="#">29240.060.040</a> |
| 3X35MM   | 200 | <a href="#">29240.030.035</a> | 4,5X30MM | 200 | <a href="#">29240.045.030</a> | 6X45MM  | 200 | <a href="#">29240.060.045</a> |
|          |     |                               | 4,5X35MM | 200 | <a href="#">29240.045.035</a> | 6X50MM  | 200 | <a href="#">29240.060.050</a> |
| 3,5X12MM | 200 | <a href="#">29240.035.012</a> | 4,5X40MM | 200 | <a href="#">29240.045.040</a> | 6X60MM  | 200 | <a href="#">29240.060.060</a> |
| 3,5X16MM | 200 | <a href="#">29240.035.016</a> | 4,5X45MM | 200 | <a href="#">29240.045.045</a> | 6X70MM  | 200 | <a href="#">29240.060.070</a> |
| 3,5X20MM | 200 | <a href="#">29240.035.020</a> | 4,5X50MM | 200 | <a href="#">29240.045.050</a> | 6X80MM  | 200 | <a href="#">29240.060.080</a> |
| 3,5X25MM | 200 | <a href="#">29240.035.025</a> | 4,5X60MM | 200 | <a href="#">29240.045.060</a> | 6X90MM  | 200 | <a href="#">29240.060.090</a> |
| 3,5X30MM | 200 | <a href="#">29240.035.030</a> | 4,5X70MM | 200 | <a href="#">29240.045.070</a> | 6X100MM | 200 | <a href="#">29240.060.100</a> |
| 3,5X35MM | 200 | <a href="#">29240.035.035</a> | 4,5X80MM | 200 | <a href="#">29240.045.080</a> | 6X110MM | 200 | <a href="#">29240.060.110</a> |
| 3,5X40MM | 200 | <a href="#">29240.035.040</a> |          |     |                               | 6X120MM | 200 | <a href="#">29240.060.120</a> |
|          |     |                               | 5X20MM   | 200 | <a href="#">29240.050.020</a> | 6X130MM | 200 | <a href="#">29240.060.130</a> |
| 4X12MM   | 200 | <a href="#">29240.040.012</a> | 5X25MM   | 200 | <a href="#">29240.050.025</a> | 6X140MM | 200 | <a href="#">29240.060.140</a> |
| 4X16MM   | 200 | <a href="#">29240.040.016</a> | 5X30MM   | 200 | <a href="#">29240.050.030</a> | 6X150MM | 200 | <a href="#">29240.060.150</a> |
| 4X20MM   | 200 | <a href="#">29240.040.020</a> | 5X35MM   | 200 | <a href="#">29240.050.035</a> |         |     |                               |
| 4X25MM   | 200 | <a href="#">29240.040.025</a> | 5X40MM   | 200 | <a href="#">29240.050.040</a> |         |     |                               |
| 4X30MM   | 200 | <a href="#">29240.040.030</a> | 5X45MM   | 200 | <a href="#">29240.050.045</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 29242 Cross recessed countersunk head screw for chipboard Pozidriv |             | K01A |
|--|-------------|------|
| <b>Material</b>  | Steel       |      |
| <b>Surface treatment</b>   | Zinc plated |      |
| <b>Packaging</b>   | Large       |      |

| d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    | d x L  | ☒    | Art.number                    |
|----------|------|-------------------------------|----------|------|-------------------------------|--------|------|-------------------------------|
| 3X16MM   | 2000 | <a href="#">29242.030.016</a> | 3,5X30MM | 2000 | <a href="#">29242.035.030</a> | 4X35MM | 2000 | <a href="#">29242.040.035</a> |
| 3X20MM   | 2000 | <a href="#">29242.030.020</a> | 3,5X40MM | 2000 | <a href="#">29242.035.040</a> | 4X40MM | 2000 | <a href="#">29242.040.040</a> |
| 3X25MM   | 2000 | <a href="#">29242.030.025</a> |          |      |                               | 4X45MM | 2000 | <a href="#">29242.040.045</a> |
|          |      |                               | 4X16MM   | 2000 | <a href="#">29242.040.016</a> | 4X50MM | 2000 | <a href="#">29242.040.050</a> |
| 3,5X16MM | 2000 | <a href="#">29242.035.016</a> | 4X20MM   | 2000 | <a href="#">29242.040.020</a> |        |      |                               |
| 3,5X20MM | 2000 | <a href="#">29242.035.020</a> | 4X25MM   | 2000 | <a href="#">29242.040.025</a> |        |      |                               |
| 3,5X25MM | 2000 | <a href="#">29242.035.025</a> | 4X30MM   | 2000 | <a href="#">29242.040.030</a> |        |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 29248 HECO-FIX PLUS Cross recessed countersunk head screw for chipboard Pozidriv |             | K04A |
|--|-------------|------|
| <b>Material</b>  | Steel       |      |
| <b>Surface treatment</b>   | Zinc plated |      |
| <b>Packaging</b>   | Standard    |      |

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 2,5X10MM | 200 | <a href="#">29248.025.010</a> | 4X30MM   | 200 | <a href="#">29248.040.030</a> | 5X45MM  | 200 | <a href="#">29248.050.045</a> |
| 2,5X12MM | 200 | <a href="#">29248.025.012</a> | 4X35MM   | 200 | <a href="#">29248.040.035</a> | 5X50MM  | 200 | <a href="#">29248.050.050</a> |
| 2,5X16MM | 200 | <a href="#">29248.025.016</a> | 4X40MM   | 200 | <a href="#">29248.040.040</a> | 5X60MM  | 200 | <a href="#">29248.050.060</a> |
| 2,5X20MM | 200 | <a href="#">29248.025.020</a> | 4X45MM   | 200 | <a href="#">29248.040.045</a> | 5X70MM  | 200 | <a href="#">29248.050.070</a> |
|          |     |                               | 4X50MM   | 200 | <a href="#">29248.040.050</a> | 5X80MM  | 200 | <a href="#">29248.050.080</a> |
| 3X10MM   | 200 | <a href="#">29248.030.010</a> | 4X55MM   | 200 | <a href="#">29248.040.055</a> | 5X90MM  | 200 | <a href="#">29248.050.090</a> |
| 3X12MM   | 200 | <a href="#">29248.030.012</a> | 4X60MM   | 200 | <a href="#">29248.040.060</a> | 5X100MM | 200 | <a href="#">29248.050.100</a> |
| 3X16MM   | 200 | <a href="#">29248.030.016</a> | 4X70MM   | 200 | <a href="#">29248.040.070</a> |         |     |                               |
| 3X20MM   | 200 | <a href="#">29248.030.020</a> |          |     |                               | 6X35MM  | 200 | <a href="#">29248.060.035</a> |
| 3X25MM   | 200 | <a href="#">29248.030.025</a> | 4,5X16MM | 200 | <a href="#">29248.045.016</a> | 6X40MM  | 200 | <a href="#">29248.060.040</a> |
| 3X30MM   | 200 | <a href="#">29248.030.030</a> | 4,5X20MM | 200 | <a href="#">29248.045.020</a> | 6X45MM  | 200 | <a href="#">29248.060.045</a> |
| 3X35MM   | 200 | <a href="#">29248.030.035</a> | 4,5X25MM | 200 | <a href="#">29248.045.025</a> | 6X50MM  | 200 | <a href="#">29248.060.050</a> |
| 3X40MM   | 200 | <a href="#">29248.030.040</a> | 4,5X30MM | 200 | <a href="#">29248.045.030</a> | 6X60MM  | 200 | <a href="#">29248.060.060</a> |
|          |     |                               | 4,5X35MM | 200 | <a href="#">29248.045.035</a> | 6X70MM  | 200 | <a href="#">29248.060.070</a> |
| 3,5X15MM | 200 | <a href="#">29248.035.015</a> | 4,5X40MM | 200 | <a href="#">29248.045.040</a> | 6X80MM  | 200 | <a href="#">29248.060.080</a> |
| 3,5X16MM | 200 | <a href="#">29248.035.016</a> | 4,5X45MM | 200 | <a href="#">29248.045.045</a> | 6X90MM  | 100 | <a href="#">29248.060.090</a> |
| 3,5X20MM | 200 | <a href="#">29248.035.020</a> | 4,5X50MM | 200 | <a href="#">29248.045.050</a> | 6X100MM | 100 | <a href="#">29248.060.100</a> |
| 3,5X25MM | 200 | <a href="#">29248.035.025</a> | 4,5X60MM | 200 | <a href="#">29248.045.060</a> | 6X110MM | 100 | <a href="#">29248.060.110</a> |
| 3,5X30MM | 200 | <a href="#">29248.035.030</a> | 4,5X70MM | 200 | <a href="#">29248.045.070</a> | 6X120MM | 100 | <a href="#">29248.060.120</a> |
| 3,5X35MM | 200 | <a href="#">29248.035.035</a> | 4,5X80MM | 200 | <a href="#">29248.045.080</a> | 6X130MM | 100 | <a href="#">29248.060.130</a> |
| 3,5X40MM | 200 | <a href="#">29248.035.040</a> |          |     |                               | 6X140MM | 100 | <a href="#">29248.060.140</a> |
| 3,5X50MM | 200 | <a href="#">29248.035.050</a> | 5X20MM   | 200 | <a href="#">29248.050.020</a> | 6X150MM | 100 | <a href="#">29248.060.150</a> |
|          |     |                               | 5X25MM   | 200 | <a href="#">29248.050.025</a> | 6X160MM | 100 | <a href="#">29248.060.160</a> |
| 4X16MM   | 200 | <a href="#">29248.040.016</a> | 5X30MM   | 200 | <a href="#">29248.050.030</a> | 6X180MM | 100 | <a href="#">29248.060.180</a> |
| 4X20MM   | 200 | <a href="#">29248.040.020</a> | 5X35MM   | 200 | <a href="#">29248.050.035</a> | 6X200MM | 100 | <a href="#">29248.060.200</a> |
| 4X25MM   | 200 | <a href="#">29248.040.025</a> | 5X40MM   | 200 | <a href="#">29248.050.040</a> |         |     |                               |

- Specific features HECO-FIX PLUS screws for chipboard:
- Reduction of required drive torque of up to 30%.
- Easier handling.
- Substantially higher screwing performance on using storage battery screw drivers.
- Axial forces are reduced, thereby less wear of screw driver bits.
- By means of the tooth geometry, a higher unscrewing moment is nevertheless, achieved and consequently, a secure screwed connection is obtained.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement

| 29710 VBA PLUS Cross recessed countersunk head screw for chipboard Pozidriv |             | K04A |
|---|-------------|------|
| <b>Material</b>   | Steel       |      |
| <b>Surface treatment</b>  | Zinc plated |      |
| <b>Packaging</b>  | Standard    |      |

| d x L   | ☒   | Art.number                    | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|---------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| 6X110MM | 200 | <a href="#">29710.060.110</a> |       |   |            |       |   |            |
| 6X130MM | 100 | <a href="#">29710.060.130</a> |       |   |            |       |   |            |

- Specific features VBA PLUS screws for chipboard:
- The screw head is marked with an + which indicates that the VBA PLUS screw is, and will remain a quality screw.

**29710 VBA PLUS Cross recessed countersunk head screw for chipboard Pozidriv**

| d x L | Art.number | d x L | Art.number | d x L | Art.number |
|-------|------------|-------|------------|-------|------------|
|-------|------------|-------|------------|-------|------------|

- A deeper Pozidriv (Z) cross recess which practically eliminates "slipping out" of the tool.
- A saw-tooth shaped thread form which results in a lower turning moment, a higher tensile value and reduces deformation in the materials to be joined.
- Fully threaded to the point (point of application) which ensures immediate penetration (biting) of the screw thread, resulting in a 30% reduction of turning time
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**29440 Cross recessed countersunk head screw for chipboard Pozidriv**
**K01B**

|                          |                               |
|--------------------------|-------------------------------|
| <b>Material</b>          | Steel                         |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d x L    | Art.number | d x L                         | Art.number | d x L | Art.number                    |         |     |                               |
|----------|------------|-------------------------------|------------|-------|-------------------------------|---------|-----|-------------------------------|
| 2,5X12MM | 200        | <a href="#">29440.025.013</a> | 4X20MM     | 200   | <a href="#">29440.040.020</a> | 5X35MM  | 200 | <a href="#">29440.050.035</a> |
| 2,5X15MM | 200        | <a href="#">29440.025.015</a> | 4X25MM     | 200   | <a href="#">29440.040.025</a> | 5X40MM  | 200 | <a href="#">29440.050.040</a> |
| 2,5X16MM | 200        | <a href="#">29440.025.016</a> | 4X30MM     | 200   | <a href="#">29440.040.030</a> | 5X45MM  | 200 | <a href="#">29440.050.045</a> |
| 2,5X17MM | 200        | <a href="#">29440.025.017</a> | 4X35MM     | 200   | <a href="#">29440.040.035</a> | 5X50MM  | 200 | <a href="#">29440.050.050</a> |
|          |            |                               | 4X40MM     | 200   | <a href="#">29440.040.040</a> | 5X55MM  | 200 | <a href="#">29440.050.055</a> |
| 3X10MM   | 200        | <a href="#">29440.030.010</a> | 4X45MM     | 200   | <a href="#">29440.040.045</a> | 5X60MM  | 200 | <a href="#">29440.050.060</a> |
| 3X12MM   | 200        | <a href="#">29440.030.012</a> | 4X50MM     | 200   | <a href="#">29440.040.050</a> | 5X70MM  | 200 | <a href="#">29440.050.070</a> |
| 3X16MM   | 200        | <a href="#">29440.030.016</a> | 4X60MM     | 200   | <a href="#">29440.040.060</a> | 5X80MM  | 200 | <a href="#">29440.050.080</a> |
| 3X20MM   | 200        | <a href="#">29440.030.020</a> | 4X70MM     | 200   | <a href="#">29440.040.070</a> | 5X90MM  | 200 | <a href="#">29440.050.090</a> |
| 3X25MM   | 200        | <a href="#">29440.030.025</a> |            |       |                               | 5X100MM | 200 | <a href="#">29440.050.100</a> |
| 3X30MM   | 200        | <a href="#">29440.030.030</a> | 4,5X16MM   | 200   | <a href="#">29440.045.016</a> |         |     |                               |
| 3X35MM   | 200        | <a href="#">29440.030.035</a> | 4,5X20MM   | 200   | <a href="#">29440.045.020</a> | 6X30MM  | 200 | <a href="#">29440.060.030</a> |
|          |            |                               | 4,5X25MM   | 200   | <a href="#">29440.045.025</a> | 6X40MM  | 200 | <a href="#">29440.060.040</a> |
| 3,5X12MM | 200        | <a href="#">29440.035.012</a> | 4,5X30MM   | 200   | <a href="#">29440.045.030</a> | 6X50MM  | 200 | <a href="#">29440.060.050</a> |
| 3,5X16MM | 200        | <a href="#">29440.035.016</a> | 4,5X35MM   | 200   | <a href="#">29440.045.035</a> | 6X60MM  | 200 | <a href="#">29440.060.060</a> |
| 3,5X20MM | 200        | <a href="#">29440.035.020</a> | 4,5X40MM   | 200   | <a href="#">29440.045.040</a> | 6X70MM  | 200 | <a href="#">29440.060.070</a> |
| 3,5X25MM | 200        | <a href="#">29440.035.025</a> | 4,5X45MM   | 200   | <a href="#">29440.045.045</a> | 6X80MM  | 200 | <a href="#">29440.060.080</a> |
| 3,5X30MM | 200        | <a href="#">29440.035.030</a> | 4,5X50MM   | 200   | <a href="#">29440.045.050</a> | 6X90MM  | 200 | <a href="#">29440.060.090</a> |
| 3,5X35MM | 200        | <a href="#">29440.035.035</a> | 4,5X60MM   | 200   | <a href="#">29440.045.060</a> | 6X100MM | 200 | <a href="#">29440.060.100</a> |
| 3,5X40MM | 200        | <a href="#">29440.035.040</a> | 4,5X70MM   | 200   | <a href="#">29440.045.070</a> | 6X110MM | 200 | <a href="#">29440.060.110</a> |
| 3,5X45MM | 200        | <a href="#">29440.035.045</a> | 4,5X80MM   | 200   | <a href="#">29440.045.080</a> | 6X120MM | 200 | <a href="#">29440.060.120</a> |
| 3,5X50MM | 200        | <a href="#">29440.035.050</a> |            |       |                               | 6X130MM | 200 | <a href="#">29440.060.130</a> |
|          |            |                               | 5X20MM     | 200   | <a href="#">29440.050.020</a> | 6X140MM | 200 | <a href="#">29440.060.140</a> |
| 4X12MM   | 200        | <a href="#">29440.040.012</a> | 5X25MM     | 200   | <a href="#">29440.050.025</a> | 6X150MM | 200 | <a href="#">29440.060.150</a> |
| 4X16MM   | 200        | <a href="#">29440.040.016</a> | 5X30MM     | 200   | <a href="#">29440.050.030</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51750 Cross recessed countersunk head screw for chipboard Pozidriv**
**R03A**


|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d x L    | Art.number | d x L                         | Art.number | d x L | Art.number                    |         |     |                               |
|----------|------------|-------------------------------|------------|-------|-------------------------------|---------|-----|-------------------------------|
| 3X13MM   | 200        | <a href="#">51750.030.013</a> | 4X40MM     | 200   | <a href="#">51750.040.040</a> | 5X45MM  | 200 | <a href="#">51750.050.045</a> |
| 3X16MM   | 200        | <a href="#">51750.030.016</a> | 4X45MM     | 200   | <a href="#">51750.040.045</a> | 5X50MM  | 200 | <a href="#">51750.050.050</a> |
| 3X20MM   | 200        | <a href="#">51750.030.020</a> | 4X50MM     | 200   | <a href="#">51750.040.050</a> | 5X60MM  | 200 | <a href="#">51750.050.060</a> |
| 3X25MM   | 200        | <a href="#">51750.030.025</a> | 4X60MM     | 200   | <a href="#">51750.040.060</a> | 5X70MM  | 200 | <a href="#">51750.050.070</a> |
| 3X30MM   | 200        | <a href="#">51750.030.030</a> | 4X70MM     | 200   | <a href="#">51750.040.070</a> | 5X80MM  | 200 | <a href="#">51750.050.080</a> |
| 3X35MM   | 200        | <a href="#">51750.030.035</a> |            |       |                               | 5X90MM  | 100 | <a href="#">51750.050.090</a> |
|          |            |                               | 4,5X20MM   | 200   | <a href="#">51750.045.020</a> | 5X100MM | 100 | <a href="#">51750.050.100</a> |
| 3,5X13MM | 200        | <a href="#">51750.035.013</a> | 4,5X25MM   | 200   | <a href="#">51750.045.025</a> |         |     |                               |
| 3,5X16MM | 200        | <a href="#">51750.035.016</a> | 4,5X30MM   | 200   | <a href="#">51750.045.030</a> | 6X30MM  | 100 | <a href="#">51750.060.030</a> |
| 3,5X20MM | 200        | <a href="#">51750.035.020</a> | 4,5X35MM   | 200   | <a href="#">51750.045.035</a> | 6X35MM  | 100 | <a href="#">51750.060.035</a> |
| 3,5X25MM | 200        | <a href="#">51750.035.025</a> | 4,5X40MM   | 200   | <a href="#">51750.045.040</a> | 6X40MM  | 100 | <a href="#">51750.060.040</a> |
| 3,5X30MM | 200        | <a href="#">51750.035.030</a> | 4,5X45MM   | 200   | <a href="#">51750.045.045</a> | 6X50MM  | 100 | <a href="#">51750.060.050</a> |
| 3,5X35MM | 200        | <a href="#">51750.035.035</a> | 4,5X50MM   | 200   | <a href="#">51750.045.050</a> | 6X60MM  | 100 | <a href="#">51750.060.060</a> |
| 3,5X40MM | 200        | <a href="#">51750.035.040</a> | 4,5X60MM   | 200   | <a href="#">51750.045.060</a> | 6X70MM  | 100 | <a href="#">51750.060.070</a> |
|          |            |                               |            |       |                               | 6X80MM  | 100 | <a href="#">51750.060.080</a> |
| 4X16MM   | 200        | <a href="#">51750.040.016</a> | 5X20MM     | 200   | <a href="#">51750.050.020</a> | 6X90MM  | 100 | <a href="#">51750.060.090</a> |
| 4X20MM   | 200        | <a href="#">51750.040.020</a> | 5X25MM     | 200   | <a href="#">51750.050.025</a> | 6X100MM | 100 | <a href="#">51750.060.100</a> |
| 4X25MM   | 200        | <a href="#">51750.040.025</a> | 5X30MM     | 200   | <a href="#">51750.050.030</a> | 6X120MM | 100 | <a href="#">51750.060.120</a> |
| 4X30MM   | 200        | <a href="#">51750.040.030</a> | 5X35MM     | 200   | <a href="#">51750.050.035</a> |         |     |                               |
| 4X35MM   | 200        | <a href="#">51750.040.035</a> | 5X40MM     | 200   | <a href="#">51750.050.040</a> |         |     |                               |

**55750 Cross recessed countersunk head screw for chipboard Pozidriv R43A**

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |



| d x L    | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X12MM   | 200 | <a href="#">55750.030.012</a> | 4X12MM | 200 | <a href="#">55750.040.012</a> | 5X50MM | 200 | <a href="#">55750.050.050</a> |
| 3X16MM   | 200 | <a href="#">55750.030.016</a> | 4X16MM | 200 | <a href="#">55750.040.016</a> | 5X60MM | 200 | <a href="#">55750.050.060</a> |
| 3X20MM   | 200 | <a href="#">55750.030.020</a> | 4X20MM | 200 | <a href="#">55750.040.020</a> | 5X70MM | 200 | <a href="#">55750.050.070</a> |
| 3X25MM   | 200 | <a href="#">55750.030.025</a> | 4X25MM | 200 | <a href="#">55750.040.025</a> |        |     |                               |
| 3X30MM   | 200 | <a href="#">55750.030.030</a> | 4X30MM | 200 | <a href="#">55750.040.030</a> | 6X40MM | 100 | <a href="#">55750.060.040</a> |
|          |     |                               | 4X35MM | 200 | <a href="#">55750.040.035</a> | 6X60MM | 100 | <a href="#">55750.060.060</a> |
| 3,5X16MM | 200 | <a href="#">55750.035.016</a> | 4X40MM | 200 | <a href="#">55750.040.040</a> | 6X70MM | 100 | <a href="#">55750.060.070</a> |
| 3,5X20MM | 200 | <a href="#">55750.035.020</a> | 4X45MM | 200 | <a href="#">55750.040.045</a> | 6X80MM | 100 | <a href="#">55750.060.080</a> |
| 3,5X25MM | 200 | <a href="#">55750.035.025</a> | 4X50MM | 200 | <a href="#">55750.040.050</a> | 6X90MM | 100 | <a href="#">55750.060.090</a> |
| 3,5X30MM | 200 | <a href="#">55750.035.030</a> | 4X60MM | 200 | <a href="#">55750.040.060</a> |        |     |                               |
| 3,5X35MM | 200 | <a href="#">55750.035.035</a> |        |     |                               |        |     |                               |
| 3,5X40MM | 200 | <a href="#">55750.035.040</a> | 5X30MM | 200 | <a href="#">55750.050.030</a> |        |     |                               |
|          |     |                               | 5X40MM | 200 | <a href="#">55750.050.040</a> |        |     |                               |

**29349 HECO TOPIX Cross recessed countersunk head screw for chipboard Pozidriv K04A**

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |





| d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 3,5X20MM | 1000 | <a href="#">29349.035.020</a> | 4X50MM   | 500 | <a href="#">29349.040.050</a> | 5X60MM  | 200 | <a href="#">29349.050.060</a> |
| 3,5X25MM | 1000 | <a href="#">29349.035.025</a> | 4X60MM   | 200 | <a href="#">29349.040.060</a> | 5X70MM  | 200 | <a href="#">29349.050.070</a> |
| 3,5X30MM | 1000 | <a href="#">29349.035.030</a> | 4X70MM   | 200 | <a href="#">29349.040.070</a> | 5X80MM  | 200 | <a href="#">29349.050.080</a> |
| 3,5X35MM | 1000 | <a href="#">29349.035.035</a> |          |     |                               | 5X90MM  | 200 | <a href="#">29349.050.090</a> |
| 3,5X40MM | 500  | <a href="#">29349.035.040</a> | 4,5X30MM | 500 | <a href="#">29349.045.030</a> | 5X100MM | 200 | <a href="#">29349.050.100</a> |
| 3,5X45MM | 500  | <a href="#">29349.035.045</a> | 4,5X35MM | 500 | <a href="#">29349.045.035</a> | 5X120MM | 100 | <a href="#">29349.050.120</a> |
| 3,5X50MM | 500  | <a href="#">29349.035.050</a> | 4,5X40MM | 500 | <a href="#">29349.045.040</a> |         |     |                               |
|          |      |                               | 4,5X45MM | 500 | <a href="#">29349.045.045</a> | 6X50MM  | 200 | <a href="#">29349.060.050</a> |
| 4X25MM   | 1000 | <a href="#">29349.040.025</a> | 4,5X50MM | 200 | <a href="#">29349.045.050</a> | 6X80MM  | 200 | <a href="#">29349.060.080</a> |
| 4X30MM   | 1000 | <a href="#">29349.040.030</a> | 4,5X60MM | 200 | <a href="#">29349.045.060</a> | 6X100MM | 100 | <a href="#">29349.060.100</a> |
| 4X35MM   | 1000 | <a href="#">29349.040.035</a> |          |     |                               | 6X110MM | 100 | <a href="#">29349.060.110</a> |
| 4X40MM   | 500  | <a href="#">29349.040.040</a> | 5X40MM   | 500 | <a href="#">29349.050.040</a> | 6X120MM | 100 | <a href="#">29349.060.120</a> |
| 4X45MM   | 500  | <a href="#">29349.040.045</a> | 5X50MM   | 200 | <a href="#">29349.050.050</a> |         |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**29353 HECO TOPIX Cross recessed countersunk head screw for chipboard Pozidriv K04A**

|                          |                               |
|--------------------------|-------------------------------|
| <b>Material</b>          | Steel                         |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |

| d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 3,5X15MM | 1000 | <a href="#">29353.035.015</a> | 4,5X30MM | 500 | <a href="#">29353.045.030</a> | 5X70MM  | 200 | <a href="#">29353.050.070</a> |
| 3,5X30MM | 1000 | <a href="#">29353.035.030</a> | 4,5X35MM | 500 | <a href="#">29353.045.035</a> | 5X80MM  | 200 | <a href="#">29353.050.080</a> |
| 3,5X35MM | 1000 | <a href="#">29353.035.035</a> | 4,5X40MM | 500 | <a href="#">29353.045.040</a> |         |     |                               |
|          |      |                               | 4,5X45MM | 500 | <a href="#">29353.045.045</a> | 6X80MM  | 200 | <a href="#">29353.060.080</a> |
| 4X25MM   | 1000 | <a href="#">29353.040.025</a> | 4,5X70MM | 200 | <a href="#">29353.045.070</a> | 6X90MM  | 100 | <a href="#">29353.060.090</a> |
| 4X30MM   | 1000 | <a href="#">29353.040.030</a> |          |     |                               | 6X100MM | 100 | <a href="#">29353.060.100</a> |
| 4X35MM   | 1000 | <a href="#">29353.040.035</a> | 5X40MM   | 500 | <a href="#">29353.050.040</a> | 6X120MM | 100 | <a href="#">29353.060.120</a> |
| 4X40MM   | 500  | <a href="#">29353.040.040</a> | 5X50MM   | 200 | <a href="#">29353.050.050</a> |         |     |                               |
| 4X50MM   | 500  | <a href="#">29353.040.050</a> | 5X60MM   | 200 | <a href="#">29353.050.060</a> |         |     |                               |
| 4X60MM   | 200  | <a href="#">29353.040.060</a> |          |     |                               |         |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**29370 HECO UNIX PLUS Cross recessed countersunk head screw for chipboard K04A**

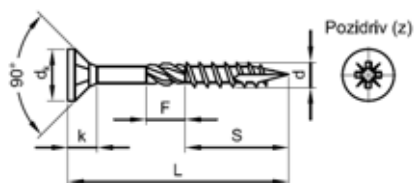
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 3,5X20MM | 1000 | <a href="#">29370.035.020</a> |          |     |                               | 5X60MM  | 200 | <a href="#">29370.050.060</a> |
| 3,5X25MM | 1000 | <a href="#">29370.035.025</a> | 4,5X25MM | 500 | <a href="#">29370.045.025</a> | 5X80MM  | 200 | <a href="#">29370.050.080</a> |
| 3,5X30MM | 1000 | <a href="#">29370.035.030</a> | 4,5X30MM | 500 | <a href="#">29370.045.030</a> |         |     |                               |
| 3,5X35MM | 1000 | <a href="#">29370.035.035</a> | 4,5X35MM | 500 | <a href="#">29370.045.035</a> | 6X35MM  | 200 | <a href="#">29370.060.035</a> |
| 3,5X40MM | 500  | <a href="#">29370.035.040</a> | 4,5X40MM | 500 | <a href="#">29370.045.040</a> | 6X40MM  | 200 | <a href="#">29370.060.040</a> |
| 3,5X50MM | 500  | <a href="#">29370.035.050</a> | 4,5X45MM | 500 | <a href="#">29370.045.045</a> | 6X45MM  | 200 | <a href="#">29370.060.045</a> |
|          |      |                               | 4,5X50MM | 200 | <a href="#">29370.045.050</a> | 6X50MM  | 200 | <a href="#">29370.060.050</a> |
| 4X25MM   | 1000 | <a href="#">29370.040.025</a> | 4,5X60MM | 200 | <a href="#">29370.045.060</a> | 6X60MM  | 200 | <a href="#">29370.060.060</a> |
| 4X30MM   | 1000 | <a href="#">29370.040.030</a> |          |     |                               | 6X80MM  | 100 | <a href="#">29370.060.080</a> |
| 4X35MM   | 500  | <a href="#">29370.040.035</a> | 5X30MM   | 500 | <a href="#">29370.050.030</a> | 6X100MM | 100 | <a href="#">29370.060.100</a> |
| 4X40MM   | 500  | <a href="#">29370.040.040</a> | 5X35MM   | 500 | <a href="#">29370.050.035</a> | 6X120MM | 100 | <a href="#">29370.060.120</a> |
| 4X45MM   | 500  | <a href="#">29370.040.045</a> | 5X40MM   | 500 | <a href="#">29370.050.040</a> |         |     |                               |
| 4X50MM   | 500  | <a href="#">29370.040.050</a> | 5X45MM   | 200 | <a href="#">29370.050.045</a> |         |     |                               |
| 4X60MM   | 200  | <a href="#">29370.040.060</a> | 5X50MM   | 200 | <a href="#">29370.050.050</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Universal woodscrew cross recessed countersunk head



### Technical data



| d   | dk | k   | No. Pozidriv (Z) |
|-----|----|-----|------------------|
| 3   | 6  | 3,5 | 1                |
| 3,5 | 7  | 4,0 | 2                |
| 4   | 8  | 4,5 | 2                |
| 4,5 | 9  | 5,0 | 2                |
| 5   | 10 | 5,5 | 2                |
| 6   | 12 | 6,3 | 3                |

- Full boxes only.
- F=9mm only if L≥40mm.



### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| Pozidriv         | St        | Zipl              | Standard  | 30000 | 6-128 |
| Pozidriv         | St        | Zipl yell.p.      | Standard  | 30005 | 6-128 |
| Pozidriv         | St.St. A2 |                   | Standard  | 30015 | 6-129 |

**6**

|  |   |   |
|--|---|---|
| <b>30000</b>   | <b>MAXXFAST Universal woodscrew cross recessed countersunk head</b> | <b>MF0A</b>   |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Zinc plated   |   |
| <b>Packaging</b>   | Standard  |   |
|  |   |  |

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3X10MM (6)    | 200 | <a href="#">30000.030.010</a> | 4X40MM (25)   | 200 | <a href="#">30000.040.040</a> | 5X45MM (30)   | 200 | <a href="#">30000.050.045</a> |
| 3X12MM (8)    | 200 | <a href="#">30000.030.012</a> | 4X45MM (30)   | 200 | <a href="#">30000.040.045</a> | 5X50MM (35)   | 200 | <a href="#">30000.050.050</a> |
| 3X16MM (12)   | 200 | <a href="#">30000.030.016</a> | 4X50MM (35)   | 200 | <a href="#">30000.040.050</a> | 5X60MM (45)   | 200 | <a href="#">30000.050.060</a> |
| 3X20MM (16)   | 200 | <a href="#">30000.030.020</a> | 4X60MM (45)   | 200 | <a href="#">30000.040.060</a> | 5X70MM (54)   | 200 | <a href="#">30000.050.070</a> |
| 3X25MM (21)   | 200 | <a href="#">30000.030.025</a> | 4X70MM (54)   | 200 | <a href="#">30000.040.070</a> | 5X80MM (54)   | 100 | <a href="#">30000.050.080</a> |
| 3X30MM (26)   | 200 | <a href="#">30000.030.030</a> |               |     |                               | 5X90MM (60)   | 100 | <a href="#">30000.050.090</a> |
| 3X35MM (31)   | 200 | <a href="#">30000.030.035</a> | 4,5X16MM (11) | 200 | <a href="#">30000.045.016</a> | 5X100MM (66)  | 100 | <a href="#">30000.050.100</a> |
|               |     |                               | 4,5X20MM (15) | 200 | <a href="#">30000.045.020</a> |               |     |                               |
| 3,5X12MM (8)  | 200 | <a href="#">30000.035.012</a> | 4,5X25MM (20) | 200 | <a href="#">30000.045.025</a> | 6X30MM (23)   | 200 | <a href="#">30000.060.030</a> |
| 3,5X16MM (12) | 200 | <a href="#">30000.035.016</a> | 4,5X30MM (25) | 200 | <a href="#">30000.045.030</a> | 6X35MM (28)   | 200 | <a href="#">30000.060.035</a> |
| 3,5X20MM (16) | 200 | <a href="#">30000.035.020</a> | 4,5X35MM (30) | 200 | <a href="#">30000.045.035</a> | 6X40MM (25)   | 200 | <a href="#">30000.060.040</a> |
| 3,5X25MM (21) | 200 | <a href="#">30000.035.025</a> | 4,5X40MM (25) | 200 | <a href="#">30000.045.040</a> | 6X45MM (30)   | 200 | <a href="#">30000.060.045</a> |
| 3,5X30MM (26) | 200 | <a href="#">30000.035.030</a> | 4,5X45MM (30) | 200 | <a href="#">30000.045.045</a> | 6X50MM (35)   | 200 | <a href="#">30000.060.050</a> |
| 3,5X35MM (31) | 200 | <a href="#">30000.035.035</a> | 4,5X50MM (35) | 200 | <a href="#">30000.045.050</a> | 6X60MM (45)   | 200 | <a href="#">30000.060.060</a> |
| 3,5X40MM (25) | 200 | <a href="#">30000.035.040</a> | 4,5X60MM (45) | 200 | <a href="#">30000.045.060</a> | 6X70MM (54)   | 200 | <a href="#">30000.060.070</a> |
| 3,5X45MM (30) | 200 | <a href="#">30000.035.045</a> | 4,5X70MM (54) | 200 | <a href="#">30000.045.070</a> | 6X80MM (54)   | 100 | <a href="#">30000.060.080</a> |
| 3,5X50MM (35) | 200 | <a href="#">30000.035.050</a> | 4,5X80MM (54) | 200 | <a href="#">30000.045.080</a> | 6X90MM (60)   | 100 | <a href="#">30000.060.090</a> |
|               |     |                               |               |     |                               | 6X100MM (66)  | 100 | <a href="#">30000.060.100</a> |
| 4X12MM (7)    | 200 | <a href="#">30000.040.012</a> | 5X16MM (9)    | 200 | <a href="#">30000.050.016</a> | 6X110MM (73)  | 100 | <a href="#">30000.060.110</a> |
| 4X16MM (11)   | 200 | <a href="#">30000.040.016</a> | 5X20MM (14)   | 200 | <a href="#">30000.050.020</a> | 6X120MM (80)  | 100 | <a href="#">30000.060.120</a> |
| 4X20MM (15)   | 200 | <a href="#">30000.040.020</a> | 5X25MM (19)   | 200 | <a href="#">30000.050.025</a> | 6X130MM (86)  | 100 | <a href="#">30000.060.130</a> |
| 4X25MM (20)   | 200 | <a href="#">30000.040.025</a> | 5X30MM (24)   | 200 | <a href="#">30000.050.030</a> | 6X140MM (93)  | 100 | <a href="#">30000.060.140</a> |
| 4X30MM (25)   | 200 | <a href="#">30000.040.030</a> | 5X35MM (29)   | 200 | <a href="#">30000.050.035</a> | 6X150MM (100) | 100 | <a href="#">30000.060.150</a> |
| 4X35MM (30)   | 200 | <a href="#">30000.040.035</a> | 5X40MM (25)   | 200 | <a href="#">30000.050.040</a> |               |     |                               |

|  |   |   |
|--|---|---|
| <b>30005</b>   | <b>MAXXFAST Universal woodscrew cross recessed countersunk head</b> | <b>MF0A</b>   |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Zinc plated yellow passivated                                       |   |
| <b>Packaging</b>   | Standard  |   |
|  |   |  |

| d x L (S)   | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    | d x L (S)    | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3X10MM (6)  | 200 | <a href="#">30005.030.010</a> | 3X20MM (16) | 200 | <a href="#">30005.030.020</a> | 3X35MM (31)  | 200 | <a href="#">30005.030.035</a> |
| 3X12MM (8)  | 200 | <a href="#">30005.030.012</a> | 3X25MM (21) | 200 | <a href="#">30005.030.025</a> |              |     |                               |
| 3X16MM (12) | 200 | <a href="#">30005.030.016</a> | 3X30MM (26) | 200 | <a href="#">30005.030.030</a> | 3,5X12MM (8) | 200 | <a href="#">30005.035.012</a> |



**30005 MAXXFAST Universal woodscrew cross recessed countersunk head**

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3,5X16MM (12) | 200 | <a href="#">30005.035.016</a> | 4,5X16MM (11) | 200 | <a href="#">30005.045.016</a> | 5X70MM (54)   | 200 | <a href="#">30005.050.070</a> |
| 3,5X20MM (16) | 200 | <a href="#">30005.035.020</a> | 4,5X20MM (15) | 200 | <a href="#">30005.045.020</a> | 5X80MM (54)   | 100 | <a href="#">30005.050.080</a> |
| 3,5X25MM (21) | 200 | <a href="#">30005.035.025</a> | 4,5X25MM (20) | 200 | <a href="#">30005.045.025</a> | 5X90MM (60)   | 100 | <a href="#">30005.050.090</a> |
| 3,5X30MM (26) | 200 | <a href="#">30005.035.030</a> | 4,5X30MM (25) | 200 | <a href="#">30005.045.030</a> | 5X100MM (66)  | 100 | <a href="#">30005.050.100</a> |
| 3,5X35MM (31) | 200 | <a href="#">30005.035.035</a> | 4,5X35MM (30) | 200 | <a href="#">30005.045.035</a> |               |     |                               |
| 3,5X40MM (25) | 200 | <a href="#">30005.035.040</a> | 4,5X40MM (25) | 200 | <a href="#">30005.045.040</a> | 6X30MM (23)   | 200 | <a href="#">30005.060.030</a> |
| 3,5X45MM (30) | 200 | <a href="#">30005.035.045</a> | 4,5X45MM (30) | 200 | <a href="#">30005.045.045</a> | 6X35MM (28)   | 200 | <a href="#">30005.060.035</a> |
| 3,5X50MM (35) | 200 | <a href="#">30005.035.050</a> | 4,5X50MM (35) | 200 | <a href="#">30005.045.050</a> | 6X40MM (25)   | 200 | <a href="#">30005.060.040</a> |
|               |     |                               | 4,5X60MM (45) | 200 | <a href="#">30005.045.060</a> | 6X45MM (30)   | 200 | <a href="#">30005.060.045</a> |
| 4X12MM (7)    | 200 | <a href="#">30005.040.012</a> | 4,5X70MM (54) | 200 | <a href="#">30005.045.070</a> | 6X50MM (35)   | 200 | <a href="#">30005.060.050</a> |
| 4X16MM (11)   | 200 | <a href="#">30005.040.016</a> | 4,5X80MM (54) | 200 | <a href="#">30005.045.080</a> | 6X60MM (45)   | 200 | <a href="#">30005.060.060</a> |
| 4X20MM (15)   | 200 | <a href="#">30005.040.020</a> |               |     |                               | 6X70MM (54)   | 200 | <a href="#">30005.060.070</a> |
| 4X25MM (20)   | 200 | <a href="#">30005.040.025</a> | 5X16MM (9)    | 200 | <a href="#">30005.050.016</a> | 6X80MM (54)   | 100 | <a href="#">30005.060.080</a> |
| 4X30MM (25)   | 200 | <a href="#">30005.040.030</a> | 5X20MM (14)   | 200 | <a href="#">30005.050.020</a> | 6X90MM (60)   | 100 | <a href="#">30005.060.090</a> |
| 4X35MM (30)   | 200 | <a href="#">30005.040.035</a> | 5X25MM (19)   | 200 | <a href="#">30005.050.025</a> | 6X100MM (66)  | 100 | <a href="#">30005.060.100</a> |
| 4X40MM (25)   | 200 | <a href="#">30005.040.040</a> | 5X30MM (24)   | 200 | <a href="#">30005.050.030</a> | 6X110MM (73)  | 100 | <a href="#">30005.060.110</a> |
| 4X45MM (30)   | 200 | <a href="#">30005.040.045</a> | 5X35MM (29)   | 200 | <a href="#">30005.050.035</a> | 6X120MM (80)  | 100 | <a href="#">30005.060.120</a> |
| 4X50MM (35)   | 200 | <a href="#">30005.040.050</a> | 5X40MM (25)   | 200 | <a href="#">30005.050.040</a> | 6X130MM (86)  | 100 | <a href="#">30005.060.130</a> |
| 4X60MM (45)   | 200 | <a href="#">30005.040.060</a> | 5X45MM (30)   | 200 | <a href="#">30005.050.045</a> | 6X140MM (93)  | 100 | <a href="#">30005.060.140</a> |
| 4X70MM (54)   | 200 | <a href="#">30005.040.070</a> | 5X50MM (35)   | 200 | <a href="#">30005.050.050</a> | 6X150MM (100) | 100 | <a href="#">30005.060.150</a> |
|               |     |                               | 5X60MM (45)   | 200 | <a href="#">30005.050.060</a> |               |     |                               |

**30015 MAXXFAST Universal woodscrew cross recessed countersunk head**
**MF0A**
**Material** Stainless steel A2  
**Packaging** Standard

**MAXXFAST**  
 PROFESSIONAL HARDWARE


| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3X10MM (6)    | 200 | <a href="#">30015.030.010</a> | 4X40MM (25)   | 200 | <a href="#">30015.040.040</a> | 5X45MM (30)   | 200 | <a href="#">30015.050.045</a> |
| 3X12MM (8)    | 200 | <a href="#">30015.030.012</a> | 4X45MM (30)   | 200 | <a href="#">30015.040.045</a> | 5X50MM (35)   | 200 | <a href="#">30015.050.050</a> |
| 3X16MM (12)   | 200 | <a href="#">30015.030.016</a> | 4X50MM (35)   | 200 | <a href="#">30015.040.050</a> | 5X60MM (45)   | 200 | <a href="#">30015.050.060</a> |
| 3X20MM (16)   | 200 | <a href="#">30015.030.020</a> | 4X60MM (45)   | 200 | <a href="#">30015.040.060</a> | 5X70MM (54)   | 200 | <a href="#">30015.050.070</a> |
| 3X25MM (21)   | 200 | <a href="#">30015.030.025</a> | 4X70MM (54)   | 200 | <a href="#">30015.040.070</a> | 5X80MM (54)   | 100 | <a href="#">30015.050.080</a> |
| 3X30MM (26)   | 200 | <a href="#">30015.030.030</a> |               |     |                               | 5X90MM (60)   | 100 | <a href="#">30015.050.090</a> |
| 3X35MM (31)   | 200 | <a href="#">30015.030.035</a> | 4,5X16MM (11) | 200 | <a href="#">30015.045.016</a> | 5X100MM (66)  | 100 | <a href="#">30015.050.100</a> |
|               |     |                               | 4,5X20MM (15) | 200 | <a href="#">30015.045.020</a> |               |     |                               |
| 3,5X12MM (8)  | 200 | <a href="#">30015.035.012</a> | 4,5X25MM (20) | 200 | <a href="#">30015.045.025</a> | 6X30MM (23)   | 200 | <a href="#">30015.060.030</a> |
| 3,5X16MM (12) | 200 | <a href="#">30015.035.016</a> | 4,5X30MM (25) | 200 | <a href="#">30015.045.030</a> | 6X35MM (28)   | 200 | <a href="#">30015.060.035</a> |
| 3,5X20MM (16) | 200 | <a href="#">30015.035.020</a> | 4,5X35MM (30) | 200 | <a href="#">30015.045.035</a> | 6X40MM (25)   | 200 | <a href="#">30015.060.040</a> |
| 3,5X25MM (21) | 200 | <a href="#">30015.035.025</a> | 4,5X40MM (25) | 200 | <a href="#">30015.045.040</a> | 6X45MM (30)   | 200 | <a href="#">30015.060.045</a> |
| 3,5X30MM (26) | 200 | <a href="#">30015.035.030</a> | 4,5X45MM (30) | 200 | <a href="#">30015.045.045</a> | 6X50MM (35)   | 200 | <a href="#">30015.060.050</a> |
| 3,5X35MM (31) | 200 | <a href="#">30015.035.035</a> | 4,5X50MM (35) | 200 | <a href="#">30015.045.050</a> | 6X60MM (45)   | 200 | <a href="#">30015.060.060</a> |
| 3,5X40MM (25) | 200 | <a href="#">30015.035.040</a> | 4,5X60MM (45) | 200 | <a href="#">30015.045.060</a> | 6X70MM (54)   | 200 | <a href="#">30015.060.070</a> |
| 3,5X45MM (30) | 200 | <a href="#">30015.035.045</a> | 4,5X70MM (54) | 200 | <a href="#">30015.045.070</a> | 6X80MM (54)   | 100 | <a href="#">30015.060.080</a> |
| 3,5X50MM (35) | 200 | <a href="#">30015.035.050</a> | 4,5X80MM (54) | 200 | <a href="#">30015.045.080</a> | 6X90MM (60)   | 100 | <a href="#">30015.060.090</a> |
|               |     |                               |               |     |                               | 6X100MM (66)  | 100 | <a href="#">30015.060.100</a> |
| 4X12MM (7)    | 200 | <a href="#">30015.040.012</a> | 5X16MM (9)    | 200 | <a href="#">30015.050.016</a> | 6X110MM (73)  | 100 | <a href="#">30015.060.110</a> |
| 4X16MM (11)   | 200 | <a href="#">30015.040.016</a> | 5X20MM (14)   | 200 | <a href="#">30015.050.020</a> | 6X120MM (80)  | 100 | <a href="#">30015.060.120</a> |
| 4X20MM (15)   | 200 | <a href="#">30015.040.020</a> | 5X25MM (19)   | 200 | <a href="#">30015.050.025</a> | 6X130MM (86)  | 100 | <a href="#">30015.060.130</a> |
| 4X25MM (20)   | 200 | <a href="#">30015.040.025</a> | 5X30MM (24)   | 200 | <a href="#">30015.050.030</a> | 6X140MM (93)  | 100 | <a href="#">30015.060.140</a> |
| 4X30MM (25)   | 200 | <a href="#">30015.040.030</a> | 5X35MM (29)   | 200 | <a href="#">30015.050.035</a> | 6X150MM (100) | 100 | <a href="#">30015.060.150</a> |
| 4X35MM (30)   | 200 | <a href="#">30015.040.035</a> | 5X40MM (25)   | 200 | <a href="#">30015.050.040</a> |               |     |                               |

**6**

## TTAP® Drive

*ttap® is an innovative new hex-lob drive system with distinctive advantages compared to the generic hex-lob (Torx®). ttap® is a drive system designed to work excellently with all types of assembling, including demanding professional applications. The stick-fit, no wobbling feature enables one handed operations without the use of a magnetic bitholder. ttap® makes screw assembling easier and at lower costs.*

### Plus facile:

- Stick-fit; screwdriver «sticks-fit» in the recess
- No wobbling; screwdriver does not wobble out of the recess, does not cam out
- No need to push; no end-load on screwdriver needed
- one-handed operation is possible
- no magnetic bit holder needed and thus there are no steel splinters to clog the bit
- Screwdriver enters the screw recess more easily

### Cost efficient:

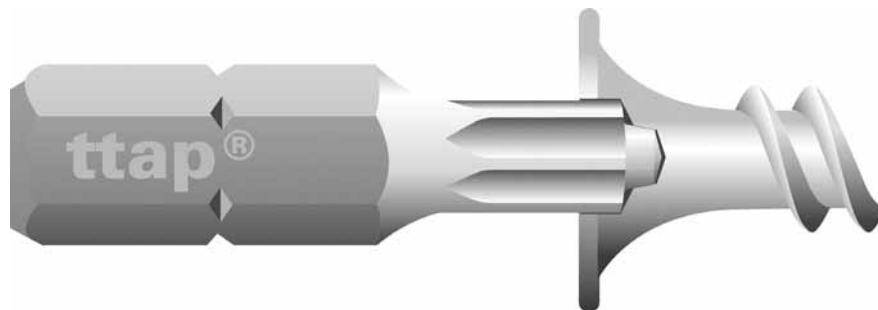
- Reduce tool usage
- Improved productivity
- Reduced risk to damage rust protection plating
- Better profits and job moral

### Hex-Lob (Torx®) Compatible

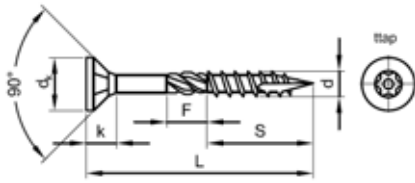
- TTAP® is 100 % a hexalobular recess, backward convertible - but without the disadvantages
- You can use Torx® bits on TTAP® screws, hence, strategically easy to change to TTAP®

### Benefits your health

- No need to push - no end-load on screwdriver needed
- If you compare ttap® with Phillips or Pozidrive recess, a major advantage is that you don't need to apply as much pressure to drive the screw, hence - ttap® reduces worker fatigue



## Universal woodscrew countersunk head with ttap®



### Technical data

| d   | dk | k   | No. ttap |
|-----|----|-----|----------|
| 3   | 6  | 3,5 | 10       |
| 3,5 | 7  | 4,0 | 15       |
| 4   | 8  | 4,5 | 20       |
| 4,5 | 9  | 5,0 | 20       |
| 5   | 10 | 5,5 | 25       |
| 6   | 12 | 6,3 | 25       |

- Full boxes only.
- F=9mm only if L≥40mm.

### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| ttap®            | St        | Zipl              | Standard  | 30100 | 6-131 |
| ttap®            | St        | Zipl yell.p.      | Standard  | 30105 | 6-131 |
| ttap®            | St.St. A2 |                   | Standard  | 30115 | 6-132 |

#### 30100 MAXXFAST Universal woodscrew countersunk head with ttap®

**MF0A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d x L (S)     | ✉   | Art.number                    | d x L (S)     | ✉   | Art.number                    | d x L (S)     | ✉   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3X10MM (6)    | 200 | <a href="#">30100.030.010</a> | 4X40MM (25)   | 200 | <a href="#">30100.040.040</a> | 5X45MM (30)   | 200 | <a href="#">30100.050.045</a> |
| 3X12MM (8)    | 200 | <a href="#">30100.030.012</a> | 4X45MM (30)   | 200 | <a href="#">30100.040.045</a> | 5X50MM (35)   | 200 | <a href="#">30100.050.050</a> |
| 3X16MM (12)   | 200 | <a href="#">30100.030.016</a> | 4X50MM (35)   | 200 | <a href="#">30100.040.050</a> | 5X60MM (45)   | 200 | <a href="#">30100.050.060</a> |
| 3X20MM (16)   | 200 | <a href="#">30100.030.020</a> | 4X60MM (45)   | 200 | <a href="#">30100.040.060</a> | 5X70MM (54)   | 200 | <a href="#">30100.050.070</a> |
| 3X25MM (21)   | 200 | <a href="#">30100.030.025</a> | 4X70MM (54)   | 200 | <a href="#">30100.040.070</a> | 5X80MM (54)   | 100 | <a href="#">30100.050.080</a> |
| 3X30MM (26)   | 200 | <a href="#">30100.030.030</a> |               |     |                               | 5X90MM (60)   | 100 | <a href="#">30100.050.090</a> |
| 3X35MM (31)   | 200 | <a href="#">30100.030.035</a> | 4,5X16MM (11) | 200 | <a href="#">30100.045.016</a> | 5X100MM (66)  | 100 | <a href="#">30100.050.100</a> |
|               |     |                               | 4,5X20MM (15) | 200 | <a href="#">30100.045.020</a> |               |     |                               |
| 3,5X12MM (8)  | 200 | <a href="#">30100.035.012</a> | 4,5X25MM (20) | 200 | <a href="#">30100.045.025</a> | 6X30MM (23)   | 200 | <a href="#">30100.060.030</a> |
| 3,5X16MM (12) | 200 | <a href="#">30100.035.016</a> | 4,5X30MM (25) | 200 | <a href="#">30100.045.030</a> | 6X35MM (28)   | 200 | <a href="#">30100.060.035</a> |
| 3,5X20MM (16) | 200 | <a href="#">30100.035.020</a> | 4,5X35MM (30) | 200 | <a href="#">30100.045.035</a> | 6X40MM (25)   | 200 | <a href="#">30100.060.040</a> |
| 3,5X25MM (21) | 200 | <a href="#">30100.035.025</a> | 4,5X40MM (25) | 200 | <a href="#">30100.045.040</a> | 6X45MM (30)   | 200 | <a href="#">30100.060.045</a> |
| 3,5X30MM (26) | 200 | <a href="#">30100.035.030</a> | 4,5X45MM (30) | 200 | <a href="#">30100.045.045</a> | 6X50MM (35)   | 200 | <a href="#">30100.060.050</a> |
| 3,5X35MM (31) | 200 | <a href="#">30100.035.035</a> | 4,5X50MM (35) | 200 | <a href="#">30100.045.050</a> | 6X60MM (45)   | 200 | <a href="#">30100.060.060</a> |
| 3,5X40MM (25) | 200 | <a href="#">30100.035.040</a> | 4,5X60MM (45) | 200 | <a href="#">30100.045.060</a> | 6X70MM (54)   | 200 | <a href="#">30100.060.070</a> |
| 3,5X45MM (30) | 200 | <a href="#">30100.035.045</a> | 4,5X70MM (54) | 200 | <a href="#">30100.045.070</a> | 6X80MM (54)   | 100 | <a href="#">30100.060.080</a> |
| 3,5X50MM (35) | 200 | <a href="#">30100.035.050</a> | 4,5X80MM (54) | 200 | <a href="#">30100.045.080</a> | 6X90MM (60)   | 100 | <a href="#">30100.060.090</a> |
|               |     |                               |               |     |                               | 6X100MM (66)  | 100 | <a href="#">30100.060.100</a> |
| 4X12MM (7)    | 200 | <a href="#">30100.040.012</a> | 5X16MM (9)    | 200 | <a href="#">30100.050.016</a> | 6X110MM (73)  | 100 | <a href="#">30100.060.110</a> |
| 4X16MM (11)   | 200 | <a href="#">30100.040.016</a> | 5X20MM (14)   | 200 | <a href="#">30100.050.020</a> | 6X120MM (80)  | 100 | <a href="#">30100.060.120</a> |
| 4X20MM (15)   | 200 | <a href="#">30100.040.020</a> | 5X25MM (19)   | 200 | <a href="#">30100.050.025</a> | 6X130MM (86)  | 100 | <a href="#">30100.060.130</a> |
| 4X25MM (20)   | 200 | <a href="#">30100.040.025</a> | 5X30MM (24)   | 200 | <a href="#">30100.050.030</a> | 6X140MM (93)  | 100 | <a href="#">30100.060.140</a> |
| 4X30MM (25)   | 200 | <a href="#">30100.040.030</a> | 5X35MM (29)   | 200 | <a href="#">30100.050.035</a> | 6X150MM (100) | 100 | <a href="#">30100.060.150</a> |
| 4X35MM (30)   | 200 | <a href="#">30100.040.035</a> | 5X40MM (25)   | 200 | <a href="#">30100.050.040</a> |               |     |                               |

#### 30105 MAXXFAST Universal woodscrew countersunk head with ttap®

**MF0A**

**Material** Steel  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d x L (S)   | ✉   | Art.number                    | d x L (S)   | ✉   | Art.number                    | d x L (S)    | ✉   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3X10MM (6)  | 200 | <a href="#">30105.030.010</a> | 3X20MM (16) | 200 | <a href="#">30105.030.020</a> | 3X35MM (31)  | 200 | <a href="#">30105.030.035</a> |
| 3X12MM (8)  | 200 | <a href="#">30105.030.012</a> | 3X25MM (21) | 200 | <a href="#">30105.030.025</a> |              |     |                               |
| 3X16MM (12) | 200 | <a href="#">30105.030.016</a> | 3X30MM (26) | 200 | <a href="#">30105.030.030</a> | 3,5X12MM (8) | 200 | <a href="#">30105.035.012</a> |

**30105 MAXXFAST Universal woodscrew countersunk head with ttap**

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3,5X16MM (12) | 200 | <a href="#">30105.035.016</a> | 4,5X16MM (11) | 200 | <a href="#">30105.045.016</a> | 5X70MM (54)   | 200 | <a href="#">30105.050.070</a> |
| 3,5X20MM (16) | 200 | <a href="#">30105.035.020</a> | 4,5X20MM (15) | 200 | <a href="#">30105.045.020</a> | 5X80MM (54)   | 100 | <a href="#">30105.050.080</a> |
| 3,5X25MM (21) | 200 | <a href="#">30105.035.025</a> | 4,5X25MM (20) | 200 | <a href="#">30105.045.025</a> | 5X90MM (60)   | 100 | <a href="#">30105.050.090</a> |
| 3,5X30MM (26) | 200 | <a href="#">30105.035.030</a> | 4,5X30MM (25) | 200 | <a href="#">30105.045.030</a> | 5X100MM (66)  | 100 | <a href="#">30105.050.100</a> |
| 3,5X35MM (31) | 200 | <a href="#">30105.035.035</a> | 4,5X35MM (30) | 200 | <a href="#">30105.045.035</a> |               |     |                               |
| 3,5X40MM (25) | 200 | <a href="#">30105.035.040</a> | 4,5X40MM (25) | 200 | <a href="#">30105.045.040</a> | 6X30MM (23)   | 200 | <a href="#">30105.060.030</a> |
| 3,5X45MM (30) | 200 | <a href="#">30105.035.045</a> | 4,5X45MM (30) | 200 | <a href="#">30105.045.045</a> | 6X35MM (28)   | 200 | <a href="#">30105.060.035</a> |
| 3,5X50MM (35) | 200 | <a href="#">30105.035.050</a> | 4,5X50MM (35) | 200 | <a href="#">30105.045.050</a> | 6X40MM (25)   | 200 | <a href="#">30105.060.040</a> |
|               |     |                               | 4,5X60MM (45) | 200 | <a href="#">30105.045.060</a> | 6X45MM (30)   | 200 | <a href="#">30105.060.045</a> |
| 4X12MM (7)    | 200 | <a href="#">30105.040.012</a> | 4,5X70MM (54) | 200 | <a href="#">30105.045.070</a> | 6X50MM (35)   | 200 | <a href="#">30105.060.050</a> |
| 4X16MM (11)   | 200 | <a href="#">30105.040.016</a> | 4,5X80MM (54) | 200 | <a href="#">30105.045.080</a> | 6X60MM (45)   | 200 | <a href="#">30105.060.060</a> |
| 4X20MM (15)   | 200 | <a href="#">30105.040.020</a> |               |     |                               | 6X70MM (54)   | 200 | <a href="#">30105.060.070</a> |
| 4X25MM (20)   | 200 | <a href="#">30105.040.025</a> | 5X16MM (9)    | 200 | <a href="#">30105.050.016</a> | 6X80MM (54)   | 100 | <a href="#">30105.060.080</a> |
| 4X30MM (25)   | 200 | <a href="#">30105.040.030</a> | 5X20MM (14)   | 200 | <a href="#">30105.050.020</a> | 6X90MM (60)   | 100 | <a href="#">30105.060.090</a> |
| 4X35MM (30)   | 200 | <a href="#">30105.040.035</a> | 5X25MM (19)   | 200 | <a href="#">30105.050.025</a> | 6X100MM (66)  | 100 | <a href="#">30105.060.100</a> |
| 4X40MM (25)   | 200 | <a href="#">30105.040.040</a> | 5X30MM (24)   | 200 | <a href="#">30105.050.030</a> | 6X110MM (73)  | 100 | <a href="#">30105.060.110</a> |
| 4X45MM (30)   | 200 | <a href="#">30105.040.045</a> | 5X35MM (29)   | 200 | <a href="#">30105.050.035</a> | 6X120MM (80)  | 100 | <a href="#">30105.060.120</a> |
| 4X50MM (35)   | 200 | <a href="#">30105.040.050</a> | 5X40MM (25)   | 200 | <a href="#">30105.050.040</a> | 6X130MM (86)  | 100 | <a href="#">30105.060.130</a> |
| 4X60MM (45)   | 200 | <a href="#">30105.040.060</a> | 5X45MM (30)   | 200 | <a href="#">30105.050.045</a> | 6X140MM (93)  | 100 | <a href="#">30105.060.140</a> |
| 4X70MM (54)   | 200 | <a href="#">30105.040.070</a> | 5X50MM (35)   | 200 | <a href="#">30105.050.050</a> | 6X150MM (100) | 100 | <a href="#">30105.060.150</a> |
|               |     |                               | 5X60MM (45)   | 200 | <a href="#">30105.050.060</a> |               |     |                               |

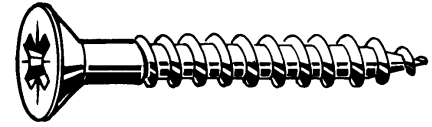
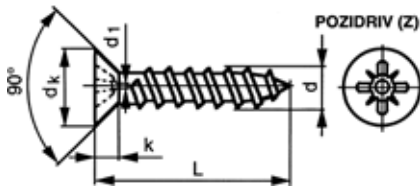
**30115 MAXXFAST Universal woodscrew countersunk head with ttap®**
**MF0A**
**Material** Stainless steel A2  
**Packaging** Standard

**MAXXFAST**  
 PROFESSIONAL HARDWARE


| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3X10MM (6)    | 200 | <a href="#">30115.030.010</a> | 4X40MM (25)   | 200 | <a href="#">30115.040.040</a> | 5X45MM (30)   | 200 | <a href="#">30115.050.045</a> |
| 3X12MM (8)    | 200 | <a href="#">30115.030.012</a> | 4X45MM (30)   | 200 | <a href="#">30115.040.045</a> | 5X50MM (35)   | 200 | <a href="#">30115.050.050</a> |
| 3X16MM (12)   | 200 | <a href="#">30115.030.016</a> | 4X50MM (35)   | 200 | <a href="#">30115.040.050</a> | 5X60MM (45)   | 200 | <a href="#">30115.050.060</a> |
| 3X20MM (16)   | 200 | <a href="#">30115.030.020</a> | 4X60MM (45)   | 200 | <a href="#">30115.040.060</a> | 5X70MM (54)   | 200 | <a href="#">30115.050.070</a> |
| 3X25MM (21)   | 200 | <a href="#">30115.030.025</a> | 4X70MM (54)   | 200 | <a href="#">30115.040.070</a> | 5X80MM (54)   | 100 | <a href="#">30115.050.080</a> |
| 3X30MM (26)   | 200 | <a href="#">30115.030.030</a> |               |     |                               | 5X90MM (60)   | 100 | <a href="#">30115.050.090</a> |
| 3X35MM (31)   | 200 | <a href="#">30115.030.035</a> | 4,5X16MM (11) | 200 | <a href="#">30115.045.016</a> | 5X100MM (66)  | 100 | <a href="#">30115.050.100</a> |
|               |     |                               | 4,5X20MM (15) | 200 | <a href="#">30115.045.020</a> |               |     |                               |
| 3,5X12MM (8)  | 200 | <a href="#">30115.035.012</a> | 4,5X25MM (20) | 200 | <a href="#">30115.045.025</a> | 6X30MM (23)   | 200 | <a href="#">30115.060.030</a> |
| 3,5X16MM (12) | 200 | <a href="#">30115.035.016</a> | 4,5X30MM (25) | 200 | <a href="#">30115.045.030</a> | 6X35MM (28)   | 200 | <a href="#">30115.060.035</a> |
| 3,5X20MM (16) | 200 | <a href="#">30115.035.020</a> | 4,5X35MM (30) | 200 | <a href="#">30115.045.035</a> | 6X40MM (25)   | 200 | <a href="#">30115.060.040</a> |
| 3,5X25MM (21) | 200 | <a href="#">30115.035.025</a> | 4,5X40MM (25) | 200 | <a href="#">30115.045.040</a> | 6X45MM (30)   | 200 | <a href="#">30115.060.045</a> |
| 3,5X30MM (26) | 200 | <a href="#">30115.035.030</a> | 4,5X45MM      | 200 | <a href="#">30115.045.045</a> | 6X50MM (35)   | 200 | <a href="#">30115.060.050</a> |
| 3,5X35MM (31) | 200 | <a href="#">30115.035.035</a> | 4,5X50MM      | 200 | <a href="#">30115.045.050</a> | 6X60MM (45)   | 200 | <a href="#">30115.060.060</a> |
| 3,5X40MM (25) | 200 | <a href="#">30115.035.040</a> | 4,5X60MM (45) | 200 | <a href="#">30115.045.060</a> | 6X70MM (54)   | 200 | <a href="#">30115.060.070</a> |
| 3,5X45MM (30) | 200 | <a href="#">30115.035.045</a> | 4,5X70MM (54) | 200 | <a href="#">30115.045.070</a> | 6X80MM (54)   | 100 | <a href="#">30115.060.080</a> |
| 3,5X50MM (35) | 200 | <a href="#">30115.035.050</a> | 4,5X80MM (54) | 200 | <a href="#">30115.045.080</a> | 6X90MM (60)   | 100 | <a href="#">30115.060.090</a> |
|               |     |                               |               |     |                               | 6X100MM (66)  | 100 | <a href="#">30115.060.100</a> |
| 4X12MM (7)    | 200 | <a href="#">30115.040.012</a> | 5X16MM (9)    | 200 | <a href="#">30115.050.016</a> | 6X110MM (73)  | 100 | <a href="#">30115.060.110</a> |
| 4X16MM (11)   | 200 | <a href="#">30115.040.016</a> | 5X20MM (14)   | 200 | <a href="#">30115.050.020</a> | 6X120MM (80)  | 100 | <a href="#">30115.060.120</a> |
| 4X20MM (15)   | 200 | <a href="#">30115.040.020</a> | 5X25MM (19)   | 200 | <a href="#">30115.050.025</a> | 6X130MM (86)  | 100 | <a href="#">30115.060.130</a> |
| 4X25MM (20)   | 200 | <a href="#">30115.040.025</a> | 5X30MM (24)   | 200 | <a href="#">30115.050.030</a> | 6X140MM (93)  | 100 | <a href="#">30115.060.140</a> |
| 4X30MM (25)   | 200 | <a href="#">30115.040.030</a> | 5X35MM (29)   | 200 | <a href="#">30115.050.035</a> | 6X150MM (100) | 100 | <a href="#">30115.060.150</a> |
| 4X35MM (30)   | 200 | <a href="#">30115.040.035</a> | 5X40MM (25)   | 200 | <a href="#">30115.050.040</a> |               |     |                               |

**6**

**Cross recessed countersunk head screw with hole for chipboard**



**Technical data**

|                         |          |            |          |          |
|-------------------------|----------|------------|----------|----------|
| <b>d</b>                | <b>4</b> | <b>4,5</b> | <b>5</b> | <b>6</b> |
| <b>dk</b>               | 8        | 9          | 10       | 12       |
| <b>d1</b>               | 2,5      | 2,5        | 2,5      | 2,5      |
| <b>k</b>                | 2,6      | 2,9        | 3,2      | 3,9      |
| <b>No. cross recess</b> | 2        | 2          | 2        | 3        |

- All dimensions are guide values and may deviate dependent on the manufacturer.

**29385 Cross recessed countersunk head screw with hole for chipboard Pozidriv**

**K03A**

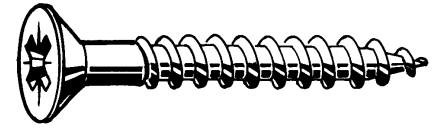
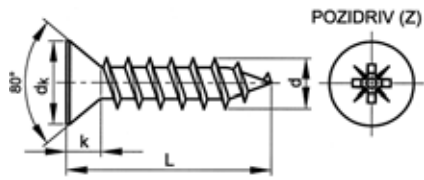
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 4X50MM       | 200 | <a href="#">29385.040.050</a> | 4,5X70MM     | 200 | <a href="#">29385.045.070</a> | 6X50MM       | 200 | <a href="#">29385.060.050</a> |
| 4,5X20MM     | 200 | <a href="#">29385.045.020</a> | 5X40MM       | 200 | <a href="#">29385.050.040</a> | 6X60MM       | 100 | <a href="#">29385.060.060</a> |
| 4,5X25MM     | 200 | <a href="#">29385.045.025</a> | 5X50MM       | 200 | <a href="#">29385.050.050</a> | 6X70MM       | 100 | <a href="#">29385.060.070</a> |
| 4,5X30MM     | 200 | <a href="#">29385.045.030</a> | 5X60MM       | 200 | <a href="#">29385.050.060</a> | 6X80MM       | 100 | <a href="#">29385.060.080</a> |
| 4,5X35MM     | 200 | <a href="#">29385.045.035</a> | 5X70MM       | 200 | <a href="#">29385.050.070</a> | 6X90MM       | 100 | <a href="#">29385.060.090</a> |
| 4,5X40MM     | 200 | <a href="#">29385.045.040</a> | 5X80MM       | 200 | <a href="#">29385.050.080</a> | 6X100MM      | 100 | <a href="#">29385.060.100</a> |
| 4,5X45MM     | 200 | <a href="#">29385.045.045</a> | 5X100MM      | 200 | <a href="#">29385.050.100</a> | 6X110MM      | 100 | <a href="#">29385.060.110</a> |
| 4,5X50MM     | 200 | <a href="#">29385.045.050</a> |              |     |                               |              |     |                               |
| 4,5X60MM     | 200 | <a href="#">29385.045.060</a> |              |     |                               |              |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**Cross recessed small countersunk head screw for chipboard**



**Technical data**

|                  |     |
|------------------|-----|
| d                | 3   |
| d <sub>k</sub>   | 5   |
| k                | 1,9 |
| No. cross recess | 1   |

- All dimensions are guide values and may deviate dependent on the manufacturer.

|                          |   |             |
|--------------------------|---|-------------|
| <b>29243</b>             | <b>Cross recessed small countersunk head screw for chipboard Pozidriv</b> | <b>K03A</b> |
| <b>Material</b>          | Steel   |             |
| <b>Surface treatment</b> | Zinc plated yellow passivated   |             |
| <b>Packaging</b>         | Standard  |             |

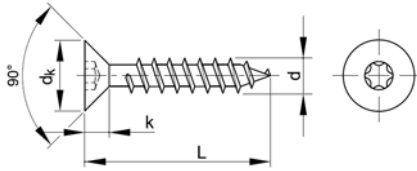


| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X13MM | 200 | <a href="#">29243.030.013</a> | 3X17MM | 200 | <a href="#">29243.030.017</a> | 3X25MM | 200 | <a href="#">29243.030.025</a> |
| 3X15MM | 200 | <a href="#">29243.030.015</a> | 3X20MM | 200 | <a href="#">29243.030.020</a> |        |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

6

## Hexalobular socket countersunk head screw for chipboard



### Technical data

| d   | dk | k   | Socket |
|-----|----|-----|--------|
| 3   | 6  | 1,9 | No.10  |
| 3,5 | 7  | 2,3 | No.15  |
| 4   | 8  | 2,6 | No.20  |
| 4,5 | 9  | 2,9 | No.25  |
| 5   | 10 | 3,2 | No.25  |
| 6   | 12 | 3,5 | No.30  |

- All dimensions are guide values and may deviate dependent on the manufacturer.

### Article groups

| Driving features | Material  | Class | Surface treatment | Packaging    | Code  | Page  |
|------------------|-----------|-------|-------------------|--------------|-------|-------|
| hexalobular      | St        |       | Zipl              | Standard     | 29310 | 6-135 |
| hexalobular      | St        |       | Zipl yell.p.      | Standard     | 29316 | 6-135 |
| hexalobular      | St        |       | Zipl              | Varianta box | 29360 | 6-136 |
| hexalobular      | St        |       | Zipl              | Standard     | 29375 | 6-136 |
| hexalobular      | St.St. A2 | 70    |                   | Standard     | 51775 | 6-136 |

#### 29310 Hexalobular socket countersunk head screw for chipboard

**K01A**

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒    | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|------|-------------------------------|
| 3X16MM   | 200 | <a href="#">29310.030.016</a> | 4X30MM   | 200 | <a href="#">29310.040.030</a> | 4,5X70MM | 200  | <a href="#">29310.045.070</a> |
| 3X20MM   | 200 | <a href="#">29310.030.020</a> | 4X35MM   | 200 | <a href="#">29310.040.035</a> | 5X20MM   | 1000 | <a href="#">29310.050.020</a> |
| 3X25MM   | 200 | <a href="#">29310.030.025</a> | 4X40MM   | 200 | <a href="#">29310.040.040</a> | 5X25MM   | 1000 | <a href="#">29310.050.025</a> |
| 3X30MM   | 200 | <a href="#">29310.030.030</a> | 4X45MM   | 200 | <a href="#">29310.040.045</a> | 5X30MM   | 200  | <a href="#">29310.050.030</a> |
| 3,5X16MM | 200 | <a href="#">29310.035.016</a> | 4X50MM   | 200 | <a href="#">29310.040.050</a> | 5X35MM   | 200  | <a href="#">29310.050.035</a> |
| 3,5X20MM | 200 | <a href="#">29310.035.020</a> | 4X60MM   | 200 | <a href="#">29310.040.060</a> | 5X40MM   | 200  | <a href="#">29310.050.040</a> |
| 3,5X25MM | 200 | <a href="#">29310.035.025</a> | 4,5X20MM | 200 | <a href="#">29310.045.020</a> | 5X45MM   | 200  | <a href="#">29310.050.045</a> |
| 3,5X30MM | 200 | <a href="#">29310.035.030</a> | 4,5X25MM | 200 | <a href="#">29310.045.025</a> | 5X50MM   | 200  | <a href="#">29310.050.050</a> |
| 3,5X35MM | 200 | <a href="#">29310.035.035</a> | 4,5X30MM | 200 | <a href="#">29310.045.030</a> | 5X60MM   | 200  | <a href="#">29310.050.060</a> |
| 3,5X40MM | 200 | <a href="#">29310.035.040</a> | 4,5X35MM | 200 | <a href="#">29310.045.035</a> | 5X70MM   | 200  | <a href="#">29310.050.070</a> |
| 4X16MM   | 200 | <a href="#">29310.040.016</a> | 4,5X40MM | 200 | <a href="#">29310.045.040</a> | 5X80MM   | 200  | <a href="#">29310.050.080</a> |
| 4X20MM   | 200 | <a href="#">29310.040.020</a> | 4,5X45MM | 200 | <a href="#">29310.045.045</a> | 5X90MM   | 200  | <a href="#">29310.050.090</a> |
| 4X25MM   | 200 | <a href="#">29310.040.025</a> | 4,5X50MM | 200 | <a href="#">29310.045.050</a> | 5X100MM  | 200  | <a href="#">29310.050.100</a> |
|          |     |                               | 4,5X60MM | 200 | <a href="#">29310.045.060</a> |          |      |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 29316 Hexalobular socket countersunk head screw for chipboard

**K01B**

Material Steel  
 Surface treatment Zinc plated yellow passivated  
 Packaging Standard



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X16MM   | 200 | <a href="#">29316.030.016</a> | 3,5X20MM | 200 | <a href="#">29316.035.020</a> | 4X20MM | 500 | <a href="#">29316.040.020</a> |
| 3X20MM   | 200 | <a href="#">29316.030.020</a> | 3,5X25MM | 200 | <a href="#">29316.035.025</a> | 4X25MM | 200 | <a href="#">29316.040.025</a> |
| 3X25MM   | 200 | <a href="#">29316.030.025</a> | 3,5X30MM | 200 | <a href="#">29316.035.030</a> | 4X30MM | 200 | <a href="#">29316.040.030</a> |
| 3X30MM   | 200 | <a href="#">29316.030.030</a> | 3,5X35MM | 200 | <a href="#">29316.035.035</a> | 4X35MM | 500 | <a href="#">29316.040.035</a> |
| 3X35MM   | 200 | <a href="#">29316.030.035</a> | 3,5X40MM | 200 | <a href="#">29316.035.040</a> | 4X40MM | 200 | <a href="#">29316.040.040</a> |
| 3X40MM   | 500 | <a href="#">29316.030.040</a> | 3,5X45MM | 200 | <a href="#">29316.035.045</a> | 4X45MM | 200 | <a href="#">29316.040.045</a> |
| 3X45MM   | 500 | <a href="#">29316.030.045</a> | 3,5X50MM | 500 | <a href="#">29316.035.050</a> | 4X50MM | 200 | <a href="#">29316.040.050</a> |
| 3,5X16MM | 200 | <a href="#">29316.035.016</a> | 4X16MM   | 200 | <a href="#">29316.040.016</a> | 4X55MM | 200 | <a href="#">29316.040.055</a> |
|          |     |                               |          |     |                               | 4X60MM | 200 | <a href="#">29316.040.060</a> |

**29316 Hexalobular socket countersunk head screw for chipboard**

| d x L    | ☒    | Art.number                    | d x L   | ☒    | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|------|-------------------------------|---------|------|-------------------------------|---------|-----|-------------------------------|
| 4X70MM   | 200  | <a href="#">29316.040.070</a> | 5X25MM  | 1000 | <a href="#">29316.050.025</a> | 6X45MM  | 200 | <a href="#">29316.060.045</a> |
| 4.5X20MM | 200  | <a href="#">29316.045.020</a> | 5X30MM  | 200  | <a href="#">29316.050.030</a> | 6X50MM  | 200 | <a href="#">29316.060.050</a> |
| 4.5X25MM | 200  | <a href="#">29316.045.025</a> | 5X35MM  | 200  | <a href="#">29316.050.035</a> | 6X60MM  | 200 | <a href="#">29316.060.060</a> |
| 4.5X30MM | 200  | <a href="#">29316.045.030</a> | 5X40MM  | 200  | <a href="#">29316.050.040</a> | 6X70MM  | 200 | <a href="#">29316.060.070</a> |
| 4.5X35MM | 200  | <a href="#">29316.045.035</a> | 5X45MM  | 200  | <a href="#">29316.050.045</a> | 6X80MM  | 200 | <a href="#">29316.060.080</a> |
| 4.5X40MM | 200  | <a href="#">29316.045.040</a> | 5X50MM  | 200  | <a href="#">29316.050.050</a> | 6X90MM  | 100 | <a href="#">29316.060.090</a> |
| 4.5X45MM | 200  | <a href="#">29316.045.045</a> | 5X60MM  | 200  | <a href="#">29316.050.060</a> | 6X100MM | 100 | <a href="#">29316.060.100</a> |
| 4.5X50MM | 200  | <a href="#">29316.045.050</a> | 5X70MM  | 200  | <a href="#">29316.050.070</a> | 6X110MM | 100 | <a href="#">29316.060.110</a> |
| 4.5X55MM | 200  | <a href="#">29316.045.055</a> | 5X80MM  | 200  | <a href="#">29316.050.080</a> | 6X120MM | 100 | <a href="#">29316.060.120</a> |
| 4.5X60MM | 200  | <a href="#">29316.045.060</a> | 5X90MM  | 200  | <a href="#">29316.050.090</a> | 6X130MM | 100 | <a href="#">29316.060.130</a> |
| 4.5X70MM | 200  | <a href="#">29316.045.070</a> | 5X100MM | 200  | <a href="#">29316.050.100</a> | 6X140MM | 100 | <a href="#">29316.060.140</a> |
| 4.5X80MM | 200  | <a href="#">29316.045.080</a> | 5X120MM | 100  | <a href="#">29316.050.120</a> |         |     |                               |
| 5X20MM   | 1000 | <a href="#">29316.050.020</a> | 6X30MM  | 200  | <a href="#">29316.060.030</a> |         |     |                               |
|          |      |                               | 6X40MM  | 200  | <a href="#">29316.060.040</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



**29360 HECO TOPIX Hexalobular socket countersunk head screw for chipboard**
**K04A**

|                          |             |  |   |
|--------------------------|-------------|--|---|
| <b>Material</b>          | Steel       |  |  |
| <b>Surface treatment</b> | Zinc plated |  |   |
| <b>Packaging</b>         | Standard    |  |   |

| d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 3.5X30MM | 1000 | <a href="#">29360.035.030</a> | 4.5X45MM | 500 | <a href="#">29360.045.045</a> | 6X50MM  | 200 | <a href="#">29360.060.050</a> |
| 3.5X35MM | 1000 | <a href="#">29360.035.035</a> | 4.5X50MM | 200 | <a href="#">29360.045.050</a> | 6X60MM  | 200 | <a href="#">29360.060.060</a> |
| 3.5X40MM | 500  | <a href="#">29360.035.040</a> | 4.5X60MM | 200 | <a href="#">29360.045.060</a> | 6X70MM  | 200 | <a href="#">29360.060.070</a> |
| 3.5X50MM | 500  | <a href="#">29360.035.050</a> | 4.5X70MM | 200 | <a href="#">29360.045.070</a> | 6X80MM  | 200 | <a href="#">29360.060.080</a> |
| 4X30MM   | 1000 | <a href="#">29360.040.030</a> | 4.5X80MM | 200 | <a href="#">29360.045.080</a> | 6X90MM  | 100 | <a href="#">29360.060.090</a> |
| 4X35MM   | 1000 | <a href="#">29360.040.035</a> | 5X40MM   | 500 | <a href="#">29360.050.040</a> | 6X100MM | 100 | <a href="#">29360.060.100</a> |
| 4X40MM   | 500  | <a href="#">29360.040.040</a> | 5X50MM   | 200 | <a href="#">29360.050.050</a> | 6X120MM | 100 | <a href="#">29360.060.120</a> |
| 4X45MM   | 500  | <a href="#">29360.040.045</a> | 5X60MM   | 200 | <a href="#">29360.050.060</a> | 6X140MM | 100 | <a href="#">29360.060.140</a> |
| 4X50MM   | 500  | <a href="#">29360.040.050</a> | 5X70MM   | 200 | <a href="#">29360.050.070</a> | 6X160MM | 100 | <a href="#">29360.060.160</a> |
| 4X60MM   | 200  | <a href="#">29360.040.060</a> | 5X80MM   | 200 | <a href="#">29360.050.080</a> | 6X180MM | 100 | <a href="#">29360.060.180</a> |
| 4X70MM   | 200  | <a href="#">29360.040.070</a> | 5X90MM   | 200 | <a href="#">29360.050.090</a> | 6X200MM | 100 | <a href="#">29360.060.200</a> |
| 4.5X40MM | 500  | <a href="#">29360.045.040</a> | 5X100MM  | 200 | <a href="#">29360.050.100</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



**29375 HECO UNIX TOP Hexalobular socket countersunk head screw for chipboard**
**K04A**

|                          |             |  |   |
|--------------------------|-------------|--|---|
| <b>Material</b>          | Steel       |  |  |
| <b>Surface treatment</b> | Zinc plated |  |   |
| <b>Packaging</b>         | Standard    |  |   |

| d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 3.5X30MM | 1000 | <a href="#">29375.035.030</a> | 4.5X45MM | 500 | <a href="#">29375.045.045</a> | 5X120MM | 100 | <a href="#">29375.050.120</a> |
| 3.5X35MM | 1000 | <a href="#">29375.035.035</a> | 4.5X50MM | 200 | <a href="#">29375.045.050</a> | 6X50MM  | 200 | <a href="#">29375.060.050</a> |
| 3.5X40MM | 500  | <a href="#">29375.035.040</a> | 4.5X60MM | 200 | <a href="#">29375.045.060</a> | 6X60MM  | 200 | <a href="#">29375.060.060</a> |
| 3.5X45MM | 500  | <a href="#">29375.035.045</a> | 4.5X70MM | 200 | <a href="#">29375.045.070</a> | 6X70MM  | 200 | <a href="#">29375.060.070</a> |
| 3.5X50MM | 500  | <a href="#">29375.035.050</a> | 4.5X80MM | 200 | <a href="#">29375.045.080</a> | 6X80MM  | 100 | <a href="#">29375.060.080</a> |
| 4X35MM   | 500  | <a href="#">29375.040.035</a> | 5X40MM   | 500 | <a href="#">29375.050.040</a> | 6X90MM  | 100 | <a href="#">29375.060.090</a> |
| 4X40MM   | 500  | <a href="#">29375.040.040</a> | 5X45MM   | 200 | <a href="#">29375.050.045</a> | 6X100MM | 100 | <a href="#">29375.060.100</a> |
| 4X45MM   | 500  | <a href="#">29375.040.045</a> | 5X50MM   | 200 | <a href="#">29375.050.050</a> | 6X120MM | 100 | <a href="#">29375.060.120</a> |
| 4X50MM   | 500  | <a href="#">29375.040.050</a> | 5X60MM   | 200 | <a href="#">29375.050.060</a> | 6X140MM | 100 | <a href="#">29375.060.140</a> |
| 4X60MM   | 200  | <a href="#">29375.040.060</a> | 5X70MM   | 200 | <a href="#">29375.050.070</a> | 6X160MM | 100 | <a href="#">29375.060.160</a> |
| 4X70MM   | 200  | <a href="#">29375.040.070</a> | 5X80MM   | 200 | <a href="#">29375.050.080</a> |         |     |                               |
| 4.5X40MM | 500  | <a href="#">29375.045.040</a> | 5X90MM   | 200 | <a href="#">29375.050.090</a> |         |     |                               |
|          |      |                               | 5X100MM  | 200 | <a href="#">29375.050.100</a> |         |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51775 Hexalobular socket countersunk head screw for chipboard**
**R03A**

|                  |                    |  |   |
|------------------|--------------------|--|---|
| <b>Material</b>  | Stainless steel A2 |  |  |
| <b>Class</b>     | 70                 |  |   |
| <b>Packaging</b> | Standard           |  |   |

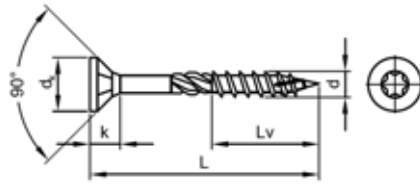
| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X16MM | 200 | <a href="#">51775.030.016</a> | 3X20MM | 200 | <a href="#">51775.030.020</a> | 3X25MM | 200 | <a href="#">51775.030.025</a> |



**51775 Hexalobular socket countersunk head screw for chipboard**

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3X30MM   | 200 | <a href="#">51775.030.030</a> | 4X35MM   | 200 | <a href="#">51775.040.035</a> | 4,5X50MM | 200 | <a href="#">51775.045.050</a> |
| 3,5X16MM | 200 | <a href="#">51775.035.016</a> | 4X40MM   | 200 | <a href="#">51775.040.040</a> | 4,5X60MM | 200 | <a href="#">51775.045.060</a> |
| 3,5X20MM | 200 | <a href="#">51775.035.020</a> | 4X45MM   | 200 | <a href="#">51775.040.045</a> | 5X25MM   | 200 | <a href="#">51775.050.025</a> |
| 3,5X25MM | 200 | <a href="#">51775.035.025</a> | 4X50MM   | 200 | <a href="#">51775.040.050</a> | 5X30MM   | 200 | <a href="#">51775.050.030</a> |
| 3,5X30MM | 200 | <a href="#">51775.035.030</a> | 4X60MM   | 200 | <a href="#">51775.040.060</a> | 5X35MM   | 200 | <a href="#">51775.050.035</a> |
| 3,5X35MM | 200 | <a href="#">51775.035.035</a> | 4X70MM   | 200 | <a href="#">51775.040.070</a> | 5X40MM   | 200 | <a href="#">51775.050.040</a> |
| 3,5X40MM | 200 | <a href="#">51775.035.040</a> | 4,5X20MM | 200 | <a href="#">51775.045.020</a> | 5X45MM   | 200 | <a href="#">51775.050.045</a> |
| 4X16MM   | 200 | <a href="#">51775.040.016</a> | 4,5X25MM | 200 | <a href="#">51775.045.025</a> | 5X50MM   | 200 | <a href="#">51775.050.050</a> |
| 4X20MM   | 200 | <a href="#">51775.040.020</a> | 4,5X30MM | 200 | <a href="#">51775.045.030</a> | 5X60MM   | 200 | <a href="#">51775.050.060</a> |
| 4X25MM   | 200 | <a href="#">51775.040.025</a> | 4,5X35MM | 200 | <a href="#">51775.045.035</a> | 5X70MM   | 200 | <a href="#">51775.050.070</a> |
| 4X30MM   | 200 | <a href="#">51775.040.030</a> | 4,5X40MM | 200 | <a href="#">51775.045.040</a> |          |     |                               |
|          |     |                               | 4,5X45MM | 200 | <a href="#">51775.045.045</a> |          |     |                               |

## Hexalobular socket countersunk head screw for chipboard A2



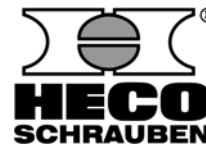
### Technical data

| d   | dk (max.) | k (max.) | Socket |
|-----|-----------|----------|--------|
| 3,5 | 7,0       | 2,1      | No.15  |
| 4   | 8,0       | 2,5      | No.15  |
| 4,5 | 9,0       | 2,7      | No.25  |
| 5   | 9,7       | 3,0      | No.25  |
| 6   | 11,8      | 3,6      | No.25  |

### 51773 HECO TOPIX Hexalobular socket countersunk head screw for chipboard A2

**K04A**

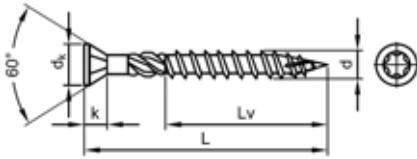
**Material** Stainless steel A2  
**Packaging** Standard



| d x L (Lv) | ☒   | Art.number                    | d x L (Lv) | ☒   | Art.number                    | d x L (Lv) | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 3,5X30MM   | 200 | <a href="#">51773.035.030</a> | 4,5X40MM   | 200 | <a href="#">51773.045.040</a> | 5X90MM     | 200 | <a href="#">51773.050.090</a> |
| 3,5X35MM   | 200 | <a href="#">51773.035.035</a> | 4,5X45MM   | 200 | <a href="#">51773.045.045</a> | 5X100MM    | 200 | <a href="#">51773.050.100</a> |
| 3,5X40MM   | 200 | <a href="#">51773.035.040</a> | 4,5X50MM   | 200 | <a href="#">51773.045.050</a> |            |     |                               |
| 3,5X45MM   | 200 | <a href="#">51773.035.045</a> | 4,5X60MM   | 200 | <a href="#">51773.045.060</a> | 6X50MM     | 200 | <a href="#">51773.060.050</a> |
| 3,5X50MM   | 200 | <a href="#">51773.035.050</a> | 4,5X70MM   | 200 | <a href="#">51773.045.070</a> | 6X60MM     | 200 | <a href="#">51773.060.060</a> |
|            |     |                               | 4,5X80MM   | 200 | <a href="#">51773.045.080</a> | 6X70MM     | 200 | <a href="#">51773.060.070</a> |
| 4X30MM     | 200 | <a href="#">51773.040.030</a> |            |     |                               | 6X80MM     | 200 | <a href="#">51773.060.080</a> |
| 4X35MM     | 200 | <a href="#">51773.040.035</a> | 5X40MM     | 200 | <a href="#">51773.050.040</a> | 6X90MM     | 200 | <a href="#">51773.060.090</a> |
| 4X40MM     | 200 | <a href="#">51773.040.040</a> | 5X45MM     | 200 | <a href="#">51773.050.045</a> | 6X100MM    | 200 | <a href="#">51773.060.100</a> |
| 4X45MM     | 200 | <a href="#">51773.040.045</a> | 5X50MM     | 200 | <a href="#">51773.050.050</a> | 6X120MM    | 200 | <a href="#">51773.060.120</a> |
| 4X50MM     | 200 | <a href="#">51773.040.050</a> | 5X60MM     | 200 | <a href="#">51773.050.060</a> |            |     |                               |
| 4X60MM     | 200 | <a href="#">51773.040.060</a> | 5X70MM     | 200 | <a href="#">51773.050.070</a> |            |     |                               |
|            |     |                               | 5X80MM     | 200 | <a href="#">51773.050.080</a> |            |     |                               |

**6**

**Hexalobular decking woodscrew reduced countersunk head**



**Technical data**

|           |       |
|-----------|-------|
| d         | 5     |
| dk (max.) | 8,5   |
| k (max.)  | 2,7   |
| Socket    | No.25 |

**51774 HECO TOPIX Hexalobular decking woodscrew reduced countersunk head K04A**

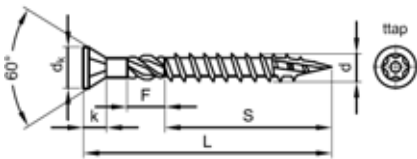
**Material** Stainless steel A2  
**Packaging** Standard



| d x L (Lv) | ☒   | Art.number                    | d x L (Lv) | ☒   | Art.number                    | d x L (Lv) | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 5X40MM     | 200 | <a href="#">51774.050.040</a> | 5X60MM     | 200 | <a href="#">51774.050.060</a> | 5X80MM     | 200 | <a href="#">51774.050.080</a> |
| 5X50MM     | 200 | <a href="#">51774.050.050</a> | 5X70MM     | 200 | <a href="#">51774.050.070</a> |            |     |                               |

**Decking woodscrew reduced countersunk head with ttap®**

6



**Technical data**

|          |     |
|----------|-----|
| d        | 5   |
| dk       | 9   |
| k        | 5,1 |
| No. ttap | 20  |

- Full boxes only.
- F=9mm only if L≥40mm.

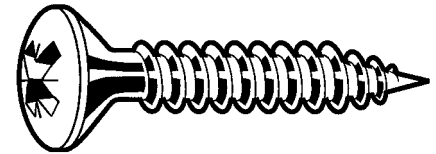
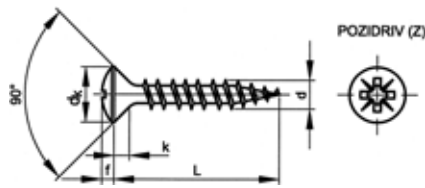
**30250 MAXXFAST Decking woodscrew reduced countersunk head with ttap® MF0A**

**Material** Stainless steel A2  
**Packaging** Standard



| d x L (S)   | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 5X40MM (25) | 200 | <a href="#">30250.050.040</a> | 5X60MM (45) | 100 | <a href="#">30250.050.060</a> | 5X80MM (65) | 100 | <a href="#">30250.050.080</a> |
| 5X45MM (30) | 200 | <a href="#">30250.050.045</a> | 5X70MM (55) | 100 | <a href="#">30250.050.070</a> |             |     |                               |
| 5X50MM (35) | 200 | <a href="#">30250.050.050</a> |             |     |                               |             |     |                               |

## Cross recessed raised countersunk head screw for chipboard



### Technical data

| d   | dk (max.) | k (max.) | f ≈  | No. cross recess |
|-----|-----------|----------|------|------------------|
| 2,4 | 4,9       | 1,6      | 0,5  | 1                |
| 2,5 | 4,9       | 1,6      | 0,5  | 1                |
| 3   | 5,9       | 1,9      | 0,7  | 1                |
| 3,5 | 6,9       | 2,1      | 0,9  | 2                |
| 4   | 7,9       | 2,45     | 1,05 | 2                |
| 4,5 | 8,9       | 2,7      | 1,2  | 2                |
| 5   | 9,6       | 3,1      | 1,2  | 2                |
| 6   | 11,6      | 3,7      | 1,6  | 3                |

### Article groups

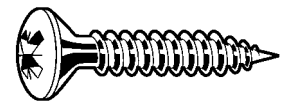
| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| Pozidriv         | St        | Zipl              | Standard  | 29367 | 6-140 |
| Pozidriv         | St.St. A2 |                   | Standard  | 51756 | 6-140 |

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#### 29367 HECO-FIX PLUS Cross recessed raised countersunk head screw for chipboard Pozidriv

K04A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



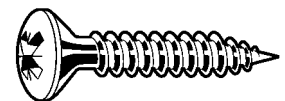
| d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|------|-------------------------------|----------|------|-------------------------------|----------|-----|-------------------------------|
| 3X20MM   | 1000 | <a href="#">29367.030.020</a> | 3,5X40MM | 500  | <a href="#">29367.035.040</a> | 4X45MM   | 500 | <a href="#">29367.040.045</a> |
| 3,5X16MM | 1000 | <a href="#">29367.035.016</a> |          |      |                               | 4X50MM   | 500 | <a href="#">29367.040.050</a> |
| 3,5X20MM | 1000 | <a href="#">29367.035.020</a> | 4X20MM   | 1000 | <a href="#">29367.040.020</a> |          |     |                               |
| 3,5X25MM | 1000 | <a href="#">29367.035.025</a> | 4X30MM   | 1000 | <a href="#">29367.040.030</a> | 4,5X40MM | 500 | <a href="#">29367.045.040</a> |
| 3,5X30MM | 1000 | <a href="#">29367.035.030</a> | 4X35MM   | 500  | <a href="#">29367.040.035</a> |          |     |                               |
| 3,5X35MM | 1000 | <a href="#">29367.035.035</a> | 4X40MM   | 500  | <a href="#">29367.040.040</a> |          |     |                               |

- Specific features HECO-FIX PLUS screws for chipboard:
- Reduction of required drive torque of up to 30%.
- Easier handling.
- Substantially higher screwing performance on using storage battery screw drivers.
- Axial forces are reduced, thereby less wear of screw driver bits.
- By means of the tooth geometry, a higher unscrewing moment is nevertheless achieved and consequently, a secure screwed connection is obtained.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 51756 Cross recessed raised countersunk head screw for chipboard Pozidriv

R03A

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



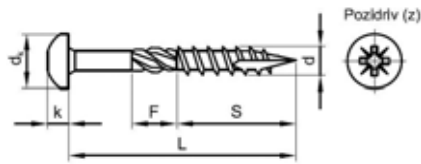
| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3X16MM   | 200 | <a href="#">51756.030.016</a> | 4X20MM   | 200 | <a href="#">51756.040.020</a> | 4,5X50MM | 200 | <a href="#">51756.045.050</a> |
| 3X20MM   | 200 | <a href="#">51756.030.020</a> | 4X25MM   | 200 | <a href="#">51756.040.025</a> | 4,5X60MM | 200 | <a href="#">51756.045.060</a> |
| 3X25MM   | 200 | <a href="#">51756.030.025</a> | 4X30MM   | 200 | <a href="#">51756.040.030</a> |          |     |                               |
| 3X30MM   | 200 | <a href="#">51756.030.030</a> | 4X35MM   | 200 | <a href="#">51756.040.035</a> | 5X20MM   | 200 | <a href="#">51756.050.020</a> |
|          |     |                               | 4X40MM   | 200 | <a href="#">51756.040.040</a> | 5X25MM   | 200 | <a href="#">51756.050.025</a> |
| 3,5X16MM | 200 | <a href="#">51756.035.016</a> | 4X45MM   | 200 | <a href="#">51756.040.045</a> | 5X30MM   | 200 | <a href="#">51756.050.030</a> |
| 3,5X20MM | 200 | <a href="#">51756.035.020</a> | 4X50MM   | 200 | <a href="#">51756.040.050</a> | 5X35MM   | 200 | <a href="#">51756.050.035</a> |
| 3,5X25MM | 200 | <a href="#">51756.035.025</a> |          |     |                               | 5X40MM   | 200 | <a href="#">51756.050.040</a> |
| 3,5X30MM | 200 | <a href="#">51756.035.030</a> | 4,5X20MM | 200 | <a href="#">51756.045.020</a> | 5X45MM   | 200 | <a href="#">51756.050.045</a> |
| 3,5X35MM | 200 | <a href="#">51756.035.035</a> | 4,5X25MM | 200 | <a href="#">51756.045.025</a> | 5X50MM   | 200 | <a href="#">51756.050.050</a> |
| 3,5X40MM | 200 | <a href="#">51756.035.040</a> | 4,5X30MM | 200 | <a href="#">51756.045.030</a> | 5X60MM   | 200 | <a href="#">51756.050.060</a> |
|          |     |                               | 4,5X35MM | 200 | <a href="#">51756.045.035</a> | 5X70MM   | 200 | <a href="#">51756.050.070</a> |
| 4X16MM   | 200 | <a href="#">51756.040.016</a> | 4,5X40MM | 200 | <a href="#">51756.045.040</a> | 5X90MM   | 100 | <a href="#">51756.050.090</a> |
|          |     |                               | 4,5X45MM | 200 | <a href="#">51756.045.045</a> | 5X100MM  | 100 | <a href="#">51756.050.100</a> |

**51756 Cross recessed raised countersunk head screw for chipboard Pozidriv**

| d x L  | ✉   | Art.number                    | d x L  | ✉   | Art.number                    | d x L   | ✉   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| 6X20MM | 200 | <a href="#">51756.060.020</a> | 6X40MM | 100 | <a href="#">51756.060.040</a> | 6X80MM  | 100 | <a href="#">51756.060.080</a> |
| 6X25MM | 200 | <a href="#">51756.060.025</a> | 6X45MM | 100 | <a href="#">51756.060.045</a> | 6X90MM  | 100 | <a href="#">51756.060.090</a> |
| 6X30MM | 100 | <a href="#">51756.060.030</a> | 6X50MM | 100 | <a href="#">51756.060.050</a> | 6X100MM | 100 | <a href="#">51756.060.100</a> |
| 6X35MM | 100 | <a href="#">51756.060.035</a> | 6X60MM | 100 | <a href="#">51756.060.060</a> |         |     |                               |
|        |     |                               | 6X70MM | 100 | <a href="#">51756.060.070</a> |         |     |                               |

- All dimensions are guide values and may deviate dependent on the manufacturer.

## Universal woodscrew cross recessed raised cheese head



### Technical data



| d   | dk | k   | No. Pozidriv (Z) |
|-----|----|-----|------------------|
| 3   | 6  | 2,4 | 1                |
| 3,5 | 7  | 2,6 | 2                |
| 4   | 8  | 3,0 | 2                |
| 4,5 | 9  | 3,2 | 2                |
| 5   | 10 | 3,6 | 2                |
| 6   | 12 | 4,9 | 3                |

- Full boxes only.
- F=9mm only if L≥40mm.



### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| Pozidriv         | St        | Zipl              | Standard  | 30025 | 6-142 |
| Pozidriv         | St        | Zipl yell.p.      | Standard  | 30030 | 6-142 |
| Pozidriv         | St.St. A2 |                   | Standard  | 30040 | 6-143 |

**6**

|  |   |   |
|--|---|---|
| <b>30025</b>   | <b>MAXXFAST Universal woodscrew cross recessed raised cheese head</b> | <b>MF0A</b>   |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Zinc plated   |   |
| <b>Packaging</b>   | Standard  |   |
|  |   |  |

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)    | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3X12MM (9)    | 200 | <a href="#">30025.030.012</a> | 4X30MM (27)   | 200 | <a href="#">30025.040.030</a> | 5X25MM (21)  | 200 | <a href="#">30025.050.025</a> |
| 3X16MM (13)   | 200 | <a href="#">30025.030.016</a> | 4X35MM (32)   | 200 | <a href="#">30025.040.035</a> | 5X30MM (26)  | 200 | <a href="#">30025.050.030</a> |
| 3X20MM (17)   | 200 | <a href="#">30025.030.020</a> | 4X40MM (25)   | 200 | <a href="#">30025.040.040</a> | 5X35MM (31)  | 200 | <a href="#">30025.050.035</a> |
| 3X25MM (22)   | 200 | <a href="#">30025.030.025</a> | 4X45MM (30)   | 200 | <a href="#">30025.040.045</a> | 5X40MM (25)  | 200 | <a href="#">30025.050.040</a> |
| 3X30MM (27)   | 200 | <a href="#">30025.030.030</a> | 4X50MM (35)   | 200 | <a href="#">30025.040.050</a> | 5X45MM (30)  | 200 | <a href="#">30025.050.045</a> |
|               |     |                               | 4X60MM (45)   | 200 | <a href="#">30025.040.060</a> | 5X50MM (35)  | 200 | <a href="#">30025.050.050</a> |
| 3,5X12MM (9)  | 200 | <a href="#">30025.035.012</a> |               |     |                               | 5X60MM (45)  | 200 | <a href="#">30025.050.060</a> |
| 3,5X16MM (13) | 200 | <a href="#">30025.035.016</a> | 4,5X16MM (12) | 200 | <a href="#">30025.045.016</a> | 5X70MM (54)  | 200 | <a href="#">30025.050.070</a> |
| 3,5X20MM (17) | 200 | <a href="#">30025.035.020</a> | 4,5X20MM (16) | 200 | <a href="#">30025.045.020</a> | 5X80MM (54)  | 100 | <a href="#">30025.050.080</a> |
| 3,5X25MM (22) | 200 | <a href="#">30025.035.025</a> | 4,5X25MM (21) | 200 | <a href="#">30025.045.025</a> |              |     |                               |
| 3,5X30MM (27) | 200 | <a href="#">30025.035.030</a> | 4,5X30MM (26) | 200 | <a href="#">30025.045.030</a> | 6X30MM (25)  | 200 | <a href="#">30025.060.030</a> |
| 3,5X35MM (32) | 200 | <a href="#">30025.035.035</a> | 4,5X35MM (31) | 200 | <a href="#">30025.045.035</a> | 6X40MM (25)  | 200 | <a href="#">30025.060.040</a> |
| 3,5X40MM (25) | 200 | <a href="#">30025.035.040</a> | 4,5X40MM (25) | 200 | <a href="#">30025.045.040</a> | 6X50MM (35)  | 200 | <a href="#">30025.060.050</a> |
|               |     |                               | 4,5X45MM (30) | 200 | <a href="#">30025.045.045</a> | 6X60MM (45)  | 200 | <a href="#">30025.060.060</a> |
| 4X12MM (9)    | 200 | <a href="#">30025.040.012</a> | 4,5X50MM (35) | 200 | <a href="#">30025.045.050</a> | 6X80MM (54)  | 100 | <a href="#">30025.060.080</a> |
| 4X16MM (13)   | 200 | <a href="#">30025.040.016</a> |               |     |                               | 6X100MM (66) | 100 | <a href="#">30025.060.100</a> |
| 4X20MM (17)   | 200 | <a href="#">30025.040.020</a> | 5X16MM (12)   | 200 | <a href="#">30025.050.016</a> |              |     |                               |
| 4X25MM (22)   | 200 | <a href="#">30025.040.025</a> | 5X20MM (16)   | 200 | <a href="#">30025.050.020</a> |              |     |                               |

|  |   |   |
|--|---|---|
| <b>30030</b>   | <b>MAXXFAST Universal woodscrew cross recessed raised cheese head</b> | <b>MF0A</b>   |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Zinc plated yellow passivated   |   |
| <b>Packaging</b>   | Standard  |   |
|  |   |  |

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3X12MM (9)    | 200 | <a href="#">30030.030.012</a> | 3,5X25MM (22) | 200 | <a href="#">30030.035.025</a> | 4X30MM (27)   | 200 | <a href="#">30030.040.030</a> |
| 3X16MM (13)   | 200 | <a href="#">30030.030.016</a> | 3,5X30MM (27) | 200 | <a href="#">30030.035.030</a> | 4X35MM (32)   | 200 | <a href="#">30030.040.035</a> |
| 3X20MM (17)   | 200 | <a href="#">30030.030.020</a> | 3,5X35MM (32) | 200 | <a href="#">30030.035.035</a> | 4X40MM (25)   | 200 | <a href="#">30030.040.040</a> |
| 3X25MM (22)   | 200 | <a href="#">30030.030.025</a> | 3,5X40MM (25) | 200 | <a href="#">30030.035.040</a> | 4X45MM (30)   | 200 | <a href="#">30030.040.045</a> |
| 3X30MM (27)   | 200 | <a href="#">30030.030.030</a> |               |     |                               | 4X50MM (35)   | 200 | <a href="#">30030.040.050</a> |
|               |     |                               | 4X12MM (9)    | 200 | <a href="#">30030.040.012</a> | 4X60MM (45)   | 200 | <a href="#">30030.040.060</a> |
| 3,5X12MM (9)  | 200 | <a href="#">30030.035.012</a> | 4X16MM (13)   | 200 | <a href="#">30030.040.016</a> |               |     |                               |
| 3,5X16MM (13) | 200 | <a href="#">30030.035.016</a> | 4X20MM (17)   | 200 | <a href="#">30030.040.020</a> | 4,5X16MM (12) | 200 | <a href="#">30030.045.016</a> |
| 3,5X20MM (17) | 200 | <a href="#">30030.035.020</a> | 4X25MM (22)   | 200 | <a href="#">30030.040.025</a> | 4,5X20MM (16) | 200 | <a href="#">30030.045.020</a> |

**30030 MAXXFAST Universal woodscrew cross recessed raised cheese head**

| d x L (S)     | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    |
|---------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4,5X25MM (21) | 200 | <a href="#">30030.045.025</a> | 5X25MM (21) | 200 | <a href="#">30030.050.025</a> | 6X30MM (25) | 200 | <a href="#">30030.060.030</a> |
| 4,5X30MM (26) | 200 | <a href="#">30030.045.030</a> | 5X30MM (26) | 200 | <a href="#">30030.050.030</a> |             | 200 | <a href="#">30030.060.040</a> |
| 4,5X35MM (31) | 200 | <a href="#">30030.045.035</a> | 5X35MM (31) | 200 | <a href="#">30030.050.035</a> |             | 200 | <a href="#">30030.060.050</a> |
| 4,5X40MM (25) | 200 | <a href="#">30030.045.040</a> | 5X40MM (25) | 200 | <a href="#">30030.050.040</a> |             | 200 | <a href="#">30030.060.060</a> |
| 4,5X45MM (30) | 200 | <a href="#">30030.045.045</a> | 5X45MM (30) | 200 | <a href="#">30030.050.045</a> |             | 200 | <a href="#">30030.060.060</a> |
| 4,5X50MM (35) | 200 | <a href="#">30030.045.050</a> | 5X50MM (35) | 200 | <a href="#">30030.050.050</a> |             | 100 | <a href="#">30030.060.080</a> |
| 5X16MM (12)   | 200 | <a href="#">30030.050.016</a> | 5X60MM (45) | 200 | <a href="#">30030.050.060</a> |             | 100 | <a href="#">30030.060.100</a> |
| 5X20MM (16)   | 200 | <a href="#">30030.050.020</a> | 5X70MM (54) | 200 | <a href="#">30030.050.070</a> |             |     |                               |
|               |     |                               | 5X80MM (54) | 100 | <a href="#">30030.050.080</a> |             |     |                               |

**30040 MAXXFAST Universal woodscrew cross recessed raised cheese head**

MF0A

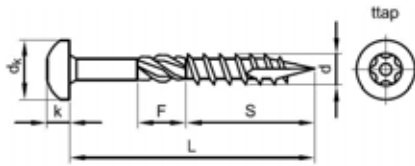
**Material** Stainless steel A2  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d x L (S)     | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    | d x L (S)   | ☒   | Art.number                    |  |  |
|---------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|--|--|
| 3X16MM (13)   | 200 | <a href="#">30040.030.016</a> | 4X16MM (13) | 200 | <a href="#">30040.040.016</a> | 5X20MM (16) | 200 | <a href="#">30040.050.020</a> |  |  |
| 3X20MM (17)   | 200 | <a href="#">30040.030.020</a> |             |     |                               | 5X25MM (21) | 200 | <a href="#">30040.050.025</a> |  |  |
| 3X25MM (22)   | 200 | <a href="#">30040.030.025</a> |             |     |                               | 5X30MM (26) | 200 | <a href="#">30040.050.030</a> |  |  |
| 3X30MM (27)   | 200 | <a href="#">30040.030.030</a> |             |     |                               | 5X40MM (25) | 200 | <a href="#">30040.050.040</a> |  |  |
| 3,5X16MM (13) | 200 | <a href="#">30040.035.016</a> |             |     |                               | 5X50MM (35) | 200 | <a href="#">30040.050.050</a> |  |  |
| 3,5X20MM (17) | 200 | <a href="#">30040.035.020</a> |             |     |                               | 5X60MM (45) | 200 | <a href="#">30040.050.060</a> |  |  |
| 3,5X25MM (22) | 200 | <a href="#">30040.035.025</a> |             |     |                               | 4X45MM (30) | 200 | <a href="#">30040.040.045</a> |  |  |
| 3,5X30MM (27) | 200 | <a href="#">30040.035.030</a> |             |     |                               | 4X50MM (35) | 200 | <a href="#">30040.040.050</a> |  |  |

## Universal woodscrew raised cheese head with ttap®



### Technical data



| d   | dk | k   | No. ttap |
|-----|----|-----|----------|
| 3   | 6  | 2,4 | 10       |
| 3,5 | 7  | 2,6 | 15       |
| 4   | 8  | 2,9 | 20       |
| 4,5 | 9  | 3,2 | 20       |
| 5   | 10 | 3,6 | 25       |
| 6   | 12 | 4,2 | 25       |

- Full boxes only.
- F=9mm only if L≥40mm.



### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| ttap®            | St        | Zipl              | Standard  | 30125 | 6-144 |
| ttap®            | St        | Zipl yell.p.      | Standard  | 30130 | 6-144 |
| ttap®            | St.St. A2 |                   | Standard  | 30140 | 6-145 |

6

|  |   |   |
|--|---|---|
| <b>30125</b>   | <b>MAXXFAST Universal woodscrew raised cheese head with ttap®</b> | <b>MF0A</b>   |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Zinc plated   |   |
| <b>Packaging</b>   | Standard  |   |
|  |   |  |

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)    | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3X12MM (9)    | 200 | <a href="#">30125.030.012</a> | 4X30MM (27)   | 200 | <a href="#">30125.040.030</a> | 5X25MM (21)  | 200 | <a href="#">30125.050.025</a> |
| 3X16MM (13)   | 200 | <a href="#">30125.030.016</a> | 4X35MM (32)   | 200 | <a href="#">30125.040.035</a> | 5X30MM (26)  | 200 | <a href="#">30125.050.030</a> |
| 3X20MM (17)   | 200 | <a href="#">30125.030.020</a> | 4X40MM (25)   | 200 | <a href="#">30125.040.040</a> | 5X35MM (31)  | 200 | <a href="#">30125.050.035</a> |
| 3X25MM (22)   | 200 | <a href="#">30125.030.025</a> | 4X45MM (30)   | 200 | <a href="#">30125.040.045</a> | 5X40MM (25)  | 200 | <a href="#">30125.050.040</a> |
| 3X30MM (27)   | 200 | <a href="#">30125.030.030</a> | 4X50MM (35)   | 200 | <a href="#">30125.040.050</a> | 5X45MM (30)  | 200 | <a href="#">30125.050.045</a> |
|               |     |                               | 4X60MM (45)   | 200 | <a href="#">30125.040.060</a> | 5X50MM (35)  | 200 | <a href="#">30125.050.050</a> |
| 3,5X12MM (9)  | 200 | <a href="#">30125.035.012</a> |               |     |                               | 5X60MM (45)  | 200 | <a href="#">30125.050.060</a> |
| 3,5X16MM (13) | 200 | <a href="#">30125.035.016</a> | 4,5X16MM (12) | 200 | <a href="#">30125.045.016</a> | 5X70MM (54)  | 200 | <a href="#">30125.050.070</a> |
| 3,5X20MM (17) | 200 | <a href="#">30125.035.020</a> | 4,5X20MM (16) | 200 | <a href="#">30125.045.020</a> | 5X80MM (54)  | 100 | <a href="#">30125.050.080</a> |
| 3,5X25MM (22) | 200 | <a href="#">30125.035.025</a> | 4,5X25MM (21) | 200 | <a href="#">30125.045.025</a> |              |     |                               |
| 3,5X30MM (27) | 200 | <a href="#">30125.035.030</a> | 4,5X30MM (26) | 200 | <a href="#">30125.045.030</a> | 6X30MM (25)  | 200 | <a href="#">30125.060.030</a> |
| 3,5X35MM (32) | 200 | <a href="#">30125.035.035</a> | 4,5X35MM (31) | 200 | <a href="#">30125.045.035</a> | 6X40MM (25)  | 200 | <a href="#">30125.060.040</a> |
| 3,5X40MM (25) | 200 | <a href="#">30125.035.040</a> | 4,5X40MM (25) | 200 | <a href="#">30125.045.040</a> | 6X50MM (35)  | 200 | <a href="#">30125.060.050</a> |
|               |     |                               | 4,5X45MM (30) | 200 | <a href="#">30125.045.045</a> | 6X60MM (45)  | 200 | <a href="#">30125.060.060</a> |
| 4X12MM (9)    | 200 | <a href="#">30125.040.012</a> | 4,5X50MM (35) | 200 | <a href="#">30125.045.050</a> | 6X80MM (54)  | 100 | <a href="#">30125.060.080</a> |
| 4X16MM (13)   | 200 | <a href="#">30125.040.016</a> |               |     |                               | 6X100MM (66) | 100 | <a href="#">30125.060.100</a> |
| 4X20MM (17)   | 200 | <a href="#">30125.040.020</a> | 5X16MM (12)   | 200 | <a href="#">30125.050.016</a> |              |     |                               |
| 4X25MM (22)   | 200 | <a href="#">30125.040.025</a> | 5X20MM (16)   | 200 | <a href="#">30125.050.020</a> |              |     |                               |

|  |   |   |
|--|---|---|
| <b>30130</b>   | <b>MAXXFAST Universal woodscrew raised cheese head with ttap®</b> | <b>MF0A</b>   |
| <b>Material</b>  | Steel   |   |
| <b>Surface treatment</b>   | Zinc plated yellow passivated                                     |   |
| <b>Packaging</b>   | Standard  |   |
|  |   |  |

| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3X12MM (9)    | 200 | <a href="#">30130.030.012</a> | 3,5X25MM (22) | 200 | <a href="#">30130.035.025</a> | 4X30MM (27)   | 200 | <a href="#">30130.040.030</a> |
| 3X16MM (13)   | 200 | <a href="#">30130.030.016</a> | 3,5X30MM (27) | 200 | <a href="#">30130.035.030</a> | 4X35MM (32)   | 200 | <a href="#">30130.040.035</a> |
| 3X20MM (17)   | 200 | <a href="#">30130.030.020</a> | 3,5X35MM (32) | 200 | <a href="#">30130.035.035</a> | 4X40MM (25)   | 200 | <a href="#">30130.040.040</a> |
| 3X25MM (22)   | 200 | <a href="#">30130.030.025</a> | 3,5X40MM (25) | 200 | <a href="#">30130.035.040</a> | 4X45MM (30)   | 200 | <a href="#">30130.040.045</a> |
| 3X30MM (27)   | 200 | <a href="#">30130.030.030</a> |               |     |                               | 4X50MM (35)   | 200 | <a href="#">30130.040.050</a> |
|               |     |                               | 4X12MM (9)    | 200 | <a href="#">30130.040.012</a> | 4X60MM (45)   | 200 | <a href="#">30130.040.060</a> |
| 3,5X12MM (9)  | 200 | <a href="#">30130.035.012</a> | 4X16MM (13)   | 200 | <a href="#">30130.040.016</a> |               |     |                               |
| 3,5X16MM (13) | 200 | <a href="#">30130.035.016</a> | 4X20MM (17)   | 200 | <a href="#">30130.040.020</a> | 4,5X16MM (12) | 200 | <a href="#">30130.045.016</a> |
| 3,5X20MM (17) | 200 | <a href="#">30130.035.020</a> | 4X25MM (22)   | 200 | <a href="#">30130.040.025</a> | 4,5X20MM (16) | 200 | <a href="#">30130.045.020</a> |



**30130 MAXXFAST Universal woodscrew raised cheese head with ttap** ←

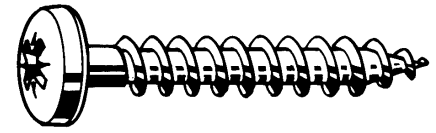
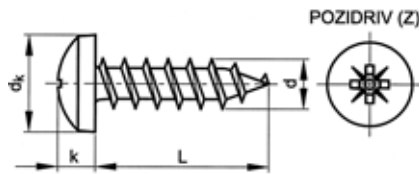
| d x L (S)     | ✉   | Art.number                    | d x L (S)   | ✉   | Art.number                    | d x L (S)   | ✉   | Art.number                    |
|---------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 4,5X25MM (21) | 200 | <a href="#">30130.045.025</a> | 5X25MM (21) | 200 | <a href="#">30130.050.025</a> | 6X30MM (25) | 200 | <a href="#">30130.060.030</a> |
| 4,5X30MM (26) | 200 | <a href="#">30130.045.030</a> | 5X30MM (26) | 200 | <a href="#">30130.050.030</a> |             | 200 | <a href="#">30130.060.040</a> |
| 4,5X35MM (31) | 200 | <a href="#">30130.045.035</a> | 5X35MM (31) | 200 | <a href="#">30130.050.035</a> |             | 200 | <a href="#">30130.060.050</a> |
| 4,5X40MM (25) | 200 | <a href="#">30130.045.040</a> | 5X40MM (25) | 200 | <a href="#">30130.050.040</a> |             | 200 | <a href="#">30130.060.060</a> |
| 4,5X45MM (30) | 200 | <a href="#">30130.045.045</a> | 5X45MM (30) | 200 | <a href="#">30130.050.045</a> |             | 200 | <a href="#">30130.060.060</a> |
| 4,5X50MM (35) | 200 | <a href="#">30130.045.050</a> | 5X50MM (35) | 200 | <a href="#">30130.050.050</a> |             | 100 | <a href="#">30130.060.080</a> |
| 5X16MM (12)   | 200 | <a href="#">30130.050.016</a> | 5X60MM (45) | 200 | <a href="#">30130.050.060</a> |             | 100 | <a href="#">30130.060.100</a> |
| 5X20MM (16)   | 200 | <a href="#">30130.050.020</a> | 5X70MM (54) | 200 | <a href="#">30130.050.070</a> |             |     |                               |
|               |     |                               | 5X80MM (54) | 100 | <a href="#">30130.050.080</a> |             |     |                               |

**30140 MAXXFAST Universal woodscrew raised cheese head with ttap®** MF0A

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |

| d x L (S)     | ✉   | Art.number                    | d x L (S)   | ✉   | Art.number                    | d x L (S)   | ✉   | Art.number                    |
|---------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| 3X16MM (13)   | 200 | <a href="#">30140.030.016</a> | 4X16MM (13) | 200 | <a href="#">30140.040.016</a> | 5X20MM (16) | 200 | <a href="#">30140.050.020</a> |
| 3X20MM (17)   | 200 | <a href="#">30140.030.020</a> |             |     |                               | 5X25MM (21) | 200 | <a href="#">30140.050.025</a> |
| 3X25MM (22)   | 200 | <a href="#">30140.030.025</a> |             |     |                               | 5X30MM (26) | 200 | <a href="#">30140.050.030</a> |
| 3X30MM (27)   | 200 | <a href="#">30140.030.030</a> |             |     |                               | 5X40MM (25) | 200 | <a href="#">30140.050.040</a> |
|               |     |                               |             |     |                               | 5X50MM (35) | 200 | <a href="#">30140.050.050</a> |
| 3,5X16MM (13) | 200 | <a href="#">30140.035.016</a> | 4X30MM (27) | 200 | <a href="#">30140.040.030</a> | 5X60MM (45) | 200 | <a href="#">30140.050.060</a> |
| 3,5X20MM (17) | 200 | <a href="#">30140.035.020</a> | 4X35MM (32) | 200 | <a href="#">30140.040.035</a> |             |     |                               |
| 3,5X25MM (22) | 200 | <a href="#">30140.035.025</a> | 4X40MM (25) | 200 | <a href="#">30140.040.040</a> |             |     |                               |
| 3,5X30MM (27) | 200 | <a href="#">30140.035.030</a> | 4X45MM (30) | 200 | <a href="#">30140.040.045</a> |             |     |                               |
|               |     |                               | 4X50MM (35) | 200 | <a href="#">30140.040.050</a> |             |     |                               |

## Cross recessed raised cheese head screw for chipboard



### Technical data

| d   | dk (max.) | k (max.) | No. cross recess |
|-----|-----------|----------|------------------|
| 2,4 | 5         | 2,12     | 1                |
| 2,5 | 5         | 2,12     | 1                |
| 3   | 5,9       | 2,2      | 1                |
| 3,5 | 6,9       | 2,6      | 2                |
| 4   | 7,9       | 2,8      | 2                |
| 4,5 | 8,9       | 3,05     | 2                |
| 5   | 9,6       | 3,4      | 2                |
| 6   | 11,6      | 4        | 3                |

- All dimensions are guide values and may deviate dependent on the manufacturer.

### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| Pozidriv         | St        | Zipl              | Standard  | 29340 | 6-146 |
| Pozidriv         | St.St. A2 |                   | Standard  | 51770 | 6-146 |
| Pozidriv         | St        | Zipl              | Standard  | 29345 | 6-147 |
| Pozidriv         | St        | Zipl yell.p.      | Standard  | 29368 | 6-147 |
| Pozidriv         | St        | Zipl              | Standard  | 29750 | 6-148 |

6

#### 29340 Cross recessed raised cheese head screw for chipboard Pozidriv

K01A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3X12MM   | 200 | <a href="#">29340.030.012</a> | 4X16MM   | 200 | <a href="#">29340.040.016</a> | 4,5X45MM | 200 | <a href="#">29340.045.045</a> |
| 3X16MM   | 200 | <a href="#">29340.030.016</a> | 4X20MM   | 200 | <a href="#">29340.040.020</a> | 4,5X50MM | 200 | <a href="#">29340.045.050</a> |
| 3X20MM   | 200 | <a href="#">29340.030.020</a> | 4X25MM   | 200 | <a href="#">29340.040.025</a> |          |     |                               |
| 3X25MM   | 200 | <a href="#">29340.030.025</a> | 4X30MM   | 200 | <a href="#">29340.040.030</a> | 5X16MM   | 200 | <a href="#">29340.050.016</a> |
| 3X30MM   | 200 | <a href="#">29340.030.030</a> | 4X35MM   | 200 | <a href="#">29340.040.035</a> | 5X20MM   | 200 | <a href="#">29340.050.020</a> |
|          |     |                               | 4X40MM   | 200 | <a href="#">29340.040.040</a> | 5X25MM   | 200 | <a href="#">29340.050.025</a> |
| 3,5X12MM | 200 | <a href="#">29340.035.012</a> | 4X45MM   | 200 | <a href="#">29340.040.045</a> | 5X30MM   | 200 | <a href="#">29340.050.030</a> |
| 3,5X16MM | 200 | <a href="#">29340.035.016</a> | 4X50MM   | 200 | <a href="#">29340.040.050</a> | 5X35MM   | 200 | <a href="#">29340.050.035</a> |
| 3,5X20MM | 200 | <a href="#">29340.035.020</a> |          |     |                               | 5X40MM   | 200 | <a href="#">29340.050.040</a> |
| 3,5X25MM | 200 | <a href="#">29340.035.025</a> | 4,5X16MM | 200 | <a href="#">29340.045.016</a> | 5X45MM   | 200 | <a href="#">29340.050.045</a> |
| 3,5X30MM | 200 | <a href="#">29340.035.030</a> | 4,5X20MM | 200 | <a href="#">29340.045.020</a> | 5X50MM   | 200 | <a href="#">29340.050.050</a> |
| 3,5X35MM | 200 | <a href="#">29340.035.035</a> | 4,5X25MM | 200 | <a href="#">29340.045.025</a> | 5X60MM   | 200 | <a href="#">29340.050.060</a> |
| 3,5X40MM | 200 | <a href="#">29340.035.040</a> | 4,5X30MM | 200 | <a href="#">29340.045.030</a> | 5X70MM   | 200 | <a href="#">29340.050.070</a> |
|          |     |                               | 4,5X35MM | 200 | <a href="#">29340.045.035</a> | 5X80MM   | 200 | <a href="#">29340.050.080</a> |
| 4X12MM   | 200 | <a href="#">29340.040.012</a> | 4,5X40MM | 200 | <a href="#">29340.045.040</a> |          |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 51770 Cross recessed raised cheese head screw for chipboard Pozidriv

R03A

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X16MM   | 200 | <a href="#">51770.030.016</a> | 3,5X20MM | 200 | <a href="#">51770.035.020</a> | 4X25MM | 200 | <a href="#">51770.040.025</a> |
| 3X20MM   | 200 | <a href="#">51770.030.020</a> | 3,5X25MM | 200 | <a href="#">51770.035.025</a> | 4X30MM | 200 | <a href="#">51770.040.030</a> |
| 3X25MM   | 200 | <a href="#">51770.030.025</a> | 3,5X30MM | 200 | <a href="#">51770.035.030</a> | 4X35MM | 200 | <a href="#">51770.040.035</a> |
| 3X30MM   | 200 | <a href="#">51770.030.030</a> |          |     |                               | 4X40MM | 200 | <a href="#">51770.040.040</a> |
|          |     |                               | 4X16MM   | 200 | <a href="#">51770.040.016</a> | 4X45MM | 200 | <a href="#">51770.040.045</a> |
| 3,5X16MM | 200 | <a href="#">51770.035.016</a> | 4X20MM   | 200 | <a href="#">51770.040.020</a> | 4X50MM | 200 | <a href="#">51770.040.050</a> |

**51770 Cross recessed raised cheese head screw for chipboard Pozidriv** ←

| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L    | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|----------|-----|-------------------------------|
| 5X20MM | 200 | <a href="#">51770.050.020</a> | 5X30MM | 200 | <a href="#">51770.050.030</a> | 5X60MM * | 200 | <a href="#">51770.050.060</a> |
| 5X25MM | 200 | <a href="#">51770.050.025</a> | 5X40MM | 200 | <a href="#">51770.050.040</a> |          |     |                               |
|        |     |                               | 5X50MM | 200 | <a href="#">51770.050.050</a> |          |     |                               |

**29345 HECO-FIX PLUS Cross recessed raised cheese head screw for chipboard Pozidriv** K04A

|                          |             |  |  |
|--------------------------|-------------|--|--|
| <b>Material</b>          | Steel       |  |  |
| <b>Surface treatment</b> | Zinc plated |  |  |
| <b>Packaging</b>         | Standard    |  |  |

| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|--------|-----|-------------------------------|
| 2,5X12MM | 200 | <a href="#">29345.025.012</a> | 4X20MM   | 200 | <a href="#">29345.040.020</a> | 5X25MM | 200 | <a href="#">29345.050.025</a> |
| 2,5X16MM | 200 | <a href="#">29345.025.016</a> | 4X25MM   | 200 | <a href="#">29345.040.025</a> | 5X30MM | 200 | <a href="#">29345.050.030</a> |
|          |     |                               | 4X30MM   | 200 | <a href="#">29345.040.030</a> | 5X35MM | 200 | <a href="#">29345.050.035</a> |
| 3X15MM   | 200 | <a href="#">29345.030.015</a> | 4X35MM   | 200 | <a href="#">29345.040.035</a> | 5X40MM | 200 | <a href="#">29345.050.040</a> |
| 3X16MM   | 200 | <a href="#">29345.030.016</a> | 4X40MM   | 200 | <a href="#">29345.040.040</a> | 5X45MM | 200 | <a href="#">29345.050.045</a> |
| 3X20MM   | 200 | <a href="#">29345.030.020</a> | 4X45MM   | 200 | <a href="#">29345.040.045</a> | 5X50MM | 200 | <a href="#">29345.050.050</a> |
| 3X25MM   | 200 | <a href="#">29345.030.025</a> | 4X50MM   | 200 | <a href="#">29345.040.050</a> | 5X60MM | 200 | <a href="#">29345.050.060</a> |
| 3X30MM   | 200 | <a href="#">29345.030.030</a> | 4X60MM   | 200 | <a href="#">29345.040.060</a> | 5X70MM | 200 | <a href="#">29345.050.070</a> |
|          |     |                               |          |     |                               | 5X80MM | 200 | <a href="#">29345.050.080</a> |
| 3,5X15MM | 200 | <a href="#">29345.035.015</a> | 4,5X15MM | 200 | <a href="#">29345.045.015</a> | 6X30MM | 200 | <a href="#">29345.060.030</a> |
| 3,5X16MM | 200 | <a href="#">29345.035.016</a> | 4,5X16MM | 200 | <a href="#">29345.045.016</a> | 6X35MM | 200 | <a href="#">29345.060.035</a> |
| 3,5X20MM | 200 | <a href="#">29345.035.020</a> | 4,5X20MM | 200 | <a href="#">29345.045.020</a> | 6X40MM | 200 | <a href="#">29345.060.040</a> |
| 3,5X25MM | 200 | <a href="#">29345.035.025</a> | 4,5X25MM | 200 | <a href="#">29345.045.025</a> | 6X40MM | 200 | <a href="#">29345.060.040</a> |
| 3,5X30MM | 200 | <a href="#">29345.035.030</a> | 4,5X30MM | 200 | <a href="#">29345.045.030</a> | 6X50MM | 200 | <a href="#">29345.060.050</a> |
| 3,5X35MM | 200 | <a href="#">29345.035.035</a> | 4,5X40MM | 200 | <a href="#">29345.045.040</a> | 6X55MM | 200 | <a href="#">29345.060.055</a> |
| 3,5X40MM | 200 | <a href="#">29345.035.040</a> | 4,5X45MM | 200 | <a href="#">29345.045.045</a> | 6X60MM | 200 | <a href="#">29345.060.060</a> |
|          |     |                               | 4,5X50MM | 200 | <a href="#">29345.045.050</a> | 6X70MM | 200 | <a href="#">29345.060.070</a> |
| 4X12MM   | 200 | <a href="#">29345.040.012</a> | 4,5X60MM | 200 | <a href="#">29345.045.060</a> | 6X80MM | 200 | <a href="#">29345.060.080</a> |
| 4X15MM   | 200 | <a href="#">29345.040.015</a> |          |     |                               |        |     |                               |
| 4X16MM   | 200 | <a href="#">29345.040.016</a> | 5X20MM   | 200 | <a href="#">29345.050.020</a> |        |     |                               |


- Specific features HECO-FIX PLUS screws for chipboard:
- Reduction of required drive torque of up to 30%.
- Easier handling.
- Substantially higher screwing performance on using storage battery screw drivers.
- Axial forces are reduced, thereby less wear of screw driver bits.
- By means of the tooth geometry, a higher unscrewing moment is nevertheless, achieved and consequently, a secure screwed connection is obtained.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**29368 HECO-FIX PLUS Cross recessed raised cheese head screw for chipboard Pozidriv** K04A

|                          |                               |  |  |
|--------------------------|-------------------------------|--|--|
| <b>Material</b>          | Steel                         |  |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |  |  |
| <b>Packaging</b>         | Standard                      |  |  |

| d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    |
|----------|------|-------------------------------|----------|------|-------------------------------|----------|------|-------------------------------|
| 3X12MM   | 1000 | <a href="#">29368.030.012</a> | 3,5X30MM | 1000 | <a href="#">29368.035.030</a> | 4,5X25MM | 1000 | <a href="#">29368.045.025</a> |
| 3X15MM   | 1000 | <a href="#">29368.030.015</a> | 3,5X35MM | 1000 | <a href="#">29368.035.035</a> | 4,5X30MM | 500  | <a href="#">29368.045.030</a> |
| 3X16MM   | 1000 | <a href="#">29368.030.016</a> |          |      |                               | 4,5X35MM | 500  | <a href="#">29368.045.035</a> |
| 3X20MM   | 1000 | <a href="#">29368.030.020</a> | 4X12MM   | 1000 | <a href="#">29368.040.012</a> | 4,5X40MM | 500  | <a href="#">29368.045.040</a> |
| 3X25MM   | 1000 | <a href="#">29368.030.025</a> | 4X13MM   | 1000 | <a href="#">29368.040.013</a> | 4,5X45MM | 500  | <a href="#">29368.045.045</a> |
| 3X30MM   | 1000 | <a href="#">29368.030.030</a> | 4X15MM   | 1000 | <a href="#">29368.040.015</a> |          |      |                               |
|          |      |                               | 4X16MM   | 1000 | <a href="#">29368.040.016</a> | 5X16MM   | 500  | <a href="#">29368.050.016</a> |
| 3,5X12MM | 1000 | <a href="#">29368.035.012</a> | 4X35MM   | 500  | <a href="#">29368.040.035</a> | 5X20MM   | 500  | <a href="#">29368.050.020</a> |
| 3,5X15MM | 1000 | <a href="#">29368.035.015</a> | 4X45MM   | 500  | <a href="#">29368.040.045</a> | 5X25MM   | 500  | <a href="#">29368.050.025</a> |
| 3,5X16MM | 1000 | <a href="#">29368.035.016</a> | 4X50MM   | 500  | <a href="#">29368.040.050</a> | 5X35MM   | 500  | <a href="#">29368.050.035</a> |
| 3,5X20MM | 1000 | <a href="#">29368.035.020</a> |          |      |                               | 5X40MM   | 500  | <a href="#">29368.050.040</a> |
| 3,5X25MM | 1000 | <a href="#">29368.035.025</a> | 4,5X20MM | 1000 | <a href="#">29368.045.020</a> |          |      |                               |

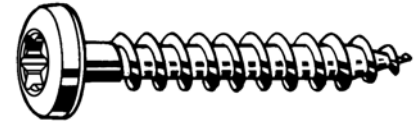
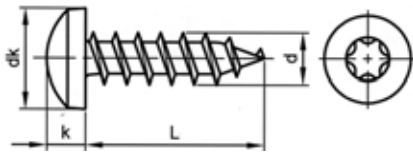
- Specific features HECO-FIX PLUS screws for chipboard:
- Reduction of required drive torque of up to 30%.
- Easier handling.
- Substantially higher screwing performance on using storage battery screw drivers.
- Axial forces are reduced, thereby less wear of screw driver bits.
- By means of the tooth geometry, a higher unscrewing moment is nevertheless achieved and consequently, a secure screwed connection is obtained.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|   |             |   |
|---|-------------|---|
| <b>29750 VBA PLUS Cross recessed raised cheese head screws for chipboard Pozidriv</b> |             | <b>K04A</b>   |
| <b>Material</b>   | Steel       |  |
| <b>Surface treatment</b>  | Zinc plated |   |
| <b>Packaging</b>  | Standard    |   |

| d x L    | ✉   | Art.number                    | d x L | ✉ | Art.number | d x L | ✉ | Art.number |
|----------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| 3X15MM   | 500 | <a href="#">29750.030.015</a> |       |   |            |       |   |            |
| 3,5X35MM | 500 | <a href="#">29750.035.035</a> |       |   |            |       |   |            |

- Specific features VBA PLUS screws for chipboard:
- The screw head is marked with an + which indicates that the VBA PLUS screw is, and will remain a quality screw.
- A deeper Pozidriv (Z) cross recess which practically eliminates "slipping out" of the tool.
- A saw-tooth shaped thread form which results in a lower turning moment, a higher tensile value and reduces deformation in the materials to be joined.
- Fully threaded to the point (point of application) which ensures immediate penetration (biting) of the screw thread, resulting in a 30% reduction of turning time.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Hexalobular socket raised cheese head screw for chipboard



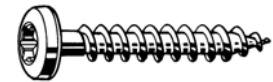
### Technical data

| d   | d <sub>k</sub> | k       | Socket |
|-----|----------------|---------|--------|
| 3   | 5,7/6,0        | 2,1/2,3 | No.10  |
| 3,5 | 6,7/7,0        | 2,2/2,4 | No.15  |
| 4   | 7,7/8,0        | 2,6/2,8 | No.20  |
| 4,5 | 8,7/9,0        | 2,9/3,1 | No.25  |
| 5   | 9,7/10,0       | 3,3/3,5 | No.25  |

### 29346 Hexalobular socket raised cheese head screw for chipboard

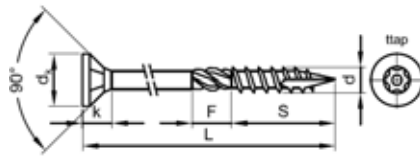
**K01A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    |
|----------|------|-------------------------------|----------|------|-------------------------------|----------|------|-------------------------------|
| 3X10MM   | 1000 | <a href="#">29346.030.010</a> | 4X12MM   | 1000 | <a href="#">29346.040.012</a> | 4,5X40MM | 500  | <a href="#">29346.045.040</a> |
| 3X12MM   | 1000 | <a href="#">29346.030.012</a> | 4X13MM   | 1000 | <a href="#">29346.040.013</a> | 4,5X45MM | 500  | <a href="#">29346.045.045</a> |
| 3X13MM   | 1000 | <a href="#">29346.030.013</a> | 4X15MM   | 1000 | <a href="#">29346.040.015</a> | 4,5X50MM | 200  | <a href="#">29346.045.050</a> |
| 3X15MM   | 1000 | <a href="#">29346.030.015</a> | 4X16MM   | 1000 | <a href="#">29346.040.016</a> | 4,5X60MM | 200  | <a href="#">29346.045.060</a> |
| 3X16MM   | 1000 | <a href="#">29346.030.016</a> | 4X20MM   | 1000 | <a href="#">29346.040.020</a> | 4,5X70MM | 200  | <a href="#">29346.045.070</a> |
| 3X20MM   | 1000 | <a href="#">29346.030.020</a> | 4X25MM   | 1000 | <a href="#">29346.040.025</a> |          |      |                               |
| 3X25MM   | 1000 | <a href="#">29346.030.025</a> | 4X30MM   | 1000 | <a href="#">29346.040.030</a> | 5X16MM   | 1000 | <a href="#">29346.050.016</a> |
| 3X30MM   | 1000 | <a href="#">29346.030.030</a> | 4X35MM   | 500  | <a href="#">29346.040.035</a> | 5X20MM   | 1000 | <a href="#">29346.050.020</a> |
| 3X35MM   | 500  | <a href="#">29346.030.035</a> | 4X40MM   | 500  | <a href="#">29346.040.040</a> | 5X25MM   | 500  | <a href="#">29346.050.025</a> |
| 3X40MM   | 500  | <a href="#">29346.030.040</a> | 4X45MM   | 500  | <a href="#">29346.040.045</a> | 5X30MM   | 500  | <a href="#">29346.050.030</a> |
|          |      |                               | 4X50MM   | 500  | <a href="#">29346.040.050</a> | 5X35MM   | 500  | <a href="#">29346.050.035</a> |
| 3,5X16MM | 1000 | <a href="#">29346.035.016</a> | 4X60MM   | 500  | <a href="#">29346.040.060</a> | 5X40MM   | 500  | <a href="#">29346.050.040</a> |
| 3,5X20MM | 1000 | <a href="#">29346.035.020</a> | 4X70MM   | 500  | <a href="#">29346.040.070</a> | 5X45MM   | 200  | <a href="#">29346.050.045</a> |
| 3,5X25MM | 1000 | <a href="#">29346.035.025</a> |          |      |                               | 5X50MM   | 200  | <a href="#">29346.050.050</a> |
| 3,5X30MM | 1000 | <a href="#">29346.035.030</a> | 4,5X15MM | 1000 | <a href="#">29346.045.015</a> | 5X60MM   | 200  | <a href="#">29346.050.060</a> |
| 3,5X35MM | 1000 | <a href="#">29346.035.035</a> | 4,5X16MM | 1000 | <a href="#">29346.045.016</a> | 5X70MM   | 200  | <a href="#">29346.050.070</a> |
| 3,5X40MM | 500  | <a href="#">29346.035.040</a> | 4,5X20MM | 1000 | <a href="#">29346.045.020</a> | 5X80MM   | 200  | <a href="#">29346.050.080</a> |
| 3,5X45MM | 500  | <a href="#">29346.035.045</a> | 4,5X25MM | 500  | <a href="#">29346.045.025</a> |          |      |                               |
| 3,5X50MM | 500  | <a href="#">29346.035.050</a> | 4,5X30MM | 500  | <a href="#">29346.045.030</a> |          |      |                               |
|          |      |                               | 4,5X35MM | 500  | <a href="#">29346.045.035</a> |          |      |                               |

## Universal construction woodscrew countersunk head with ttap®



### Technical data

|                 |          |          |           |
|-----------------|----------|----------|-----------|
| <b>d</b>        | <b>6</b> | <b>8</b> | <b>10</b> |
| <b>dk</b>       | 12       | 15       | 18,4      |
| <b>k</b>        | 3,8      | 4,8      | 5,8       |
| <b>No. ttap</b> | 30       | 40       | 40        |

- Full boxes only.
- F=9mm only if L≥40mm.

### 30205 MAXXFAST Universal construction woodscrew countersunk head with ttap®

MFOA

**Material** Steel  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard

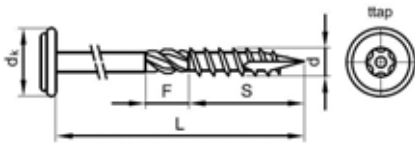
**MAXXFAST**  
PROFESSIONAL HARDWARE



6

| d x L (S)     | ☒  | Art.number                    | d x L (S)     | ☒  | Art.number                    | d x L (S)      | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|----------------|----|-------------------------------|
| 6X160MM (98)  | 50 | <a href="#">30205.060.160</a> | 8X200MM (124) | 50 | <a href="#">30205.080.200</a> | 10X140MM (85)  | 50 | <a href="#">30205.100.140</a> |
| 6X180MM (111) | 50 | <a href="#">30205.060.180</a> | 8X220MM (138) | 50 | <a href="#">30205.080.220</a> | 10X160MM (98)  | 50 | <a href="#">30205.100.160</a> |
| 6X200MM (124) | 50 | <a href="#">30205.060.200</a> | 8X240MM (152) | 50 | <a href="#">30205.080.240</a> | 10X180MM (111) | 50 | <a href="#">30205.100.180</a> |
| 6X220MM (138) | 50 | <a href="#">30205.060.220</a> | 8X260MM (166) | 50 | <a href="#">30205.080.260</a> | 10X200MM (124) | 50 | <a href="#">30205.100.200</a> |
| 6X240MM (152) | 50 | <a href="#">30205.060.240</a> | 8X280MM (178) | 50 | <a href="#">30205.080.280</a> | 10X220MM (138) | 50 | <a href="#">30205.100.220</a> |
| 6X260MM (166) | 50 | <a href="#">30205.060.260</a> | 8X300MM (192) | 50 | <a href="#">30205.080.300</a> | 10X240MM (152) | 50 | <a href="#">30205.100.240</a> |
| 6X280MM (178) | 50 | <a href="#">30205.060.280</a> | 8X320MM (205) | 50 | <a href="#">30205.080.320</a> | 10X260MM (166) | 50 | <a href="#">30205.100.260</a> |
| 6X300MM (192) | 50 | <a href="#">30205.060.300</a> | 8X340MM (218) | 50 | <a href="#">30205.080.340</a> | 10X280MM (178) | 50 | <a href="#">30205.100.280</a> |
| 8X80MM (45)   | 50 | <a href="#">30205.080.080</a> | 8X360MM (232) | 50 | <a href="#">30205.080.360</a> | 10X300MM (192) | 50 | <a href="#">30205.100.300</a> |
| 8X100MM (58)  | 50 | <a href="#">30205.080.100</a> | 8X380MM (246) | 50 | <a href="#">30205.080.380</a> | 10X320MM (205) | 50 | <a href="#">30205.100.320</a> |
| 8X120MM (72)  | 50 | <a href="#">30205.080.120</a> | 8X400MM (258) | 50 | <a href="#">30205.080.400</a> | 10X340MM (218) | 50 | <a href="#">30205.100.340</a> |
| 8X140MM (85)  | 50 | <a href="#">30205.080.140</a> | 10X80MM (45)  | 50 | <a href="#">30205.100.080</a> | 10X360MM (232) | 50 | <a href="#">30205.100.360</a> |
| 8X160MM (98)  | 50 | <a href="#">30205.080.160</a> | 10X100MM (58) | 50 | <a href="#">30205.100.100</a> | 10X380MM (246) | 50 | <a href="#">30205.100.380</a> |
| 8X180MM (111) | 50 | <a href="#">30205.080.180</a> | 10X120MM (72) | 50 | <a href="#">30205.100.120</a> | 10X400MM (258) | 50 | <a href="#">30205.100.400</a> |

**Universal construction woodscrew flange head with ttap®**



**Technical data**

|                 |          |          |           |
|-----------------|----------|----------|-----------|
| <b>d</b>        | <b>6</b> | <b>8</b> | <b>10</b> |
| <b>dk</b>       | 15       | 18       | 21        |
| <b>k</b>        | 3,3      | 4,2      | 4,7       |
| <b>No. ttap</b> | 30       | 40       | 40        |

- Full boxes only.
- F=9mm only if L≥40mm.

**30225 MAXXFAST Universal construction woodscrew flange head with ttap®**

MF0A

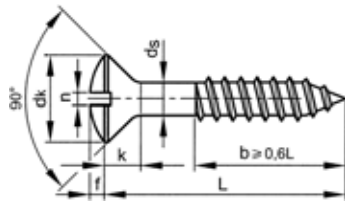
**Material** Steel  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d x L (S)     | ☒   | Art.number                    | d x L (S)     | ☒  | Art.number                    | d x L (S)      | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|----------------|----|-------------------------------|
| 6X80MM (45)   | 100 | <a href="#">30225.060.080</a> | 8X160MM (98)  | 50 | <a href="#">30225.080.160</a> | 10X140MM (85)  | 50 | <a href="#">30225.100.140</a> |
| 6X100MM (58)  | 100 | <a href="#">30225.060.100</a> | 8X180MM (111) | 50 | <a href="#">30225.080.180</a> | 10X160MM (98)  | 50 | <a href="#">30225.100.160</a> |
| 6X120MM (72)  | 100 | <a href="#">30225.060.120</a> | 8X200MM (124) | 50 | <a href="#">30225.080.200</a> | 10X180MM (111) | 50 | <a href="#">30225.100.180</a> |
| 6X140MM (85)  | 100 | <a href="#">30225.060.140</a> | 8X220MM (138) | 50 | <a href="#">30225.080.220</a> | 10X200MM (124) | 50 | <a href="#">30225.100.200</a> |
| 6X160MM (98)  | 50  | <a href="#">30225.060.160</a> | 8X240MM (152) | 50 | <a href="#">30225.080.240</a> | 10X220MM (138) | 50 | <a href="#">30225.100.220</a> |
| 6X180MM (111) | 50  | <a href="#">30225.060.180</a> | 8X260MM (166) | 50 | <a href="#">30225.080.260</a> | 10X240MM (152) | 50 | <a href="#">30225.100.240</a> |
| 6X200MM (124) | 50  | <a href="#">30225.060.200</a> | 8X280MM (178) | 50 | <a href="#">30225.080.280</a> | 10X260MM (166) | 50 | <a href="#">30225.100.260</a> |
| 6X220MM (138) | 50  | <a href="#">30225.060.220</a> | 8X300MM (192) | 50 | <a href="#">30225.080.300</a> | 10X280MM (178) | 50 | <a href="#">30225.100.280</a> |
| 6X240MM (152) | 50  | <a href="#">30225.060.240</a> | 8X320MM (205) | 50 | <a href="#">30225.080.320</a> | 10X300MM (192) | 50 | <a href="#">30225.100.300</a> |
| 6X260MM (166) | 50  | <a href="#">30225.060.260</a> | 8X340MM (218) | 50 | <a href="#">30225.080.340</a> | 10X320MM (205) | 50 | <a href="#">30225.100.320</a> |
| 6X280MM (178) | 50  | <a href="#">30225.060.280</a> | 8X360MM (232) | 50 | <a href="#">30225.080.360</a> | 10X340MM (218) | 50 | <a href="#">30225.100.340</a> |
| 6X300MM (192) | 50  | <a href="#">30225.060.300</a> | 8X380MM (246) | 50 | <a href="#">30225.080.380</a> | 10X360MM (232) | 50 | <a href="#">30225.100.360</a> |
|               |     |                               | 8X400MM (258) | 50 | <a href="#">30225.080.400</a> | 10X380MM (246) | 50 | <a href="#">30225.100.380</a> |
|               |     |                               |               |    |                               | 10X400MM (258) | 50 | <a href="#">30225.100.400</a> |
| 8X80MM (45)   | 50  | <a href="#">30225.080.080</a> | 10X80MM (45)  | 50 | <a href="#">30225.100.080</a> |                |    |                               |
| 8X100MM (58)  | 50  | <a href="#">30225.080.100</a> | 10X100MM (58) | 50 | <a href="#">30225.100.100</a> |                |    |                               |
| 8X120MM (72)  | 50  | <a href="#">30225.080.120</a> | 10X120MM (72) | 50 | <a href="#">30225.100.120</a> |                |    |                               |

## Slotted raised countersunk (oval) head wood screw



DIN 95  
 NEN 2252  
 NF E25-605



### Technical data

| ds  | dk   | k (max.) | f ≈  | n   |
|-----|------|----------|------|-----|
| 2   | 3,8  | 1,2      | 0,5  | 0,5 |
| 2,5 | 4,7  | 1,5      | 0,6  | 0,6 |
| 3   | 5,6  | 1,65     | 0,75 | 0,8 |
| 3,5 | 6,5  | 1,93     | 0,9  | 0,8 |
| 4   | 7,5  | 2,2      | 1    | 1   |
| 4,5 | 8,3  | 2,35     | 1,1  | 1   |
| 5   | 9,2  | 2,5      | 1,25 | 1,2 |
| 5,5 | 10,2 | 2,75     | 1,4  | 1,2 |
| 6   | 11   | 3        | 1,5  | 1,6 |
| 8   | 14,5 | 4        | 2    | 2   |

- Wood screw thread acc. to DIN 7998.

### Article groups

| Driving features | Material   | Surface treatment | Packaging | Code  | Page  |
|------------------|------------|-------------------|-----------|-------|-------|
| slotted          | St.St. A2  |                   | Standard  | 51880 | 6-152 |
| slotted          | Br Cu2/Cu3 |                   | Standard  | 49250 | 6-153 |
| slotted          | Br Cu2/Cu3 | Ni.pl.            | Standard  | 49350 | 6-153 |

6

#### 51880 Slotted raised countersunk (oval) head wood screw

R03A

**Material** Stainless steel A2  
**Packaging** Standard



| ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 2,5X10MM   | 200 | <a href="#">51880.025.010</a> | 4X35MM     | 200 | <a href="#">51880.040.035</a> | 5X90MM *   | 100 | <a href="#">51880.050.090</a> |
| 2,5X16MM   | 200 | <a href="#">51880.025.016</a> | 4X40MM     | 200 | <a href="#">51880.040.040</a> |            |     |                               |
| 2,5X20MM   | 200 | <a href="#">51880.025.020</a> | 4X45MM     | 200 | <a href="#">51880.040.045</a> | 5,5X30MM * | 200 | <a href="#">51880.055.030</a> |
| 2,5X25MM   | 200 | <a href="#">51880.025.025</a> | 4X50MM     | 200 | <a href="#">51880.040.050</a> | 5,5X40MM   | 200 | <a href="#">51880.055.040</a> |
|            |     |                               | 4X60MM     | 200 | <a href="#">51880.040.060</a> | 5,5X45MM   | 200 | <a href="#">51880.055.045</a> |
|            |     |                               | 4X70MM *   | 200 | <a href="#">51880.040.070</a> | 5,5X50MM   | 200 | <a href="#">51880.055.050</a> |
| 3X10MM *   | 200 | <a href="#">51880.030.010</a> |            |     |                               | 5,5X60MM   | 100 | <a href="#">51880.055.060</a> |
| 3X12MM     | 200 | <a href="#">51880.030.012</a> | 4,5X16MM * | 200 | <a href="#">51880.045.016</a> | 5,5X70MM   | 100 | <a href="#">51880.055.070</a> |
| 3X16MM     | 200 | <a href="#">51880.030.016</a> | 4,5X20MM * | 200 | <a href="#">51880.045.020</a> |            |     |                               |
| 3X20MM     | 200 | <a href="#">51880.030.020</a> | 4,5X25MM   | 200 | <a href="#">51880.045.025</a> | 6X20MM *   | 200 | <a href="#">51880.060.020</a> |
| 3X25MM     | 200 | <a href="#">51880.030.025</a> | 4,5X30MM   | 200 | <a href="#">51880.045.030</a> | 6X30MM     | 200 | <a href="#">51880.060.030</a> |
| 3X30MM     | 200 | <a href="#">51880.030.030</a> | 4,5X35MM   | 200 | <a href="#">51880.045.035</a> | 6X35MM     | 200 | <a href="#">51880.060.035</a> |
| 3X35MM     | 200 | <a href="#">51880.030.035</a> | 4,5X40MM   | 200 | <a href="#">51880.045.040</a> | 6X40MM     | 200 | <a href="#">51880.060.040</a> |
| 3X40MM *   | 200 | <a href="#">51880.030.040</a> | 4,5X45MM   | 200 | <a href="#">51880.045.045</a> | 6X45MM     | 200 | <a href="#">51880.060.045</a> |
|            |     |                               | 4,5X50MM   | 200 | <a href="#">51880.045.050</a> | 6X50MM     | 200 | <a href="#">51880.060.050</a> |
| 3,5X12MM   | 200 | <a href="#">51880.035.012</a> | 4,5X60MM * | 200 | <a href="#">51880.045.060</a> | 6X60MM     | 100 | <a href="#">51880.060.060</a> |
| 3,5X16MM   | 200 | <a href="#">51880.035.016</a> | 4,5X70MM * | 200 | <a href="#">51880.045.070</a> | 6X65MM *   | 100 | <a href="#">51880.060.065</a> |
| 3,5X20MM   | 200 | <a href="#">51880.035.020</a> |            |     |                               | 6X70MM     | 100 | <a href="#">51880.060.070</a> |
| 3,5X25MM   | 200 | <a href="#">51880.035.025</a> | 5X16MM *   | 200 | <a href="#">51880.050.016</a> | 6X80MM *   | 100 | <a href="#">51880.060.080</a> |
| 3,5X30MM   | 200 | <a href="#">51880.035.030</a> | 5X20MM     | 200 | <a href="#">51880.050.020</a> | 6X90MM *   | 100 | <a href="#">51880.060.090</a> |
| 3,5X35MM   | 200 | <a href="#">51880.035.035</a> | 5X25MM     | 200 | <a href="#">51880.050.025</a> | 6X100MM *  | 100 | <a href="#">51880.060.100</a> |
| 3,5X40MM   | 200 | <a href="#">51880.035.040</a> | 5X30MM     | 200 | <a href="#">51880.050.030</a> |            |     |                               |
| 3,5X50MM * | 200 | <a href="#">51880.035.050</a> | 5X35MM     | 200 | <a href="#">51880.050.035</a> | 8X40MM *   | 100 | <a href="#">51880.080.040</a> |
|            |     |                               | 5X40MM     | 200 | <a href="#">51880.050.040</a> | 8X45MM *   | 100 | <a href="#">51880.080.045</a> |
| 4X12MM     | 200 | <a href="#">51880.040.012</a> | 5X45MM     | 200 | <a href="#">51880.050.045</a> | 8X60MM *   | 100 | <a href="#">51880.080.060</a> |
| 4X16MM     | 200 | <a href="#">51880.040.016</a> | 5X50MM     | 200 | <a href="#">51880.050.050</a> | 8X80MM *   | 100 | <a href="#">51880.080.080</a> |
| 4X20MM     | 200 | <a href="#">51880.040.020</a> | 5X60MM     | 200 | <a href="#">51880.050.060</a> | 8X90MM *   | 100 | <a href="#">51880.080.090</a> |
| 4X25MM     | 200 | <a href="#">51880.040.025</a> | 5X70MM     | 200 | <a href="#">51880.050.070</a> |            |     |                               |
| 4X30MM     | 200 | <a href="#">51880.040.030</a> |            |     |                               |            |     |                               |



|                  |  |  |  |             |
|------------------|--|--|--|-------------|
| <b>49250</b>     | <b>Slotted raised countersunk (oval) head wood screw</b> |  |  | <b>M07A</b> |
| <b>Material</b>  | Brass Cu2/Cu3  |  |  |             |
| <b>Packaging</b> | Standard   |  |  |             |



| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L | ☒        | Art.number                    |                               |
|----------|-----|-------------------------------|----------|-----|-------------------------------|--------|----------|-------------------------------|-------------------------------|
| 2,5X10MM | 200 | <a href="#">49250.025.010</a> | 4X20MM   | 200 | <a href="#">49250.040.020</a> | 5X25MM | 200      | <a href="#">49250.050.025</a> |                               |
| 2,5X12MM | 200 | <a href="#">49250.025.012</a> | 4X25MM   | 200 | <a href="#">49250.040.025</a> |        | 5X30MM   | 200                           | <a href="#">49250.050.030</a> |
| 3X12MM   | 200 | <a href="#">49250.030.012</a> | 4X30MM   | 200 | <a href="#">49250.040.030</a> |        | 5X35MM   | 200                           | <a href="#">49250.050.035</a> |
| 3X16MM   | 200 | <a href="#">49250.030.016</a> | 4X35MM   | 200 | <a href="#">49250.040.035</a> |        | 5X40MM   | 200                           | <a href="#">49250.050.040</a> |
| 3X20MM   | 200 | <a href="#">49250.030.020</a> | 4X40MM   | 200 | <a href="#">49250.040.040</a> |        | 5X45MM   | 200                           | <a href="#">49250.050.045</a> |
| 3X25MM   | 200 | <a href="#">49250.030.025</a> | 4X45MM   | 200 | <a href="#">49250.040.045</a> |        | 5X50MM   | 200                           | <a href="#">49250.050.050</a> |
| 3X30MM   | 200 | <a href="#">49250.030.030</a> | 4X50MM   | 200 | <a href="#">49250.040.050</a> |        | 5X60MM   | 200                           | <a href="#">49250.050.060</a> |
| 3,5X12MM | 200 | <a href="#">49250.035.012</a> | 4X60MM   | 200 | <a href="#">49250.040.060</a> |        | 5X70MM   | 200                           | <a href="#">49250.050.070</a> |
| 3,5X16MM | 200 | <a href="#">49250.035.016</a> | 4X70MM   | 200 | <a href="#">49250.040.070</a> |        | 5X80MM   | 200                           | <a href="#">49250.050.080</a> |
| 3,5X20MM | 200 | <a href="#">49250.035.020</a> | 4,5X25MM | 200 | <a href="#">49250.045.025</a> |        | 5,5X40MM | 200                           | <a href="#">49250.055.040</a> |
| 3,5X25MM | 200 | <a href="#">49250.035.025</a> | 4,5X30MM | 200 | <a href="#">49250.045.030</a> |        | 5,5X50MM | 200                           | <a href="#">49250.055.050</a> |
| 3,5X30MM | 200 | <a href="#">49250.035.030</a> | 4,5X35MM | 200 | <a href="#">49250.045.035</a> |        | 5,5X60MM | 100                           | <a href="#">49250.055.060</a> |
| 3,5X35MM | 200 | <a href="#">49250.035.035</a> | 4,5X40MM | 200 | <a href="#">49250.045.040</a> |        | 5,5X70MM | 100                           | <a href="#">49250.055.070</a> |
| 3,5X40MM | 200 | <a href="#">49250.035.040</a> | 4,5X45MM | 200 | <a href="#">49250.045.045</a> |        | 5,5X80MM | 100                           | <a href="#">49250.055.080</a> |
| 4X16MM   | 200 | <a href="#">49250.040.016</a> | 4,5X50MM | 200 | <a href="#">49250.045.050</a> |        |          |                               |                               |
|          |     |                               | 4,5X60MM | 200 | <a href="#">49250.045.060</a> |        |          |                               |                               |
|          |     |                               | 4,5X70MM | 200 | <a href="#">49250.045.070</a> |        |          |                               |                               |

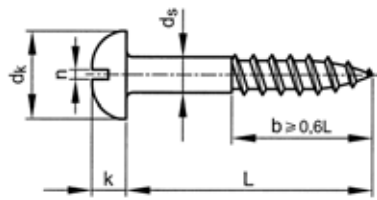
|                          |  |  |  |             |
|--------------------------|--|--|--|-------------|
| <b>49350</b>             | <b>Slotted raised countersunk (oval) head wood screw</b> |  |  | <b>M07A</b> |
| <b>Material</b>          | Brass Cu2/Cu3  |  |  |             |
| <b>Surface treatment</b> | Nickel plated  |  |  |             |
| <b>Packaging</b>         | Standard   |  |  |             |



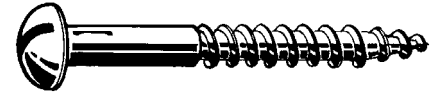
6

| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 2X10MM   | 200 | <a href="#">49350.020.010</a> | 3,5X40MM | 200 | <a href="#">49350.035.040</a> | 5X20MM   | 200 | <a href="#">49350.050.020</a> |
| 2X12MM   | 200 | <a href="#">49350.020.012</a> | 3,5X45MM | 200 | <a href="#">49350.035.045</a> | 5X25MM   | 200 | <a href="#">49350.050.025</a> |
| 2X16MM   | 200 | <a href="#">49350.020.016</a> | 3,5X50MM | 200 | <a href="#">49350.035.050</a> | 5X30MM   | 200 | <a href="#">49350.050.030</a> |
| 2,5X10MM | 200 | <a href="#">49350.025.010</a> | 4X12MM   | 200 | <a href="#">49350.040.012</a> | 5X35MM   | 200 | <a href="#">49350.050.035</a> |
| 2,5X12MM | 200 | <a href="#">49350.025.012</a> | 4X16MM   | 200 | <a href="#">49350.040.016</a> | 5X40MM   | 200 | <a href="#">49350.050.040</a> |
| 2,5X16MM | 200 | <a href="#">49350.025.016</a> | 4X20MM   | 200 | <a href="#">49350.040.020</a> | 5X45MM   | 200 | <a href="#">49350.050.045</a> |
| 2,5X20MM | 200 | <a href="#">49350.025.020</a> | 4X25MM   | 200 | <a href="#">49350.040.025</a> | 5X50MM   | 200 | <a href="#">49350.050.050</a> |
| 2,5X25MM | 200 | <a href="#">49350.025.025</a> | 4X30MM   | 200 | <a href="#">49350.040.030</a> | 5X60MM   | 200 | <a href="#">49350.050.060</a> |
| 2,5X30MM | 200 | <a href="#">49350.025.030</a> | 4X35MM   | 200 | <a href="#">49350.040.035</a> | 5X70MM   | 200 | <a href="#">49350.050.070</a> |
| 3X10MM   | 200 | <a href="#">49350.030.010</a> | 4X40MM   | 200 | <a href="#">49350.040.040</a> | 5,5X40MM | 200 | <a href="#">49350.055.040</a> |
| 3X12MM   | 200 | <a href="#">49350.030.012</a> | 4X45MM   | 200 | <a href="#">49350.040.045</a> | 5,5X50MM | 200 | <a href="#">49350.055.050</a> |
| 3X16MM   | 200 | <a href="#">49350.030.016</a> | 4X50MM   | 200 | <a href="#">49350.040.050</a> | 5,5X60MM | 100 | <a href="#">49350.055.060</a> |
| 3X20MM   | 200 | <a href="#">49350.030.020</a> | 4X60MM   | 200 | <a href="#">49350.040.060</a> | 5,5X70MM | 100 | <a href="#">49350.055.070</a> |
| 3X25MM   | 200 | <a href="#">49350.030.025</a> | 4X70MM   | 200 | <a href="#">49350.040.070</a> | 6X30MM   | 200 | <a href="#">49350.060.030</a> |
| 3X30MM   | 200 | <a href="#">49350.030.030</a> | 4,5X20MM | 200 | <a href="#">49350.045.020</a> | 6X35MM   | 200 | <a href="#">49350.060.035</a> |
| 3X35MM   | 200 | <a href="#">49350.030.035</a> | 4,5X25MM | 200 | <a href="#">49350.045.025</a> | 6X40MM   | 200 | <a href="#">49350.060.040</a> |
| 3X40MM   | 200 | <a href="#">49350.030.040</a> | 4,5X30MM | 200 | <a href="#">49350.045.030</a> | 6X45MM   | 200 | <a href="#">49350.060.045</a> |
| 3,5X12MM | 200 | <a href="#">49350.035.012</a> | 4,5X35MM | 200 | <a href="#">49350.045.035</a> | 6X50MM   | 200 | <a href="#">49350.060.050</a> |
| 3,5X16MM | 200 | <a href="#">49350.035.016</a> | 4,5X40MM | 200 | <a href="#">49350.045.040</a> | 6X60MM   | 100 | <a href="#">49350.060.060</a> |
| 3,5X20MM | 200 | <a href="#">49350.035.020</a> | 4,5X45MM | 200 | <a href="#">49350.045.045</a> | 6X70MM   | 100 | <a href="#">49350.060.070</a> |
| 3,5X25MM | 200 | <a href="#">49350.035.025</a> | 4,5X50MM | 200 | <a href="#">49350.045.050</a> | 6X80MM   | 100 | <a href="#">49350.060.080</a> |
| 3,5X30MM | 200 | <a href="#">49350.035.030</a> | 4,5X60MM | 200 | <a href="#">49350.045.060</a> |          |     |                               |
| 3,5X35MM | 200 | <a href="#">49350.035.035</a> | 4,5X70MM | 200 | <a href="#">49350.045.070</a> |          |     |                               |

## Slotted round head wood screw



DIN 96  
 NEN 2251  
 NF E25-606



### Technical data

| ds  | dk | k (max.) | n   |
|-----|----|----------|-----|
| 2   | 4  | 1,4      | 0,5 |
| 2,5 | 5  | 1,7      | 0,6 |
| 3   | 6  | 2,1      | 0,8 |
| 3,5 | 7  | 2,4      | 0,8 |

| ds  | dk | k (max.) | n   |
|-----|----|----------|-----|
| 4   | 8  | 2,8      | 1   |
| 4,5 | 9  | 3,1      | 1   |
| 5   | 10 | 3,5      | 1,2 |
| 5,5 | 11 | 3,8      | 1,2 |

| ds | dk | k (max.) | n   |
|----|----|----------|-----|
| 6  | 12 | 4,2      | 1,6 |
| 7  | 14 | 4,9      | 2   |
| 8  | 16 | 5,6      | 2   |

- Wood screw thread acc. to DIN 7998.

### Article groups

| Driving features | Material   | Surface treatment | Packaging | Code  | Page  |
|------------------|------------|-------------------|-----------|-------|-------|
| slotted          | St         | Zipl              | Standard  | 25110 | 6-154 |
| slotted          | St.St. A2  |                   | Standard  | 51860 | 6-155 |
| slotted          | Br Cu2/Cu3 |                   | Standard  | 49210 | 6-155 |
| slotted          | Br Cu2/Cu3 | Ni.pl.            | Standard  | 49310 | 6-156 |

## 6

### 25110 Slotted round head wood screw

K05A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2X10MM   | 200 | <a href="#">25110.020.010</a> | 4X12MM   | 200 | <a href="#">25110.040.012</a> | 5X50MM    | 200 | <a href="#">25110.050.050</a> |
| 2X12MM   | 200 | <a href="#">25110.020.012</a> | 4X16MM   | 200 | <a href="#">25110.040.016</a> | 5X60MM    | 200 | <a href="#">25110.050.060</a> |
| 2,5X10MM | 200 | <a href="#">25110.025.010</a> | 4X20MM   | 200 | <a href="#">25110.040.020</a> | 5X70MM    | 200 | <a href="#">25110.050.070</a> |
| 2,5X12MM | 200 | <a href="#">25110.025.012</a> | 4X25MM   | 200 | <a href="#">25110.040.025</a> | 5X80MM    | 200 | <a href="#">25110.050.080</a> |
| 2,5X16MM | 200 | <a href="#">25110.025.016</a> | 4X30MM   | 200 | <a href="#">25110.040.030</a> | 5,5X20MM  | 200 | <a href="#">25110.055.020</a> |
| 2,5X20MM | 200 | <a href="#">25110.025.020</a> | 4X35MM   | 200 | <a href="#">25110.040.035</a> | 5,5X25MM  | 200 | <a href="#">25110.055.025</a> |
| 2,5X25MM | 200 | <a href="#">25110.025.025</a> | 4X40MM   | 200 | <a href="#">25110.040.040</a> | 5,5X30MM  | 200 | <a href="#">25110.055.030</a> |
| 2,5X30MM | 200 | <a href="#">25110.025.030</a> | 4X50MM   | 200 | <a href="#">25110.040.050</a> | 5,5X40MM  | 200 | <a href="#">25110.055.040</a> |
| 3X10MM   | 200 | <a href="#">25110.030.010</a> | 4X60MM   | 200 | <a href="#">25110.040.060</a> | 5,5X45MM  | 200 | <a href="#">25110.055.045</a> |
| 3X12MM   | 200 | <a href="#">25110.030.012</a> | 4X70MM   | 200 | <a href="#">25110.040.070</a> | 5,5X50MM  | 200 | <a href="#">25110.055.050</a> |
| 3X16MM   | 200 | <a href="#">25110.030.016</a> | 4X80MM   | 200 | <a href="#">25110.040.080</a> | 5,5X60MM  | 100 | <a href="#">25110.055.060</a> |
| 3X20MM   | 200 | <a href="#">25110.030.020</a> | 4,5X16MM | 200 | <a href="#">25110.045.016</a> | 5,5X70MM  | 100 | <a href="#">25110.055.070</a> |
| 3X25MM   | 200 | <a href="#">25110.030.025</a> | 4,5X20MM | 200 | <a href="#">25110.045.020</a> | 5,5X100MM | 100 | <a href="#">25110.055.100</a> |
| 3X30MM   | 200 | <a href="#">25110.030.030</a> | 4,5X25MM | 200 | <a href="#">25110.045.025</a> | 6X25MM    | 200 | <a href="#">25110.060.025</a> |
| 3X35MM   | 200 | <a href="#">25110.030.035</a> | 4,5X30MM | 200 | <a href="#">25110.045.030</a> | 6X30MM    | 200 | <a href="#">25110.060.030</a> |
| 3X40MM   | 200 | <a href="#">25110.030.040</a> | 4,5X40MM | 200 | <a href="#">25110.045.040</a> | 6X35MM    | 200 | <a href="#">25110.060.035</a> |
| 3,5X10MM | 200 | <a href="#">25110.035.010</a> | 4,5X45MM | 200 | <a href="#">25110.045.045</a> | 6X40MM    | 200 | <a href="#">25110.060.040</a> |
| 3,5X12MM | 200 | <a href="#">25110.035.012</a> | 4,5X50MM | 200 | <a href="#">25110.045.050</a> | 6X50MM    | 200 | <a href="#">25110.060.050</a> |
| 3,5X16MM | 200 | <a href="#">25110.035.016</a> | 4,5X60MM | 200 | <a href="#">25110.045.060</a> | 6X60MM    | 100 | <a href="#">25110.060.060</a> |
| 3,5X20MM | 200 | <a href="#">25110.035.020</a> | 5X16MM   | 200 | <a href="#">25110.050.016</a> | 6X70MM    | 100 | <a href="#">25110.060.070</a> |
| 3,5X25MM | 200 | <a href="#">25110.035.025</a> | 5X20MM   | 200 | <a href="#">25110.050.020</a> | 6X80MM    | 100 | <a href="#">25110.060.080</a> |
| 3,5X30MM | 200 | <a href="#">25110.035.030</a> | 5X25MM   | 200 | <a href="#">25110.050.025</a> | 7X50MM    | 100 | <a href="#">25110.070.050</a> |
| 3,5X35MM | 200 | <a href="#">25110.035.035</a> | 5X30MM   | 200 | <a href="#">25110.050.030</a> | 7X60MM    | 100 | <a href="#">25110.070.060</a> |
| 3,5X40MM | 200 | <a href="#">25110.035.040</a> | 5X35MM   | 200 | <a href="#">25110.050.035</a> |           |     |                               |
| 3,5X45MM | 200 | <a href="#">25110.035.045</a> | 5X40MM   | 200 | <a href="#">25110.050.040</a> |           |     |                               |
| 3,5X60MM | 200 | <a href="#">25110.035.060</a> | 5X45MM   | 200 | <a href="#">25110.050.045</a> |           |     |                               |

|                  |                                      |   |
|------------------|--------------------------------------|---|
| <b>51860</b>     | <b>Slotted round head wood screw</b> | <b>R03A</b>   |
| <b>Material</b>  | Stainless steel A2                   |  |
| <b>Packaging</b> | Standard                             |   |

| ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    | ds x L    | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2,5X10MM   | 200 | <a href="#">51860.025.010</a> | 4X30MM     | 200 | <a href="#">51860.040.030</a> | 5X90MM    | 200 | <a href="#">51860.050.090</a> |
| 2,5X12MM   | 200 | <a href="#">51860.025.012</a> | 4X35MM     | 200 | <a href="#">51860.040.035</a> | 5X100MM * | 100 | <a href="#">51860.050.100</a> |
| 2,5X16MM   | 200 | <a href="#">51860.025.016</a> | 4X40MM     | 200 | <a href="#">51860.040.040</a> |           |     |                               |
| 2,5X20MM   | 200 | <a href="#">51860.025.020</a> | 4X45MM     | 200 | <a href="#">51860.040.045</a> | 5,5X25MM  | 200 | <a href="#">51860.055.025</a> |
|            |     |                               | 4X50MM     | 200 | <a href="#">51860.040.050</a> | 5,5X30MM  | 200 | <a href="#">51860.055.030</a> |
| 3X10MM     | 200 | <a href="#">51860.030.010</a> | 4X60MM     | 200 | <a href="#">51860.040.060</a> | 5,5X35MM  | 200 | <a href="#">51860.055.035</a> |
| 3X12MM     | 200 | <a href="#">51860.030.012</a> |            |     |                               | 5,5X40MM  | 200 | <a href="#">51860.055.040</a> |
| 3X16MM     | 200 | <a href="#">51860.030.016</a> | 4,5X20MM * | 200 | <a href="#">51860.045.020</a> | 5,5X50MM  | 200 | <a href="#">51860.055.050</a> |
| 3X20MM     | 200 | <a href="#">51860.030.020</a> | 4,5X25MM   | 200 | <a href="#">51860.045.025</a> |           |     |                               |
| 3X25MM     | 200 | <a href="#">51860.030.025</a> | 4,5X30MM   | 200 | <a href="#">51860.045.030</a> | 6X25MM    | 200 | <a href="#">51860.060.025</a> |
| 3X30MM     | 200 | <a href="#">51860.030.030</a> | 4,5X35MM   | 200 | <a href="#">51860.045.035</a> | 6X30MM    | 200 | <a href="#">51860.060.030</a> |
| 3X35MM *   | 200 | <a href="#">51860.030.035</a> | 4,5X40MM   | 200 | <a href="#">51860.045.040</a> | 6X35MM    | 200 | <a href="#">51860.060.035</a> |
| 3X40MM *   | 200 | <a href="#">51860.030.040</a> | 4,5X45MM   | 200 | <a href="#">51860.045.050</a> | 6X40MM    | 200 | <a href="#">51860.060.040</a> |
|            |     |                               | 4,5X50MM   | 200 | <a href="#">51860.045.060</a> | 6X45MM    | 200 | <a href="#">51860.060.045</a> |
| 3,5X12MM   | 200 | <a href="#">51860.035.012</a> | 4,5X60MM * | 200 |                               | 6X50MM    | 200 | <a href="#">51860.060.050</a> |
| 3,5X16MM   | 200 | <a href="#">51860.035.016</a> |            |     |                               | 6X55MM *  | 200 | <a href="#">51860.060.055</a> |
| 3,5X20MM   | 200 | <a href="#">51860.035.020</a> | 5X16MM     | 200 | <a href="#">51860.050.016</a> | 6X60MM    | 100 | <a href="#">51860.060.060</a> |
| 3,5X25MM   | 200 | <a href="#">51860.035.025</a> | 5X20MM     | 200 | <a href="#">51860.050.020</a> | 6X70MM    | 100 | <a href="#">51860.060.070</a> |
| 3,5X30MM   | 200 | <a href="#">51860.035.030</a> | 5X25MM     | 200 | <a href="#">51860.050.025</a> | 6X80MM    | 100 | <a href="#">51860.060.080</a> |
| 3,5X35MM   | 200 | <a href="#">51860.035.035</a> | 5X30MM     | 200 | <a href="#">51860.050.030</a> | 6X90MM    | 100 | <a href="#">51860.060.090</a> |
| 3,5X45MM * | 200 | <a href="#">51860.035.045</a> | 5X35MM     | 200 | <a href="#">51860.050.035</a> | 6X100MM   | 100 | <a href="#">51860.060.100</a> |
|            |     |                               | 5X40MM     | 200 | <a href="#">51860.050.040</a> | 6X120MM * | 100 | <a href="#">51860.060.120</a> |
| 4X12MM     | 200 | <a href="#">51860.040.012</a> | 5X45MM     | 200 | <a href="#">51860.050.045</a> |           |     |                               |
| 4X16MM     | 200 | <a href="#">51860.040.016</a> | 5X50MM     | 200 | <a href="#">51860.050.050</a> | 8X60MM *  | 100 | <a href="#">51860.080.060</a> |
| 4X20MM     | 200 | <a href="#">51860.040.020</a> | 5X60MM     | 200 | <a href="#">51860.050.060</a> |           |     |                               |
| 4X25MM     | 200 | <a href="#">51860.040.025</a> | 5X70MM     | 200 | <a href="#">51860.050.070</a> |           |     |                               |
|            |     |                               | 5X80MM     | 200 | <a href="#">51860.050.080</a> |           |     |                               |

6

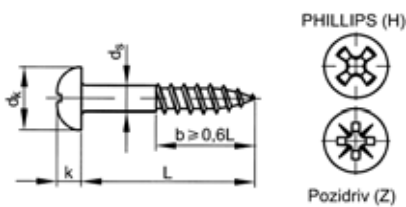
|                  |                                      |   |
|------------------|--------------------------------------|---|
| <b>49210</b>     | <b>Slotted round head wood screw</b> | <b>M07A</b>   |
| <b>Material</b>  | Brass Cu2/Cu3                        |  |
| <b>Packaging</b> | Standard                             |   |

| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 2X8MM    | 200 | <a href="#">49210.020.008</a> | 3,5X35MM | 200 | <a href="#">49210.035.035</a> | 5X30MM   | 200 | <a href="#">49210.050.030</a> |
| 2X10MM   | 200 | <a href="#">49210.020.010</a> | 3,5X40MM | 200 | <a href="#">49210.035.040</a> | 5X35MM   | 200 | <a href="#">49210.050.035</a> |
| 2X12MM   | 200 | <a href="#">49210.020.012</a> | 3,5X45MM | 200 | <a href="#">49210.035.045</a> | 5X40MM   | 200 | <a href="#">49210.050.040</a> |
| 2X16MM   | 200 | <a href="#">49210.020.016</a> | 3,5X50MM | 200 | <a href="#">49210.035.050</a> | 5X45MM   | 200 | <a href="#">49210.050.045</a> |
|          |     |                               |          |     |                               | 5X50MM   | 200 | <a href="#">49210.050.050</a> |
| 2,5X10MM | 200 | <a href="#">49210.025.010</a> | 4X12MM   | 200 | <a href="#">49210.040.012</a> | 5X60MM   | 200 | <a href="#">49210.050.060</a> |
| 2,5X12MM | 200 | <a href="#">49210.025.012</a> | 4X16MM   | 200 | <a href="#">49210.040.016</a> | 5X70MM   | 200 | <a href="#">49210.050.070</a> |
| 2,5X16MM | 200 | <a href="#">49210.025.016</a> | 4X20MM   | 200 | <a href="#">49210.040.020</a> | 5X80MM   | 200 | <a href="#">49210.050.080</a> |
| 2,5X20MM | 200 | <a href="#">49210.025.020</a> | 4X25MM   | 200 | <a href="#">49210.040.025</a> |          |     |                               |
| 2,5X25MM | 200 | <a href="#">49210.025.025</a> | 4X30MM   | 200 | <a href="#">49210.040.030</a> | 5,5X20MM | 200 | <a href="#">49210.055.020</a> |
| 2,5X30MM | 200 | <a href="#">49210.025.030</a> | 4X35MM   | 200 | <a href="#">49210.040.035</a> | 5,5X25MM | 200 | <a href="#">49210.055.025</a> |
|          |     |                               | 4X40MM   | 200 | <a href="#">49210.040.040</a> | 5,5X30MM | 200 | <a href="#">49210.055.030</a> |
| 3X10MM   | 200 | <a href="#">49210.030.010</a> | 4X45MM   | 200 | <a href="#">49210.040.045</a> | 5,5X40MM | 200 | <a href="#">49210.055.040</a> |
| 3X12MM   | 200 | <a href="#">49210.030.012</a> | 4X50MM   | 200 | <a href="#">49210.040.050</a> | 5,5X50MM | 200 | <a href="#">49210.055.050</a> |
| 3X16MM   | 200 | <a href="#">49210.030.016</a> | 4X60MM   | 200 | <a href="#">49210.040.060</a> | 5,5X60MM | 100 | <a href="#">49210.055.060</a> |
| 3X20MM   | 200 | <a href="#">49210.030.020</a> | 4X70MM   | 200 | <a href="#">49210.040.070</a> | 5,5X70MM | 100 | <a href="#">49210.055.070</a> |
| 3X25MM   | 200 | <a href="#">49210.030.025</a> |          |     |                               |          |     |                               |
| 3X30MM   | 200 | <a href="#">49210.030.030</a> | 4,5X20MM | 200 | <a href="#">49210.045.020</a> | 6X30MM   | 200 | <a href="#">49210.060.030</a> |
| 3X35MM   | 200 | <a href="#">49210.030.035</a> | 4,5X25MM | 200 | <a href="#">49210.045.025</a> | 6X35MM   | 200 | <a href="#">49210.060.035</a> |
| 3X40MM   | 200 | <a href="#">49210.030.040</a> | 4,5X30MM | 200 | <a href="#">49210.045.030</a> | 6X40MM   | 200 | <a href="#">49210.060.040</a> |
|          |     |                               | 4,5X35MM | 200 | <a href="#">49210.045.035</a> | 6X45MM   | 200 | <a href="#">49210.060.045</a> |
| 3,5X10MM | 200 | <a href="#">49210.035.010</a> | 4,5X40MM | 200 | <a href="#">49210.045.040</a> | 6X50MM   | 200 | <a href="#">49210.060.050</a> |
| 3,5X12MM | 200 | <a href="#">49210.035.012</a> | 4,5X45MM | 200 | <a href="#">49210.045.045</a> | 6X60MM   | 100 | <a href="#">49210.060.060</a> |
| 3,5X16MM | 200 | <a href="#">49210.035.016</a> | 4,5X50MM | 200 | <a href="#">49210.045.050</a> | 6X70MM   | 100 | <a href="#">49210.060.070</a> |
| 3,5X20MM | 200 | <a href="#">49210.035.020</a> |          |     |                               | 6X80MM   | 100 | <a href="#">49210.060.080</a> |
| 3,5X25MM | 200 | <a href="#">49210.035.025</a> | 5X20MM   | 200 | <a href="#">49210.050.020</a> |          |     |                               |
| 3,5X30MM | 200 | <a href="#">49210.035.030</a> | 5X25MM   | 200 | <a href="#">49210.050.025</a> |          |     |                               |

| 49310 Slotted round head wood screw |               | M07A  |
|-------------------------------------|---------------|---|
| <b>Material</b>                     | Brass Cu2/Cu3 |  |
| <b>Surface treatment</b>            | Nickel plated |   |
| <b>Packaging</b>                    | Standard      |   |

| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 2X10MM   | 200 | <a href="#">49310.020.010</a> | 3,5X20MM | 200 | <a href="#">49310.035.020</a> | 4,5X50MM | 200 | <a href="#">49310.045.050</a> |
| 2X12MM   | 200 | <a href="#">49310.020.012</a> | 3,5X25MM | 200 | <a href="#">49310.035.025</a> | 5X25MM   | 200 | <a href="#">49310.050.025</a> |
| 2X16MM   | 200 | <a href="#">49310.020.016</a> | 3,5X30MM | 200 | <a href="#">49310.035.030</a> | 5X30MM   | 200 | <a href="#">49310.050.030</a> |
| 2,5X10MM | 200 | <a href="#">49310.025.010</a> | 3,5X35MM | 200 | <a href="#">49310.035.035</a> | 5X35MM   | 200 | <a href="#">49310.050.035</a> |
| 2,5X12MM | 200 | <a href="#">49310.025.012</a> | 3,5X40MM | 200 | <a href="#">49310.035.040</a> | 5X40MM   | 200 | <a href="#">49310.050.040</a> |
| 2,5X16MM | 200 | <a href="#">49310.025.016</a> | 4X12MM   | 200 | <a href="#">49310.040.012</a> | 5X50MM   | 200 | <a href="#">49310.050.050</a> |
| 2,5X20MM | 200 | <a href="#">49310.025.020</a> | 4X20MM   | 200 | <a href="#">49310.040.020</a> | 5,5X50MM | 200 | <a href="#">49310.055.050</a> |
| 2,5X25MM | 200 | <a href="#">49310.025.025</a> | 4X25MM   | 200 | <a href="#">49310.040.025</a> | 5,5X60MM | 100 | <a href="#">49310.055.060</a> |
| 3X10MM   | 200 | <a href="#">49310.030.010</a> | 4X30MM   | 200 | <a href="#">49310.040.030</a> | 5,5X70MM | 100 | <a href="#">49310.055.070</a> |
| 3X12MM   | 200 | <a href="#">49310.030.012</a> | 4X35MM   | 200 | <a href="#">49310.040.035</a> | 6X30MM   | 200 | <a href="#">49310.060.030</a> |
| 3X16MM   | 200 | <a href="#">49310.030.016</a> | 4X40MM   | 200 | <a href="#">49310.040.040</a> | 6X40MM   | 200 | <a href="#">49310.060.040</a> |
| 3X20MM   | 200 | <a href="#">49310.030.020</a> | 4X45MM   | 200 | <a href="#">49310.040.045</a> | 6X60MM   | 100 | <a href="#">49310.060.060</a> |
| 3X25MM   | 200 | <a href="#">49310.030.025</a> | 4X50MM   | 200 | <a href="#">49310.040.050</a> | 6X70MM   | 100 | <a href="#">49310.060.070</a> |
| 3X30MM   | 200 | <a href="#">49310.030.030</a> | 4,5X20MM | 200 | <a href="#">49310.045.020</a> | 6X80MM   | 100 | <a href="#">49310.060.080</a> |
| 3,5X10MM | 200 | <a href="#">49310.035.010</a> | 4,5X25MM | 200 | <a href="#">49310.045.025</a> |          |     |                               |
| 3,5X12MM | 200 | <a href="#">49310.035.012</a> | 4,5X30MM | 200 | <a href="#">49310.045.030</a> |          |     |                               |
| 3,5X16MM | 200 | <a href="#">49310.035.016</a> | 4,5X35MM | 200 | <a href="#">49310.045.035</a> |          |     |                               |
|          |     |                               | 4,5X40MM | 200 | <a href="#">49310.045.040</a> |          |     |                               |

## Cross recessed round head wood screw



DIN 7996  
 NEN 2254  
 NF E25-603



### Technical data

| ds  | dk | k    | No. cross recess |
|-----|----|------|------------------|
| 3   | 6  | 2,1  | 1                |
| 3,5 | 7  | 2,35 | 2                |
| 4   | 8  | 2,8  | 2                |
| 4,5 | 9  | 3,1  | 2                |
| 5   | 10 | 3,5  | 2                |
| 6   | 12 | 4,2  | 3                |

- Wood screw thread acc. to DIN 7998.

### Article groups

| Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|------------------|-----------|-------------------|-----------|-------|-------|
| Phillips         | St        | Zipl              | Standard  | 25710 | 6-157 |
| Pozidriv         | St.St. A2 |                   | Standard  | 51866 | 6-157 |

#### 25710 Cross recessed round head wood screw Phillips

K05A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard  
**DIN 7996-H**



| ds x L | ☒   | Art.number                    | ds x L | ☒   | Art.number                    | ds x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 4X15MM | 200 | <a href="#">25710.040.015</a> | 4X30MM | 200 | <a href="#">25710.040.030</a> | 4X50MM | 200 | <a href="#">25710.040.050</a> |
| 4X20MM | 200 | <a href="#">25710.040.020</a> | 4X40MM | 200 | <a href="#">25710.040.040</a> |        |     |                               |
| 4X25MM | 200 | <a href="#">25710.040.025</a> |        |     |                               |        |     |                               |

#### 51866 Cross recessed round head wood screw Pozidriv

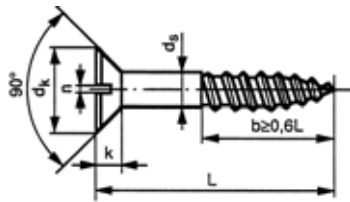
R03A

**Material** Stainless steel A2  
**Packaging** Standard  
**DIN 7996-Z**

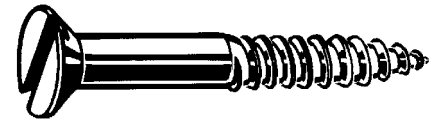


| ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|----------|-----|-------------------------------|
| 3X10MM     | 200 | <a href="#">51866.030.010</a> | 4X35MM *   | 200 | <a href="#">51866.040.035</a> | 5X45MM   | 200 | <a href="#">51866.050.045</a> |
| 3X12MM *   | 200 | <a href="#">51866.030.012</a> | 4X40MM     | 200 | <a href="#">51866.040.040</a> | 5X50MM   | 200 | <a href="#">51866.050.050</a> |
| 3X16MM     | 200 | <a href="#">51866.030.016</a> | 4X45MM *   | 200 | <a href="#">51866.040.045</a> | 5X60MM   | 200 | <a href="#">51866.050.060</a> |
| 3X20MM     | 200 | <a href="#">51866.030.020</a> | 4X50MM *   | 200 | <a href="#">51866.040.050</a> | 5X70MM   | 200 | <a href="#">51866.050.070</a> |
| 3X25MM     | 200 | <a href="#">51866.030.025</a> | 4X60MM *   | 200 | <a href="#">51866.040.060</a> | 5X80MM   | 200 | <a href="#">51866.050.080</a> |
| 3X30MM *   | 200 | <a href="#">51866.030.030</a> |            |     |                               | 5X90MM   | 200 | <a href="#">51866.050.090</a> |
|            |     |                               | 4,5X25MM * | 200 | <a href="#">51866.045.025</a> | 5X100MM  | 200 | <a href="#">51866.050.100</a> |
| 3,5X20MM   | 200 | <a href="#">51866.035.020</a> | 4,5X30MM * | 200 | <a href="#">51866.045.030</a> |          |     |                               |
| 3,5X25MM   | 200 | <a href="#">51866.035.025</a> | 4,5X35MM * | 200 | <a href="#">51866.045.035</a> | 6X30MM * | 200 | <a href="#">51866.060.030</a> |
| 3,5X30MM   | 200 | <a href="#">51866.035.030</a> | 4,5X40MM * | 200 | <a href="#">51866.045.040</a> | 6X40MM * | 200 | <a href="#">51866.060.040</a> |
| 3,5X35MM * | 200 | <a href="#">51866.035.035</a> | 4,5X45MM * | 200 | <a href="#">51866.045.045</a> | 6X45MM * | 200 | <a href="#">51866.060.045</a> |
| 3,5X40MM * | 200 | <a href="#">51866.035.040</a> | 4,5X60MM * | 200 | <a href="#">51866.045.060</a> | 6X50MM * | 200 | <a href="#">51866.060.050</a> |
|            |     |                               |            |     |                               | 6X60MM * | 200 | <a href="#">51866.060.060</a> |
| 4X12MM     | 200 | <a href="#">51866.040.012</a> | 5X20MM     | 200 | <a href="#">51866.050.020</a> | 6X70MM * | 100 | <a href="#">51866.060.070</a> |
| 4X16MM     | 200 | <a href="#">51866.040.016</a> | 5X25MM     | 200 | <a href="#">51866.050.025</a> | 6X80MM * | 100 | <a href="#">51866.060.080</a> |
| 4X20MM     | 200 | <a href="#">51866.040.020</a> | 5X30MM     | 200 | <a href="#">51866.050.030</a> |          |     |                               |
| 4X25MM     | 200 | <a href="#">51866.040.025</a> | 5X35MM     | 200 | <a href="#">51866.050.035</a> |          |     |                               |
| 4X30MM     | 200 | <a href="#">51866.040.030</a> | 5X40MM     | 200 | <a href="#">51866.050.040</a> |          |     |                               |

## Slotted countersunk (flat) head wood screw



DIN 97  
 NEN 2250  
 NF E25-604



### Technical data

| ds  | dk  | k (max.) | n   | ds  | dk   | k (max.) | n   | ds | dk   | k (max.) | n   |
|-----|-----|----------|-----|-----|------|----------|-----|----|------|----------|-----|
| 2   | 3,8 | 1,2      | 0,5 | 4   | 7,5  | 2,2      | 1   | 6  | 11   | 3        | 1,6 |
| 2,5 | 4,7 | 1,5      | 0,6 | 4,5 | 8,3  | 2,35     | 1   | 7  | 12,5 | 3,5      | 2   |
| 3   | 5,6 | 1,65     | 0,8 | 5   | 9,2  | 2,5      | 1,2 | 8  | 14,5 | 4        | 2   |
| 3,5 | 6,5 | 1,93     | 0,8 | 5,5 | 10,2 | 2,75     | 1,2 | 10 | 18   | 5        | 2,5 |

- Wood screw thread acc. to DIN 7998.

### Article groups

| Driving features | Material   | Surface treatment | Packaging | Code  | Page  |
|------------------|------------|-------------------|-----------|-------|-------|
| slotted          | St         | Zipl              | Standard  | 25130 | 6-158 |
| slotted          | St.St. A2  |                   | Standard  | 51870 | 6-159 |
| slotted          | St.St. A4  |                   | Standard  | 55870 | 6-159 |
| slotted          | Br Cu2/Cu3 |                   | Standard  | 49230 | 6-160 |
| slotted          | Br Cu2/Cu3 | Ni.pl.            | Standard  | 49330 | 6-160 |

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### 25130 Slotted countersunk (flat) head wood screw

K05A

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 2X10MM   | 200 | <a href="#">25130.020.010</a> | 4X10MM   | 200 | <a href="#">25130.040.010</a> | 5X60MM   | 200 | <a href="#">25130.050.060</a> |
| 2X12MM   | 200 | <a href="#">25130.020.012</a> | 4X16MM   | 200 | <a href="#">25130.040.016</a> | 5X70MM   | 200 | <a href="#">25130.050.070</a> |
| 2X16MM   | 200 | <a href="#">25130.020.016</a> | 4X20MM   | 200 | <a href="#">25130.040.020</a> | 5X80MM   | 200 | <a href="#">25130.050.080</a> |
| 2X20MM   | 200 | <a href="#">25130.020.020</a> | 4X25MM   | 200 | <a href="#">25130.040.025</a> | 5,5X25MM | 200 | <a href="#">25130.055.025</a> |
| 2,5X10MM | 200 | <a href="#">25130.025.010</a> | 4X30MM   | 200 | <a href="#">25130.040.030</a> | 5,5X30MM | 200 | <a href="#">25130.055.030</a> |
| 2,5X12MM | 200 | <a href="#">25130.025.012</a> | 4X35MM   | 200 | <a href="#">25130.040.035</a> | 5,5X40MM | 200 | <a href="#">25130.055.040</a> |
| 2,5X16MM | 200 | <a href="#">25130.025.016</a> | 4X40MM   | 200 | <a href="#">25130.040.040</a> | 5,5X45MM | 200 | <a href="#">25130.055.045</a> |
| 2,5X20MM | 200 | <a href="#">25130.025.020</a> | 4X45MM   | 200 | <a href="#">25130.040.045</a> | 5,5X50MM | 200 | <a href="#">25130.055.050</a> |
| 2,5X30MM | 200 | <a href="#">25130.025.030</a> | 4X50MM   | 200 | <a href="#">25130.040.050</a> | 6X20MM   | 200 | <a href="#">25130.060.020</a> |
| 3X10MM   | 200 | <a href="#">25130.030.010</a> | 4X60MM   | 200 | <a href="#">25130.040.060</a> | 6X25MM   | 200 | <a href="#">25130.060.025</a> |
| 3X12MM   | 200 | <a href="#">25130.030.012</a> | 4X70MM   | 200 | <a href="#">25130.040.070</a> | 6X30MM   | 200 | <a href="#">25130.060.030</a> |
| 3X16MM   | 200 | <a href="#">25130.030.016</a> | 4X80MM   | 200 | <a href="#">25130.040.080</a> | 6X35MM   | 200 | <a href="#">25130.060.035</a> |
| 3X20MM   | 200 | <a href="#">25130.030.020</a> | 4X100MM  | 200 | <a href="#">25130.040.100</a> | 6X40MM   | 200 | <a href="#">25130.060.040</a> |
| 3X25MM   | 200 | <a href="#">25130.030.025</a> | 4,5X20MM | 200 | <a href="#">25130.045.020</a> | 6X45MM   | 200 | <a href="#">25130.060.045</a> |
| 3X30MM   | 200 | <a href="#">25130.030.030</a> | 4,5X25MM | 200 | <a href="#">25130.045.025</a> | 6X50MM   | 200 | <a href="#">25130.060.050</a> |
| 3X35MM   | 200 | <a href="#">25130.030.035</a> | 4,5X30MM | 200 | <a href="#">25130.045.030</a> | 6X60MM   | 100 | <a href="#">25130.060.060</a> |
| 3X40MM   | 200 | <a href="#">25130.030.040</a> | 4,5X35MM | 200 | <a href="#">25130.045.035</a> | 6X70MM   | 100 | <a href="#">25130.060.070</a> |
| 3X45MM   | 200 | <a href="#">25130.030.045</a> | 4,5X40MM | 200 | <a href="#">25130.045.040</a> | 6X80MM   | 100 | <a href="#">25130.060.080</a> |
| 3X50MM   | 200 | <a href="#">25130.030.050</a> | 4,5X45MM | 200 | <a href="#">25130.045.045</a> | 6X90MM   | 100 | <a href="#">25130.060.090</a> |
| 3,5X10MM | 200 | <a href="#">25130.035.010</a> | 4,5X50MM | 200 | <a href="#">25130.045.050</a> | 6X100MM  | 100 | <a href="#">25130.060.100</a> |
| 3,5X12MM | 200 | <a href="#">25130.035.012</a> | 4,5X60MM | 200 | <a href="#">25130.045.060</a> | 6X120MM  | 100 | <a href="#">25130.060.120</a> |
| 3,5X16MM | 200 | <a href="#">25130.035.016</a> | 4,5X70MM | 200 | <a href="#">25130.045.070</a> | 7X50MM   | 100 | <a href="#">25130.070.050</a> |
| 3,5X20MM | 200 | <a href="#">25130.035.020</a> | 5X20MM   | 200 | <a href="#">25130.050.020</a> | 7X60MM   | 100 | <a href="#">25130.070.060</a> |
| 3,5X25MM | 200 | <a href="#">25130.035.025</a> | 5X25MM   | 200 | <a href="#">25130.050.025</a> | 7X70MM   | 100 | <a href="#">25130.070.070</a> |
| 3,5X30MM | 200 | <a href="#">25130.035.030</a> | 5X30MM   | 200 | <a href="#">25130.050.030</a> | 7X80MM   | 100 | <a href="#">25130.070.080</a> |
| 3,5X35MM | 200 | <a href="#">25130.035.035</a> | 5X35MM   | 200 | <a href="#">25130.050.035</a> | 7X100MM  | 100 | <a href="#">25130.070.100</a> |
| 3,5X40MM | 200 | <a href="#">25130.035.040</a> | 5X40MM   | 200 | <a href="#">25130.050.040</a> |          |     |                               |
| 3,5X45MM | 200 | <a href="#">25130.035.045</a> | 5X45MM   | 200 | <a href="#">25130.050.045</a> |          |     |                               |
| 3,5X50MM | 200 | <a href="#">25130.035.050</a> | 5X50MM   | 200 | <a href="#">25130.050.050</a> |          |     |                               |

**51870 Slotted countersunk (flat) head wood screw R03A**

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| ds x L   | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    |
|----------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 2,5X10MM | 200 | <a href="#">51870.025.010</a> | 4X70MM     | 200 | <a href="#">51870.040.070</a> | 5,5X50MM   | 200 | <a href="#">51870.055.050</a> |
| 2,5X12MM | 200 | <a href="#">51870.025.012</a> |            |     |                               | 5,5X60MM   | 100 | <a href="#">51870.055.060</a> |
| 2,5X16MM | 200 | <a href="#">51870.025.016</a> | 4,5X16MM * | 200 | <a href="#">51870.045.016</a> | 5,5X70MM   | 100 | <a href="#">51870.055.070</a> |
| 2,5X20MM | 200 | <a href="#">51870.025.020</a> | 4,5X20MM   | 200 | <a href="#">51870.045.020</a> | 5,5X75MM * | 100 | <a href="#">51870.055.075</a> |
| 2,5X25MM | 200 | <a href="#">51870.025.025</a> | 4,5X25MM   | 200 | <a href="#">51870.045.025</a> | 5,5X90MM   | 100 | <a href="#">51870.055.090</a> |
|          |     |                               | 4,5X30MM   | 200 | <a href="#">51870.045.030</a> | 5,5X100MM  | 100 | <a href="#">51870.055.100</a> |
| 3X10MM   | 200 | <a href="#">51870.030.010</a> | 4,5X35MM   | 200 | <a href="#">51870.045.035</a> |            |     |                               |
| 3X12MM   | 200 | <a href="#">51870.030.012</a> | 4,5X40MM   | 200 | <a href="#">51870.045.040</a> | 6X25MM     | 200 | <a href="#">51870.060.025</a> |
| 3X16MM   | 200 | <a href="#">51870.030.016</a> | 4,5X45MM   | 200 | <a href="#">51870.045.045</a> | 6X30MM     | 200 | <a href="#">51870.060.030</a> |
| 3X20MM   | 200 | <a href="#">51870.030.020</a> | 4,5X50MM   | 200 | <a href="#">51870.045.050</a> | 6X35MM     | 200 | <a href="#">51870.060.035</a> |
| 3X25MM   | 200 | <a href="#">51870.030.025</a> | 4,5X60MM * | 200 | <a href="#">51870.045.060</a> | 6X40MM     | 200 | <a href="#">51870.060.040</a> |
| 3X30MM   | 200 | <a href="#">51870.030.030</a> |            |     |                               | 6X45MM     | 200 | <a href="#">51870.060.045</a> |
| 3X40MM * | 200 | <a href="#">51870.030.040</a> | 5X16MM *   | 200 | <a href="#">51870.050.016</a> | 6X50MM     | 200 | <a href="#">51870.060.050</a> |
|          |     |                               | 5X20MM     | 200 | <a href="#">51870.050.020</a> | 6X60MM     | 100 | <a href="#">51870.060.060</a> |
| 3,5X12MM | 200 | <a href="#">51870.035.012</a> | 5X25MM     | 200 | <a href="#">51870.050.025</a> | 6X65MM *   | 100 | <a href="#">51870.060.065</a> |
| 3,5X16MM | 200 | <a href="#">51870.035.016</a> | 5X30MM     | 200 | <a href="#">51870.050.030</a> | 6X70MM     | 100 | <a href="#">51870.060.070</a> |
| 3,5X20MM | 200 | <a href="#">51870.035.020</a> | 5X35MM     | 200 | <a href="#">51870.050.035</a> | 6X80MM     | 100 | <a href="#">51870.060.080</a> |
| 3,5X25MM | 200 | <a href="#">51870.035.025</a> | 5X40MM     | 200 | <a href="#">51870.050.040</a> | 6X100MM    | 100 | <a href="#">51870.060.100</a> |
| 3,5X30MM | 200 | <a href="#">51870.035.030</a> | 5X45MM     | 200 | <a href="#">51870.050.045</a> | 6X110MM *  | 100 | <a href="#">51870.060.110</a> |
| 3,5X35MM | 200 | <a href="#">51870.035.035</a> | 5X50MM     | 200 | <a href="#">51870.050.050</a> | 6X120MM *  | 100 | <a href="#">51870.060.120</a> |
| 3,5X40MM | 200 | <a href="#">51870.035.040</a> | 5X60MM     | 200 | <a href="#">51870.050.060</a> |            |     |                               |
| 3,5X50MM | 200 | <a href="#">51870.035.050</a> | 5X65MM *   | 100 | <a href="#">51870.050.065</a> | 8X30MM *   | 100 | <a href="#">51870.080.030</a> |
|          |     |                               | 5X70MM     | 200 | <a href="#">51870.050.070</a> | 8X40MM *   | 100 | <a href="#">51870.080.040</a> |
| 4X10MM * | 200 | <a href="#">51870.040.010</a> | 5X75MM *   | 100 | <a href="#">51870.050.075</a> | 8X50MM *   | 100 | <a href="#">51870.080.050</a> |
| 4X16MM   | 200 | <a href="#">51870.040.016</a> | 5X80MM     | 200 | <a href="#">51870.050.080</a> | 8X70MM *   | 100 | <a href="#">51870.080.070</a> |
| 4X20MM   | 200 | <a href="#">51870.040.020</a> | 5X90MM     | 200 | <a href="#">51870.050.090</a> | 8X80MM *   | 100 | <a href="#">51870.080.080</a> |
| 4X25MM   | 200 | <a href="#">51870.040.025</a> | 5X100MM *  | 100 | <a href="#">51870.050.100</a> | 8X90MM *   | 100 | <a href="#">51870.080.090</a> |
| 4X30MM   | 200 | <a href="#">51870.040.030</a> |            |     |                               | 8X100MM *  | 100 | <a href="#">51870.080.100</a> |
| 4X35MM   | 200 | <a href="#">51870.040.035</a> | 5,5X25MM   | 200 | <a href="#">51870.055.025</a> | 8X120MM *  | 100 | <a href="#">51870.080.120</a> |
| 4X40MM   | 200 | <a href="#">51870.040.040</a> | 5,5X30MM   | 200 | <a href="#">51870.055.030</a> |            |     |                               |
| 4X45MM   | 200 | <a href="#">51870.040.045</a> | 5,5X35MM   | 200 | <a href="#">51870.055.035</a> | 10X120MM * | 100 | <a href="#">51870.100.120</a> |
| 4X50MM   | 200 | <a href="#">51870.040.050</a> | 5,5X40MM   | 200 | <a href="#">51870.055.040</a> |            |     |                               |
| 4X60MM   | 200 | <a href="#">51870.040.060</a> | 5,5X45MM   | 200 | <a href="#">51870.055.045</a> |            |     |                               |

6

**55870 Slotted countersunk (flat) head wood screw R43A**

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |



| ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    | ds x L    | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2,5X16MM * | 500 | <a href="#">55870.025.016</a> | 4X30MM     | 200 | <a href="#">55870.040.030</a> | 5X80MM    | 200 | <a href="#">55870.050.080</a> |
| 2,5X20MM * | 500 | <a href="#">55870.025.020</a> | 4X40MM     | 200 | <a href="#">55870.040.040</a> | 5X90MM    | 200 | <a href="#">55870.050.090</a> |
| 2,5X25MM * | 500 | <a href="#">55870.025.025</a> | 4X45MM *   | 200 | <a href="#">55870.040.045</a> |           |     |                               |
|            |     |                               | 4X50MM     | 200 | <a href="#">55870.040.050</a> | 5,5X40MM  | 200 | <a href="#">55870.055.040</a> |
| 3X10MM *   | 200 | <a href="#">55870.030.010</a> | 4X60MM *   | 200 | <a href="#">55870.040.060</a> | 6X35MM *  | 200 | <a href="#">55870.060.035</a> |
| 3X12MM *   | 200 | <a href="#">55870.030.012</a> |            |     |                               | 6X45MM *  | 200 | <a href="#">55870.060.045</a> |
| 3X16MM     | 200 | <a href="#">55870.030.016</a> | 4,5X25MM * | 200 | <a href="#">55870.045.025</a> | 6X50MM    | 200 | <a href="#">55870.060.050</a> |
| 3X20MM     | 200 | <a href="#">55870.030.020</a> | 4,5X30MM * | 200 | <a href="#">55870.045.030</a> | 6X60MM    | 100 | <a href="#">55870.060.060</a> |
| 3X30MM *   | 200 | <a href="#">55870.030.030</a> | 4,5X35MM * | 200 | <a href="#">55870.045.035</a> | 6X70MM    | 100 | <a href="#">55870.060.070</a> |
| 3X35MM *   | 200 | <a href="#">55870.030.035</a> | 4,5X40MM * | 200 | <a href="#">55870.045.040</a> | 6X80MM    | 100 | <a href="#">55870.060.080</a> |
| 3X40MM *   | 200 | <a href="#">55870.030.040</a> | 4,5X45MM * | 200 | <a href="#">55870.045.045</a> | 6X90MM    | 100 | <a href="#">55870.060.090</a> |
|            |     |                               | 4,5X50MM * | 200 | <a href="#">55870.045.050</a> | 6X100MM   | 100 | <a href="#">55870.060.100</a> |
| 3,5X20MM   | 200 | <a href="#">55870.035.020</a> | 4,5X60MM * | 200 | <a href="#">55870.045.060</a> | 6X110MM * | 100 | <a href="#">55870.060.110</a> |
| 3,5X25MM   | 200 | <a href="#">55870.035.025</a> | 4,5X80MM * | 200 | <a href="#">55870.045.080</a> |           |     |                               |
| 3,5X35MM * | 200 | <a href="#">55870.035.035</a> |            |     |                               | 8X40MM *  | 100 | <a href="#">55870.080.040</a> |
| 3,5X40MM * | 200 | <a href="#">55870.035.040</a> | 5X16MM *   | 200 | <a href="#">55870.050.016</a> | 8X50MM *  | 100 | <a href="#">55870.080.050</a> |
| 3,5X45MM * | 200 | <a href="#">55870.035.045</a> | 5X30MM     | 200 | <a href="#">55870.050.030</a> | 8X60MM *  | 100 | <a href="#">55870.080.060</a> |
| 3,5X50MM * | 200 | <a href="#">55870.035.050</a> | 5X40MM     | 200 | <a href="#">55870.050.040</a> | 8X70MM *  | 100 | <a href="#">55870.080.070</a> |
|            |     |                               | 5X50MM     | 200 | <a href="#">55870.050.050</a> | 8X80MM *  | 100 | <a href="#">55870.080.080</a> |
| 4X16MM *   | 200 | <a href="#">55870.040.016</a> | 5X60MM     | 200 | <a href="#">55870.050.060</a> | 8X100MM * | 100 | <a href="#">55870.080.100</a> |
| 4X25MM     | 200 | <a href="#">55870.040.025</a> | 5X70MM     | 200 | <a href="#">55870.050.070</a> |           |     |                               |

**49230 Slotted countersunk (flat) head wood screw**
**M07A**
**Material** Brass Cu2/Cu3  
**Packaging** Standard

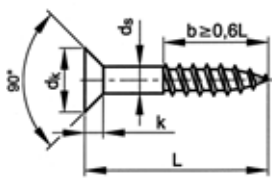

| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 2X8MM    | 200 | <a href="#">49230.020.008</a> | 3,5X40MM | 200 | <a href="#">49230.035.040</a> | 5X40MM    | 200 | <a href="#">49230.050.040</a> |
| 2X10MM   | 200 | <a href="#">49230.020.010</a> | 3,5X45MM | 200 | <a href="#">49230.035.045</a> | 5X45MM    | 200 | <a href="#">49230.050.045</a> |
| 2X12MM   | 200 | <a href="#">49230.020.012</a> | 3,5X50MM | 200 | <a href="#">49230.035.050</a> | 5X50MM    | 200 | <a href="#">49230.050.050</a> |
| 2X16MM   | 200 | <a href="#">49230.020.016</a> |          |     |                               | 5X60MM    | 200 | <a href="#">49230.050.060</a> |
| 2X20MM   | 200 | <a href="#">49230.020.020</a> | 4X12MM   | 200 | <a href="#">49230.040.012</a> | 5X70MM    | 200 | <a href="#">49230.050.070</a> |
|          |     |                               | 4X16MM   | 200 | <a href="#">49230.040.016</a> | 5X80MM    | 200 | <a href="#">49230.050.080</a> |
| 2,5X10MM | 200 | <a href="#">49230.025.010</a> | 4X20MM   | 200 | <a href="#">49230.040.020</a> |           |     |                               |
| 2,5X12MM | 200 | <a href="#">49230.025.012</a> | 4X25MM   | 200 | <a href="#">49230.040.025</a> | 5,5X30MM  | 200 | <a href="#">49230.055.030</a> |
| 2,5X16MM | 200 | <a href="#">49230.025.016</a> | 4X30MM   | 200 | <a href="#">49230.040.030</a> | 5,5X40MM  | 200 | <a href="#">49230.055.040</a> |
| 2,5X20MM | 200 | <a href="#">49230.025.020</a> | 4X35MM   | 200 | <a href="#">49230.040.035</a> | 5,5X45MM  | 200 | <a href="#">49230.055.045</a> |
| 2,5X25MM | 200 | <a href="#">49230.025.025</a> | 4X40MM   | 200 | <a href="#">49230.040.040</a> | 5,5X50MM  | 200 | <a href="#">49230.055.050</a> |
| 2,5X30MM | 200 | <a href="#">49230.025.030</a> | 4X45MM   | 200 | <a href="#">49230.040.045</a> | 5,5X60MM  | 100 | <a href="#">49230.055.060</a> |
|          |     |                               | 4X50MM   | 200 | <a href="#">49230.040.050</a> | 5,5X70MM  | 100 | <a href="#">49230.055.070</a> |
| 3X10MM   | 200 | <a href="#">49230.030.010</a> | 4X60MM   | 200 | <a href="#">49230.040.060</a> | 5,5X80MM  | 100 | <a href="#">49230.055.080</a> |
| 3X12MM   | 200 | <a href="#">49230.030.012</a> | 4X70MM   | 200 | <a href="#">49230.040.070</a> | 5,5X90MM  | 100 | <a href="#">49230.055.090</a> |
| 3X16MM   | 200 | <a href="#">49230.030.016</a> |          |     |                               | 5,5X100MM | 100 | <a href="#">49230.055.100</a> |
| 3X20MM   | 200 | <a href="#">49230.030.020</a> | 4,5X20MM | 200 | <a href="#">49230.045.020</a> |           |     |                               |
| 3X25MM   | 200 | <a href="#">49230.030.025</a> | 4,5X25MM | 200 | <a href="#">49230.045.025</a> | 6X30MM    | 200 | <a href="#">49230.060.030</a> |
| 3X30MM   | 200 | <a href="#">49230.030.030</a> | 4,5X30MM | 200 | <a href="#">49230.045.030</a> | 6X35MM    | 200 | <a href="#">49230.060.035</a> |
| 3X35MM   | 200 | <a href="#">49230.030.035</a> | 4,5X35MM | 200 | <a href="#">49230.045.035</a> | 6X40MM    | 200 | <a href="#">49230.060.040</a> |
| 3X40MM   | 200 | <a href="#">49230.030.040</a> | 4,5X40MM | 200 | <a href="#">49230.045.040</a> | 6X45MM    | 200 | <a href="#">49230.060.045</a> |
|          |     |                               | 4,5X45MM | 200 | <a href="#">49230.045.045</a> | 6X50MM    | 200 | <a href="#">49230.060.050</a> |
| 3,5X10MM | 200 | <a href="#">49230.035.010</a> | 4,5X50MM | 200 | <a href="#">49230.045.050</a> | 6X60MM    | 100 | <a href="#">49230.060.060</a> |
| 3,5X12MM | 200 | <a href="#">49230.035.012</a> | 4,5X60MM | 200 | <a href="#">49230.045.060</a> | 6X70MM    | 100 | <a href="#">49230.060.070</a> |
| 3,5X16MM | 200 | <a href="#">49230.035.016</a> |          |     |                               | 6X80MM    | 100 | <a href="#">49230.060.080</a> |
| 3,5X20MM | 200 | <a href="#">49230.035.020</a> | 5X20MM   | 200 | <a href="#">49230.050.020</a> | 6X90MM    | 100 | <a href="#">49230.060.090</a> |
| 3,5X25MM | 200 | <a href="#">49230.035.025</a> | 5X25MM   | 200 | <a href="#">49230.050.025</a> | 6X100MM   | 100 | <a href="#">49230.060.100</a> |
| 3,5X30MM | 200 | <a href="#">49230.035.030</a> | 5X30MM   | 200 | <a href="#">49230.050.030</a> |           |     |                               |
| 3,5X35MM | 200 | <a href="#">49230.035.035</a> | 5X35MM   | 200 | <a href="#">49230.050.035</a> | 7X70MM    | 100 | <a href="#">49230.070.070</a> |

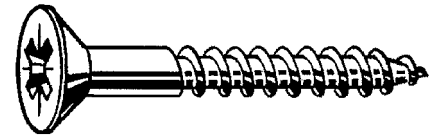
**49330 Slotted countersunk (flat) head wood screw**
**M07A**
**Material** Brass Cu2/Cu3  
**Surface treatment** Nickel plated  
**Packaging** Standard


| ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    | ds x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 2X10MM   | 200 | <a href="#">49330.020.010</a> | 4X12MM   | 200 | <a href="#">49330.040.012</a> | 5X40MM   | 200 | <a href="#">49330.050.040</a> |
| 2X12MM   | 200 | <a href="#">49330.020.012</a> | 4X16MM   | 200 | <a href="#">49330.040.016</a> | 5X45MM   | 200 | <a href="#">49330.050.045</a> |
|          |     |                               | 4X20MM   | 200 | <a href="#">49330.040.020</a> | 5X60MM   | 200 | <a href="#">49330.050.060</a> |
| 2,5X12MM | 200 | <a href="#">49330.025.012</a> | 4X25MM   | 200 | <a href="#">49330.040.025</a> |          |     |                               |
| 2,5X16MM | 200 | <a href="#">49330.025.016</a> | 4X30MM   | 200 | <a href="#">49330.040.030</a> | 5,5X25MM | 200 | <a href="#">49330.055.025</a> |
| 2,5X20MM | 200 | <a href="#">49330.025.020</a> | 4X35MM   | 200 | <a href="#">49330.040.035</a> | 5,5X30MM | 200 | <a href="#">49330.055.030</a> |
|          |     |                               | 4X40MM   | 200 | <a href="#">49330.040.040</a> | 5,5X40MM | 200 | <a href="#">49330.055.040</a> |
| 3X10MM   | 200 | <a href="#">49330.030.010</a> | 4X45MM   | 200 | <a href="#">49330.040.045</a> | 5,5X50MM | 200 | <a href="#">49330.055.050</a> |
| 3X12MM   | 200 | <a href="#">49330.030.012</a> | 4X50MM   | 200 | <a href="#">49330.040.050</a> | 5,5X60MM | 100 | <a href="#">49330.055.060</a> |
| 3X16MM   | 200 | <a href="#">49330.030.016</a> |          |     |                               | 5,5X70MM | 100 | <a href="#">49330.055.070</a> |
| 3X20MM   | 200 | <a href="#">49330.030.020</a> | 4,5X20MM | 200 | <a href="#">49330.045.020</a> |          |     |                               |
| 3X25MM   | 200 | <a href="#">49330.030.025</a> | 4,5X25MM | 200 | <a href="#">49330.045.025</a> | 6X30MM   | 200 | <a href="#">49330.060.030</a> |
|          |     |                               | 4,5X30MM | 200 | <a href="#">49330.045.030</a> | 6X40MM   | 200 | <a href="#">49330.060.040</a> |
| 3,5X10MM | 200 | <a href="#">49330.035.010</a> | 4,5X35MM | 200 | <a href="#">49330.045.035</a> | 6X50MM   | 200 | <a href="#">49330.060.050</a> |
| 3,5X16MM | 200 | <a href="#">49330.035.016</a> | 4,5X40MM | 200 | <a href="#">49330.045.040</a> | 6X60MM   | 100 | <a href="#">49330.060.060</a> |
| 3,5X20MM | 200 | <a href="#">49330.035.020</a> | 4,5X60MM | 200 | <a href="#">49330.045.060</a> | 6X70MM   | 100 | <a href="#">49330.060.070</a> |
| 3,5X25MM | 200 | <a href="#">49330.035.025</a> | 4,5X70MM | 200 | <a href="#">49330.045.070</a> | 6X80MM   | 100 | <a href="#">49330.060.080</a> |
| 3,5X40MM | 200 | <a href="#">49330.035.040</a> |          |     |                               |          |     |                               |
|          |     |                               | 5X30MM   | 200 | <a href="#">49330.050.030</a> |          |     |                               |



## Cross recessed countersunk (flat) head wood screw


**POZIDRIV (Z)**

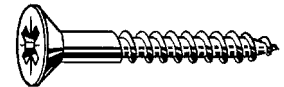
DIN 7997-Z  
NEN 2253  
NF E25-601


### Technical data

| ds  | dk  | k (max.) | No. cross recess |
|-----|-----|----------|------------------|
| 2,5 | 4,7 | 1,5      | 1                |
| 3   | 5,6 | 1,65     | 1                |
| 3,5 | 6,5 | 1,93     | 2                |
| 4   | 7,5 | 2,2      | 2                |
| 4,5 | 8,3 | 2,35     | 2                |
| 5   | 9,2 | 2,5      | 2                |
| 6   | 11  | 3        | 3                |

- Wood screw thread acc. to DIN 7998.

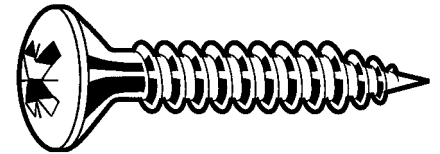
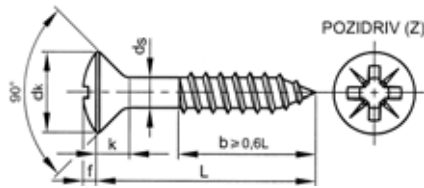
### 51876 Cross recessed countersunk (flat) head wood screw Pozidriv

**R03A**
**Material** Stainless steel A2  
**Packaging** Standard


| ds x L     | ☒   | Art.number                    | ds x L     | ☒   | Art.number                    | ds x L    | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|-----------|-----|-------------------------------|
| 3X12MM     | 200 | <a href="#">51876.030.012</a> | 4X50MM     | 200 | <a href="#">51876.040.050</a> | 5X70MM    | 200 | <a href="#">51876.050.070</a> |
| 3X16MM     | 200 | <a href="#">51876.030.016</a> | 4X60MM *   | 200 | <a href="#">51876.040.060</a> | 5X75MM *  | 100 | <a href="#">51876.050.075</a> |
| 3X20MM     | 200 | <a href="#">51876.030.020</a> |            |     |                               | 5X80MM    | 200 | <a href="#">51876.050.080</a> |
| 3X25MM     | 200 | <a href="#">51876.030.025</a> | 4,5X20MM   | 200 | <a href="#">51876.045.020</a> | 5X90MM    | 200 | <a href="#">51876.050.090</a> |
| 3X30MM *   | 200 | <a href="#">51876.030.030</a> | 4,5X25MM   | 200 | <a href="#">51876.045.025</a> | 5X100MM   | 200 | <a href="#">51876.050.100</a> |
|            |     |                               | 4,5X30MM   | 200 | <a href="#">51876.045.030</a> |           |     |                               |
| 3,5X16MM   | 200 | <a href="#">51876.035.016</a> | 4,5X35MM * | 200 | <a href="#">51876.045.035</a> | 6X30MM *  | 200 | <a href="#">51876.060.030</a> |
| 3,5X20MM   | 200 | <a href="#">51876.035.020</a> | 4,5X40MM   | 200 | <a href="#">51876.045.040</a> | 6X35MM *  | 200 | <a href="#">51876.060.035</a> |
| 3,5X25MM   | 200 | <a href="#">51876.035.025</a> | 4,5X45MM * | 200 | <a href="#">51876.045.045</a> | 6X40MM    | 200 | <a href="#">51876.060.040</a> |
| 3,5X30MM   | 200 | <a href="#">51876.035.030</a> | 4,5X50MM * | 200 | <a href="#">51876.045.050</a> | 6X45MM *  | 200 | <a href="#">51876.060.045</a> |
| 3,5X35MM * | 200 | <a href="#">51876.035.035</a> | 4,5X60MM * | 200 | <a href="#">51876.045.060</a> | 6X50MM    | 200 | <a href="#">51876.060.050</a> |
| 3,5X40MM   | 200 | <a href="#">51876.035.040</a> |            |     |                               | 6X60MM    | 100 | <a href="#">51876.060.060</a> |
|            |     |                               | 5X20MM     | 200 | <a href="#">51876.050.020</a> | 6X70MM    | 100 | <a href="#">51876.060.070</a> |
| 4X16MM     | 200 | <a href="#">51876.040.016</a> | 5X25MM *   | 200 | <a href="#">51876.050.025</a> | 6X80MM    | 100 | <a href="#">51876.060.080</a> |
| 4X20MM     | 200 | <a href="#">51876.040.020</a> | 5X30MM     | 200 | <a href="#">51876.050.030</a> | 6X90MM *  | 100 | <a href="#">51876.060.090</a> |
| 4X25MM     | 200 | <a href="#">51876.040.025</a> | 5X35MM *   | 200 | <a href="#">51876.050.035</a> | 6X100MM   | 100 | <a href="#">51876.060.100</a> |
| 4X30MM     | 200 | <a href="#">51876.040.030</a> | 5X40MM     | 200 | <a href="#">51876.050.040</a> | 6X110MM * | 100 | <a href="#">51876.060.110</a> |
| 4X35MM     | 200 | <a href="#">51876.040.035</a> | 5X45MM     | 200 | <a href="#">51876.050.045</a> | 6X120MM * | 100 | <a href="#">51876.060.120</a> |
| 4X40MM     | 200 | <a href="#">51876.040.040</a> | 5X50MM     | 200 | <a href="#">51876.050.050</a> |           |     |                               |
| 4X45MM     | 200 | <a href="#">51876.040.045</a> | 5X60MM     | 200 | <a href="#">51876.050.060</a> |           |     |                               |

## Cross recessed countersunk (oval) head wood screw

DIN 7995-Z



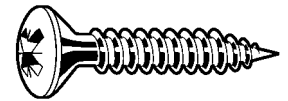
### Technical data

| ds  | d <sub>k</sub> | k (max.) | f ≈  | No. cross recess |
|-----|----------------|----------|------|------------------|
| 3   | 5,6            | 1,65     | 0,75 | 1                |
| 3,5 | 6,5            | 1,93     | 0,9  | 2                |
| 4   | 7,5            | 2,2      | 1    | 2                |
| 4,5 | 8,3            | 2,35     | 1,1  | 2                |
| 5   | 9,2            | 2,5      | 1,25 | 2                |
| 6   | 11             | 3        | 1,5  | 3                |

### 51886 Cross recessed countersunk (oval) head wood screw Pozidriv

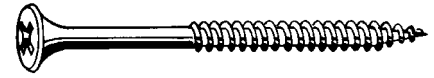
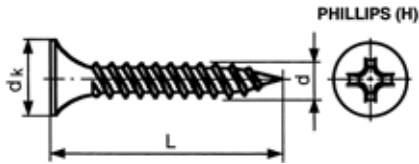
R03A

**Material** Stainless steel A2  
**Packaging** Standard


**6**

| ds x L     | ☒   | Art.number                    | ds x L      | ☒   | Art.number                    | ds x L    | ☒   | Art.number                    |
|------------|-----|-------------------------------|-------------|-----|-------------------------------|-----------|-----|-------------------------------|
| 3X16MM     | 200 | <a href="#">51886.030.016</a> | 4X60MM *    | 200 | <a href="#">51886.040.060</a> | 5X25MM *  | 200 | <a href="#">51886.050.025</a> |
| 3X20MM *   | 200 | <a href="#">51886.030.020</a> | 4X70MM *    | 200 | <a href="#">51886.040.070</a> | 5X30MM *  | 200 | <a href="#">51886.050.030</a> |
| 3X25MM     | 200 | <a href="#">51886.030.025</a> |             |     |                               | 5X35MM *  | 200 | <a href="#">51886.050.035</a> |
| 3X30MM *   | 200 | <a href="#">51886.030.030</a> | 4,5X20MM *  | 200 | <a href="#">51886.045.020</a> | 5X40MM    | 200 | <a href="#">51886.050.040</a> |
| 3X35MM *   | 200 | <a href="#">51886.030.035</a> | 4,5X25MM *  | 200 | <a href="#">51886.045.025</a> | 5X45MM *  | 200 | <a href="#">51886.050.045</a> |
|            |     |                               | 4,5X30MM *  | 200 | <a href="#">51886.045.030</a> | 5X50MM *  | 200 | <a href="#">51886.050.050</a> |
| 3,5X16MM   | 200 | <a href="#">51886.035.016</a> | 4,5X35MM *  | 200 | <a href="#">51886.045.035</a> | 5X60MM *  | 200 | <a href="#">51886.050.060</a> |
| 3,5X20MM   | 200 | <a href="#">51886.035.020</a> | 4,5X40MM *  | 200 | <a href="#">51886.045.040</a> | 5X70MM *  | 100 | <a href="#">51886.050.070</a> |
| 3,5X25MM * | 200 | <a href="#">51886.035.025</a> | 4,5X45MM *  | 200 | <a href="#">51886.045.045</a> | 5X80MM *  | 100 | <a href="#">51886.050.080</a> |
| 3,5X30MM * | 200 | <a href="#">51886.035.030</a> | 4,5X50MM *  | 200 | <a href="#">51886.045.050</a> |           |     |                               |
| 3,5X35MM * | 200 | <a href="#">51886.035.035</a> | 4,5X55MM *  | 200 | <a href="#">51886.045.055</a> | 6X25MM *  | 200 | <a href="#">51886.060.025</a> |
|            |     |                               | 4,5X60MM *  | 200 | <a href="#">51886.045.060</a> | 6X40MM *  | 200 | <a href="#">51886.060.040</a> |
| 4X16MM     | 200 | <a href="#">51886.040.016</a> | 4,5X65MM *  | 200 | <a href="#">51886.045.065</a> | 6X45MM *  | 200 | <a href="#">51886.060.045</a> |
| 4X20MM     | 200 | <a href="#">51886.040.020</a> | 4,5X70MM *  | 200 | <a href="#">51886.045.070</a> | 6X50MM *  | 200 | <a href="#">51886.060.050</a> |
| 4X25MM     | 200 | <a href="#">51886.040.025</a> | 4,5X80MM *  | 200 | <a href="#">51886.045.080</a> | 6X60MM *  | 200 | <a href="#">51886.060.060</a> |
| 4X30MM *   | 200 | <a href="#">51886.040.030</a> | 4,5X90MM *  | 200 | <a href="#">51886.045.090</a> | 6X70MM *  | 100 | <a href="#">51886.060.070</a> |
| 4X35MM *   | 200 | <a href="#">51886.040.035</a> | 4,5X100MM * | 200 | <a href="#">51886.045.100</a> | 6X80MM *  | 100 | <a href="#">51886.060.080</a> |
| 4X40MM *   | 200 | <a href="#">51886.040.040</a> | 4,5X120MM * | 200 | <a href="#">51886.045.120</a> | 6X90MM *  | 100 | <a href="#">51886.060.090</a> |
| 4X45MM *   | 200 | <a href="#">51886.040.045</a> | 4,5X150MM * | 200 | <a href="#">51886.045.150</a> | 6X100MM * | 100 | <a href="#">51886.060.100</a> |
| 4X50MM *   | 200 | <a href="#">51886.040.050</a> |             |     |                               |           |     |                               |

## Cross recessed dry wall screw

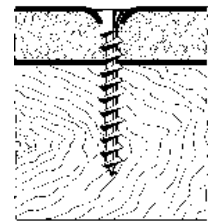


### Technical data

| No.              | 6   | 7   | 8   |
|------------------|-----|-----|-----|
| d                | 3,5 | 3,9 | 4,2 |
| dk               | 8,3 | 8,3 | 8,3 |
| No. cross recess | 2   | 2   | 2   |

Special features of dry wall screws:

- suitable for fastening of gypsum plasterboard on framework of every type of wood or metal up to 0,75mm thickness
- the trumpet (bugle) shaped head countersinks in such a way that it can be easily covered and leaving no visible protruding spot



### Article groups

| Driving features | Material | Surface treatment |                      | Packaging | Code  | Page  |
|------------------|----------|-------------------|----------------------|-----------|-------|-------|
| Phillips         | St       | Phosph.           | single-flight thread | Standard  | 31300 | 6-163 |
| Phillips         | St       | Phosph.           | two-start thread     | Standard  | 31305 | 6-163 |

6

| 31300 Cross recessed dry wall screw with single-flight thread (coarse) Phillips |            |  |  |  |  | J11A |
|---|------------|--|--|--|--|------|
| <b>Material</b>   | Steel      |  |  |  |  |      |
| <b>Surface treatment</b>  | Phosphated |  |  |  |  |      |
| <b>Packaging</b>  | Standard   |  |  |  |  |      |

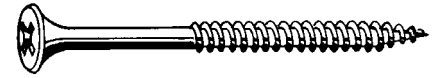
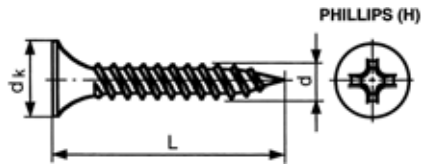
| No. x L    | ✉    | Art.number                    | No. x L    | ✉   | Art.number                    | No. x L | ✉ | Art.number |
|------------|------|-------------------------------|------------|-----|-------------------------------|---------|---|------------|
| No.6X1.1/4 | 1000 | <a href="#">31300.035.031</a> | No.6X2.IN. | 500 | <a href="#">31300.035.050</a> |         |   |            |
| No.6X1.5/8 | 1000 | <a href="#">31300.035.041</a> | No.8X3.IN. | 250 | <a href="#">31300.042.076</a> |         |   |            |

| 31305 Cross recessed dry wall screw with two-start thread (fine) Phillips |            |  |  |  |  | J11A |
|---|------------|--|--|--|--|------|
| <b>Material</b>   | Steel      |  |  |  |  |      |
| <b>Surface treatment</b>  | Phosphated |  |  |  |  |      |
| <b>Packaging</b>  | Standard   |  |  |  |  |      |

| No. x L    | ✉    | Art.number                    | No. x L    | ✉    | Art.number                    | No. x L    | ✉   | Art.number                    |
|------------|------|-------------------------------|------------|------|-------------------------------|------------|-----|-------------------------------|
| No.6X1.IN. | 1000 | <a href="#">31305.035.025</a> | No.6X1.5/8 | 1000 | <a href="#">31305.035.041</a> | No.6X2.1/4 | 500 | <a href="#">31305.035.057</a> |

- Quick penetration due to the two-start thread (fine).

## Cross recessed dry wall screw

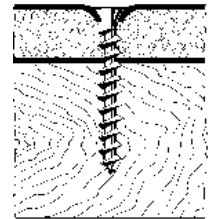


### Technical data

| d   | dk  | No. cross recess |
|-----|-----|------------------|
| 3,5 | 8,5 | 2                |
| 3,9 | 8,5 | 2                |
| 4,2 | 8,5 | 2                |
| 4,8 | 8,5 | 2                |

Special features of dry wall screws:

- suitable for fastening of gypsum plasterboard on framework of every type of wood or metal up to 0,75mm thickness
- the trumpet (bugle) shaped head countersinks in such a way that it can be easily covered and leaving no visible protruding spot



6

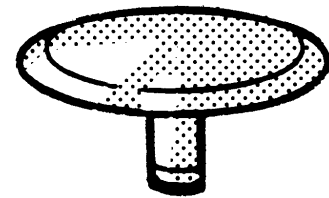
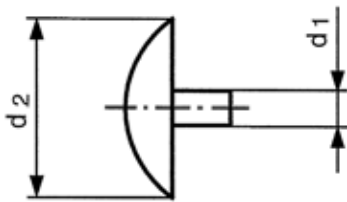
| 31310 Cross recessed dry wall screw with two-start thread (fine) Phillips |            | J11A |
|---|------------|------|
| <b>Material</b>   | Steel      |      |
| <b>Surface treatment</b>  | Phosphated |      |
| <b>Packaging</b>  | Standard   |      |



| d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    | d x L    | ☒    | Art.number                    |
|----------|------|-------------------------------|----------|------|-------------------------------|----------|------|-------------------------------|
| 3,5X25MM | 1000 | <a href="#">31310.035.025</a> | 3,9X45MM | 1000 | <a href="#">31310.039.045</a> | 4,2X75MM | 1000 | <a href="#">31310.042.075</a> |
| 3,5X35MM | 1000 | <a href="#">31310.035.035</a> | 3,9X65MM | 1000 | <a href="#">31310.039.065</a> | 4,8X70MM | 250  | <a href="#">31310.048.070</a> |
| 3,5X45MM | 1000 | <a href="#">31310.035.045</a> |          |      |                               |          |      |                               |
| 3,5X55MM | 500  | <a href="#">31310.035.055</a> |          |      |                               |          |      |                               |

- Quick penetration due to the two-start thread (fine).

## Cover for countersunk head screws with hole



| RAL  |                |
|------|----------------|
| 1001 | Beige          |
| 1005 | Honey yellow   |
| 1011 | Brown beige    |
| 1014 | Ivory          |
| 1015 | Light ivory    |
| 1017 | Saffron yellow |

| RAL  |             |
|------|-------------|
| 6009 | Fir green   |
| 7001 | Silver grey |
| 7011 | Iron grey   |
| 7035 | Light grey  |
| 7038 | Agate grey  |

| RAL  |             |
|------|-------------|
| 8001 | Ochre brown |
| 8007 | Fawn brown  |
| 8011 | Nut brown   |
| 8014 | Sepia brown |

| RAL  |            |
|------|------------|
| 9005 | Black      |
| 9010 | Pure white |

### Article groups

| Material   | Class | Packaging            | Code  | Page  |
|------------|-------|----------------------|-------|-------|
| Plastic PA | 6     | Standard             | 25860 | 6-165 |
| Plastic PA | 6     | d <sub>2</sub> =15mm | 25862 | 6-165 |

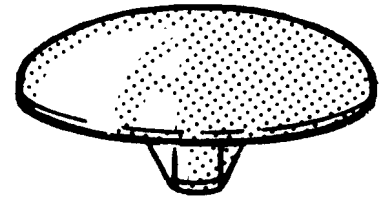
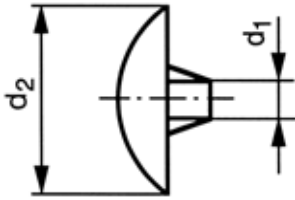
| 25860 Cover for countersunk head screws with hole |                           | K90A  |
|---|---------------------------|---|
| <b>Material</b>                                   | Plastic Polyamide (nylon) |  |
| <b>Class</b>                                      | 6                         |   |
| <b>Packaging</b>                                  | Standard                  |   |

| d1 x d2 - RAL | ☒   | Art.number                    | d1 x d2 - RAL | ☒   | Art.number                    | d1 x d2 - RAL | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 2,5x12-1001   | 200 | <a href="#">25860.251.001</a> | 2,5x12-7038   | 200 | <a href="#">25860.257.038</a> | 3x15-1017     | 200 | <a href="#">25860.301.017</a> |
| 2,5x12-1005   | 200 | <a href="#">25860.251.005</a> | 2,5x12-8001   | 200 | <a href="#">25860.258.001</a> | 3x15-8001     | 200 | <a href="#">25860.308.001</a> |
| 2,5x12-1011   | 200 | <a href="#">25860.251.011</a> | 2,5x12-8011   | 200 | <a href="#">25860.258.011</a> | 3x15-8007     | 200 | <a href="#">25860.308.007</a> |
| 2,5x12-1014   | 200 | <a href="#">25860.251.014</a> | 2,5x12-8014   | 200 | <a href="#">25860.258.014</a> | 3x15-8011     | 200 | <a href="#">25860.308.011</a> |
| 2,5x12-1015   | 200 | <a href="#">25860.251.015</a> | 2,5x12-9005   | 200 | <a href="#">25860.259.005</a> | 3x15-9005     | 200 | <a href="#">25860.309.005</a> |
| 2,5x12-6009   | 200 | <a href="#">25860.256.009</a> | 2,5x12-9010   | 200 | <a href="#">25860.259.010</a> | 3x15-9010     | 200 | <a href="#">25860.309.010</a> |
| 2,5x12-7001   | 200 | <a href="#">25860.257.001</a> |               |     |                               |               |     |                               |
| 2,5x12-7011   | 200 | <a href="#">25860.257.011</a> | 3x15-1011     | 200 | <a href="#">25860.301.011</a> |               |     |                               |
| 2,5x12-7035   | 200 | <a href="#">25860.257.035</a> | 3x15-1014     | 200 | <a href="#">25860.301.014</a> |               |     |                               |

| 25862 Cover for countersunk head screws with hole d2=15mm |                           | K90A  |
|---|---------------------------|---|
| <b>Material</b>   | Plastic Polyamide (nylon) |  |
| <b>Class</b>  | 6                         |   |
| <b>Packaging</b>  | Standard                  |   |

| d1 x d2 - RAL | ☒   | Art.number                    | d1 x d2 - RAL | ☒   | Art.number                    | d1 x d2 - RAL | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 2,5x15-1011   | 200 | <a href="#">25862.251.011</a> | 2,5x15-8011   | 200 | <a href="#">25862.258.011</a> | 2,5x15-9010   | 200 | <a href="#">25862.259.010</a> |
| 2,5x15-1014   | 200 | <a href="#">25862.251.014</a> | 2,5x15-9005   | 200 | <a href="#">25862.259.005</a> |               |     |                               |
| 2,5x15-8007   | 200 | <a href="#">25862.258.007</a> |               |     |                               |               |     |                               |

## Cover for cross recessed countersunk head screws for chipboard



- Special features for covers for cross recessed countersunk head screws for chipboard:
- Prevent corrosion and dirt accumulation in the recess.
- Neat appearance.
- Easy to assemble.
- Re-useable.

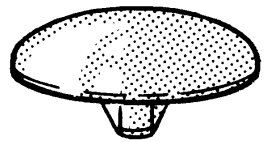
| RAL  |                |
|------|----------------|
| 1011 | Brown beige    |
| 1014 | Ivory          |
| 1017 | Saffron yellow |

| RAL  |             |
|------|-------------|
| 7001 | Silver grey |

| RAL  |             |
|------|-------------|
| 8001 | Ochre brown |
| 8007 | Fawn brown  |
| 8011 | Nut brown   |
| 8012 | Red brown   |

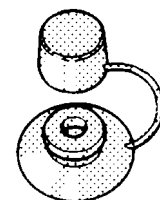
| RAL  |            |
|------|------------|
| 9005 | Black      |
| 9010 | Pure white |

6

| 29390 Cover for cross recessed countersunk head screws for chipboard Pozidriv |                           | K03D   |
|---|---------------------------|--|
| <b>Material</b>   | Plastic Polyamide (nylon) |  |
| <b>Class</b>  | 6                         |  |
| <b>Packaging</b>  | Standard                  |  |

| d1 x d2 - RAL | ☒   | Art.number                    | d1 x d2 - RAL | ☒   | Art.number                    | d1 x d2 - RAL | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 2x12-7001     | 200 | <a href="#">29390.001.770</a> | 2x12-8007     | 200 | <a href="#">29390.028.007</a> | 3x14,5-1014   | 200 | <a href="#">29390.031.014</a> |
| 2x12-1011     | 200 | <a href="#">29390.021.011</a> | 2x12-8011     | 200 | <a href="#">29390.028.011</a> | 3x14,5-8011   | 200 | <a href="#">29390.038.011</a> |
| 2x12-1014     | 200 | <a href="#">29390.021.014</a> | 2x12-8012     | 200 | <a href="#">29390.028.012</a> | 3x14,5-9005   | 200 | <a href="#">29390.039.005</a> |
| 2x12-1017     | 200 | <a href="#">29390.021.017</a> | 2x12-9005     | 200 | <a href="#">29390.029.005</a> | 3x14,5-9010   | 200 | <a href="#">29390.039.010</a> |
| 2x12-8001     | 200 | <a href="#">29390.028.001</a> | 2x12-9010     | 200 | <a href="#">29390.029.010</a> |               |     |                               |

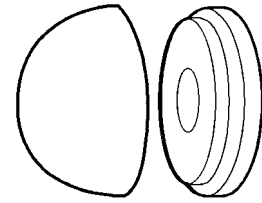
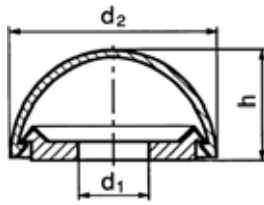
## Cover for hexagon head wood screws



| 08290 Cover for hexagon head wood screws |                           | E07A  |
|--|---------------------------|---|
| <b>Material</b>                          | Plastic Polyamide (nylon) |  |
| <b>Class</b>                             | 6                         |   |
| <b>Colour</b>                            | Grey                      |   |
| <b>Packaging</b>                         | Standard                  |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒ | Art.number | For nom. size | ☒ | Art.number |
|---------------|-----|-------------------------------|---------------|---|------------|---------------|---|------------|
| 6-7MM BLACK   | 100 | <a href="#">08290.070.001</a> |               |   |            |               |   |            |
| 7MM           | 100 | <a href="#">08290.070.011</a> |               |   |            |               |   |            |

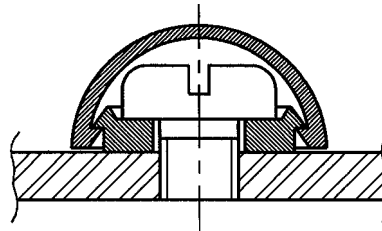
## Snap cap for screws



### Technical data

| d  | d <sub>1</sub> | d <sub>2</sub> | h    |
|----|----------------|----------------|------|
| M4 | 4,3            | 12             | 5,9  |
| M5 | 5,3            | 14,5           | 6,5  |
| M6 | 6,4            | 16,8           | 7,5  |
| M8 | 8,4            | 20,8           | 10,2 |

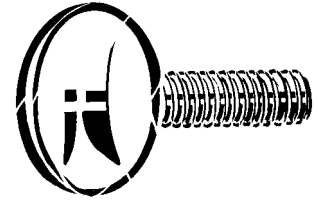
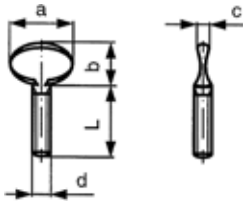
### Example of application



| 56610 Snap cap for screws |                           | W02A |  |
|---------------------------|---------------------------|------|--|
| <b>Material</b>           | Plastic Polyamide (nylon) |      |  |
| <b>Class</b>              | PA 6.6                    |      |  |
| <b>Colour</b>             | White                     |      |  |
| <b>Packaging</b>          | Standard                  |      |  |

| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d | ☒ | Art.number |
|----|-----|-------------------------------|----|-----|-------------------------------|---|---|------------|
| M4 | 250 | <a href="#">56610.040.001</a> | M6 | 250 | <a href="#">56610.060.001</a> |   |   |            |
| M5 | 250 | <a href="#">56610.050.001</a> | M8 | 250 | <a href="#">56610.080.001</a> |   |   |            |

## Thumb screw



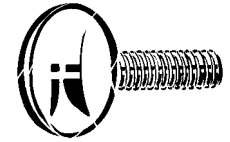
### Technical data

| d x a       | P    | a    | b    | c   |
|-------------|------|------|------|-----|
| M5x20,5     | 0,8  | 20,5 | 15,5 | 3,5 |
| M6x23,5     | 1    | 23,5 | 16   | 4,5 |
| M8x27,5     | 1,25 | 27,5 | 19   | 4,5 |
| M10x34,5 Ms | 1,5  | 34,5 | 25   | 6,5 |
| M10x36      | 1,5  | 36   | 25   | 6,5 |

### 16295 Thumb screw

F11G

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Cast iron 35  |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|-----|-------------------------------|--------|----|-------------------------------|
| M5X10 | 200 | <a href="#">16295.050.010</a> | M6X25 | 100 | <a href="#">16295.060.025</a> | M10X20 | 50 | <a href="#">16295.100.020</a> |
| M5X12 | 200 | <a href="#">16295.050.012</a> | M6X30 | 100 | <a href="#">16295.060.030</a> | M10X25 | 50 | <a href="#">16295.100.025</a> |
| M5X16 | 200 | <a href="#">16295.050.016</a> | M8X16 | 100 | <a href="#">16295.080.016</a> | M10X30 | 50 | <a href="#">16295.100.030</a> |
| M5X20 | 200 | <a href="#">16295.050.020</a> | M8X20 | 100 | <a href="#">16295.080.020</a> | M10X40 | 50 | <a href="#">16295.100.040</a> |
| M6X10 | 200 | <a href="#">16295.060.010</a> | M8X25 | 100 | <a href="#">16295.080.025</a> | M10X50 | 20 | <a href="#">16295.100.050</a> |
| M6X12 | 200 | <a href="#">16295.060.012</a> | M8X30 | 100 | <a href="#">16295.080.030</a> |        |    |                               |
| M6X16 | 100 | <a href="#">16295.060.016</a> | M8X40 | 50  | <a href="#">16295.080.040</a> |        |    |                               |
| M6X20 | 100 | <a href="#">16295.060.020</a> | M8X50 | 50  | <a href="#">16295.080.050</a> |        |    |                               |

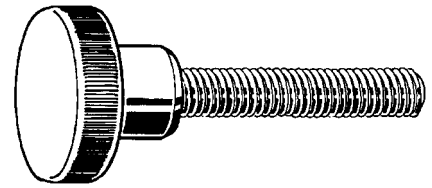
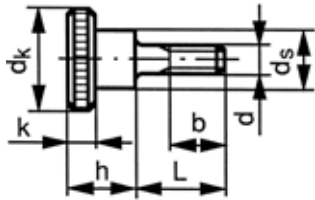
- L = useable thread length.

6



## Knurled thumb screw high type

DIN 464



### Technical data

| d               | M3  | M4  | M5   | M6 | M8   | M10 |
|-----------------|-----|-----|------|----|------|-----|
| P               | 0,5 | 0,7 | 0,8  | 1  | 1,25 | 1,5 |
| dk              | 12  | 16  | 20   | 24 | 30   | 36  |
| ds              | 6   | 8   | 10   | 12 | 16   | 20  |
| b               | 9   | 12  | 15   | 18 | 24   | 30  |
| k               | 2,5 | 3,5 | 4    | 5  | 6    | 8   |
| h               | 7,5 | 9,5 | 11,5 | 15 | 18   | 23  |
| Full thread L ≤ | 12  | 16  | 16   | 20 | 25   | 30  |

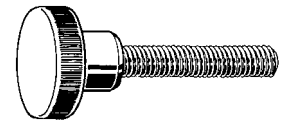
### Article groups

| Thread | Material           | Surface treatment | Packaging | Code  | Page  |
|--------|--------------------|-------------------|-----------|-------|-------|
| M      | Free-cutting steel | Zipl              | Standard  | 16650 | 6-169 |
| M      | Br Cu3             |                   | Standard  | 47480 | 6-169 |

#### 16650 Knurled thumb screw high type

F11G

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



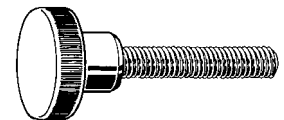
6

| d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|----|-------------------------------|--------|----|-------------------------------|
| M3X6  | 100 | <a href="#">16650.030.006</a> | M5X6  | 50 | <a href="#">16650.050.006</a> | M8X10  | 25 | <a href="#">16650.080.010</a> |
| M3X8  | 100 | <a href="#">16650.030.008</a> | M5X8  | 50 | <a href="#">16650.050.008</a> | M8X12  | 25 | <a href="#">16650.080.012</a> |
| M3X10 | 100 | <a href="#">16650.030.010</a> | M5X10 | 50 | <a href="#">16650.050.010</a> | M8X16  | 25 | <a href="#">16650.080.016</a> |
| M3X12 | 100 | <a href="#">16650.030.012</a> | M5X12 | 50 | <a href="#">16650.050.012</a> | M8X20  | 25 | <a href="#">16650.080.020</a> |
| M3X16 | 100 | <a href="#">16650.030.016</a> | M5X16 | 50 | <a href="#">16650.050.016</a> | M8X25  | 25 | <a href="#">16650.080.025</a> |
| M3X20 | 100 | <a href="#">16650.030.020</a> | M5X20 | 50 | <a href="#">16650.050.020</a> | M8X30  | 25 | <a href="#">16650.080.030</a> |
| M3X25 | 100 | <a href="#">16650.030.025</a> | M5X25 | 50 | <a href="#">16650.050.025</a> | M8X40  | 25 | <a href="#">16650.080.040</a> |
| M3X30 | 100 | <a href="#">16650.030.030</a> | M5X30 | 50 | <a href="#">16650.050.030</a> | M8X50  | 25 | <a href="#">16650.080.050</a> |
| M4X6  | 50  | <a href="#">16650.040.006</a> | M6X8  | 25 | <a href="#">16650.060.008</a> | M10X16 | 10 | <a href="#">16650.100.016</a> |
| M4X8  | 50  | <a href="#">16650.040.008</a> | M6X10 | 25 | <a href="#">16650.060.010</a> | M10X20 | 10 | <a href="#">16650.100.020</a> |
| M4X10 | 50  | <a href="#">16650.040.010</a> | M6X12 | 25 | <a href="#">16650.060.012</a> | M10X25 | 10 | <a href="#">16650.100.025</a> |
| M4X12 | 50  | <a href="#">16650.040.012</a> | M6X16 | 25 | <a href="#">16650.060.016</a> | M10X30 | 10 | <a href="#">16650.100.030</a> |
| M4X16 | 50  | <a href="#">16650.040.016</a> | M6X20 | 25 | <a href="#">16650.060.020</a> | M10X40 | 10 | <a href="#">16650.100.040</a> |
| M4X20 | 50  | <a href="#">16650.040.020</a> | M6X25 | 25 | <a href="#">16650.060.025</a> | M10X50 | 10 | <a href="#">16650.100.050</a> |
| M4X25 | 50  | <a href="#">16650.040.025</a> | M6X30 | 25 | <a href="#">16650.060.030</a> |        |    |                               |
| M4X30 | 50  | <a href="#">16650.040.030</a> | M6X40 | 25 | <a href="#">16650.060.040</a> |        |    |                               |
| M4X40 | 50  | <a href="#">16650.040.040</a> | M6X50 | 25 | <a href="#">16650.060.050</a> |        |    |                               |

#### 47480 Knurled thumb screw high type

M11D

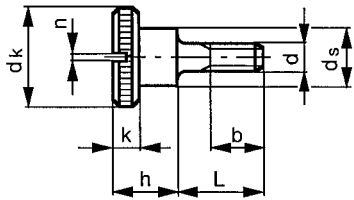
|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Brass Cu3     |
| <b>Packaging</b> | Standard      |



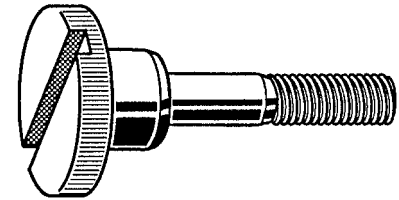
| d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M3X6  | 100 | <a href="#">47480.030.006</a> | M4X16 | 50 | <a href="#">47480.040.016</a> | M5X30 | 50 | <a href="#">47480.050.030</a> |
| M3X8  | 100 | <a href="#">47480.030.008</a> | M4X20 | 50 | <a href="#">47480.040.020</a> | M6X8  | 25 | <a href="#">47480.060.008</a> |
| M3X10 | 100 | <a href="#">47480.030.010</a> | M4X30 | 50 | <a href="#">47480.040.030</a> | M6X10 | 25 | <a href="#">47480.060.010</a> |
| M3X12 | 100 | <a href="#">47480.030.012</a> | M5X8  | 50 | <a href="#">47480.050.008</a> | M6X12 | 25 | <a href="#">47480.060.012</a> |
| M3X16 | 100 | <a href="#">47480.030.016</a> | M5X10 | 50 | <a href="#">47480.050.010</a> | M6X16 | 25 | <a href="#">47480.060.016</a> |
| M3X20 | 100 | <a href="#">47480.030.020</a> | M5X12 | 50 | <a href="#">47480.050.012</a> | M6X20 | 25 | <a href="#">47480.060.020</a> |
| M4X8  | 50  | <a href="#">47480.040.008</a> | M5X16 | 50 | <a href="#">47480.050.016</a> | M6X25 | 25 | <a href="#">47480.060.025</a> |
| M4X10 | 50  | <a href="#">47480.040.010</a> | M5X20 | 50 | <a href="#">47480.050.020</a> | M6X30 | 25 | <a href="#">47480.060.030</a> |
| M4X12 | 50  | <a href="#">47480.040.012</a> | M5X25 | 50 | <a href="#">47480.050.025</a> | M6X40 | 25 | <a href="#">47480.060.040</a> |

| 47480 Knurled thumb screw high type |    |                               |       |    |                               |       |    |                               |  |
|-------------------------------------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|--|
| d x L                               | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |  |
| M8X12                               | 25 | <a href="#">47480.080.012</a> | M8X20 | 25 | <a href="#">47480.080.020</a> | M8X40 | 25 | <a href="#">47480.080.040</a> |  |
| M8X16                               | 25 | <a href="#">47480.080.016</a> | M8X25 | 25 | <a href="#">47480.080.025</a> |       |    |                               |  |
|                                     |    |                               | M8X30 | 25 | <a href="#">47480.080.030</a> |       |    |                               |  |

**Slotted knurled thumb screw high type**



DIN 464 Sz



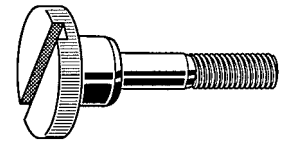
**Technical data**

|                 | M3  | M4  | M5   | M6  |
|-----------------|-----|-----|------|-----|
| d               | M3  | M4  | M5   | M6  |
| P               | 0,5 | 0,7 | 0,8  | 1   |
| dk              | 12  | 16  | 20   | 24  |
| ds              | 6   | 8   | 10   | 12  |
| b               | 9   | 12  | 15   | 18  |
| k               | 2,5 | 3,5 | 4    | 5   |
| h               | 7,5 | 9,5 | 11,5 | 15  |
| n               | 0,8 | 1   | 1,2  | 1,6 |
| Full thread L ≤ | 10  | 16  | 16   | 20  |

**51828 Slotted knurled thumb screw high type**

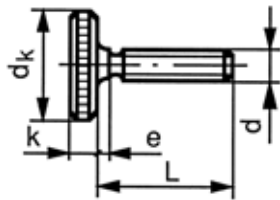
R09A

**Thread** Metric thread  
**Material** Stainless steel A1  
**Packaging** Standard

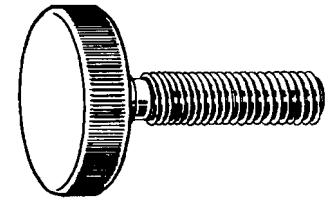


| d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M3X6  | 50 | <a href="#">51828.030.006</a> | M4X30 | 25 | <a href="#">51828.040.030</a> | M6X12 | 10 | <a href="#">51828.060.012</a> |
| M3X8  | 50 | <a href="#">51828.030.008</a> | M5X10 | 25 | <a href="#">51828.050.010</a> | M6X16 | 10 | <a href="#">51828.060.016</a> |
| M3X10 | 50 | <a href="#">51828.030.010</a> | M5X12 | 25 | <a href="#">51828.050.012</a> | M6X20 | 10 | <a href="#">51828.060.020</a> |
| M4X8  | 25 | <a href="#">51828.040.008</a> | M5X16 | 25 | <a href="#">51828.050.016</a> | M6X25 | 10 | <a href="#">51828.060.025</a> |
| M4X10 | 25 | <a href="#">51828.040.010</a> | M5X20 | 25 | <a href="#">51828.050.020</a> | M6X30 | 10 | <a href="#">51828.060.030</a> |
| M4X12 | 25 | <a href="#">51828.040.012</a> | M5X40 | 25 | <a href="#">51828.050.040</a> |       |    |                               |
| M4X16 | 25 | <a href="#">51828.040.016</a> |       |    |                               |       |    |                               |
| M4X20 | 25 | <a href="#">51828.040.020</a> | M6X10 | 10 | <a href="#">51828.060.010</a> |       |    |                               |

## Knurled thumb screw thin type



DIN 653



### Technical data

| d   | P    | dk | k   | e | Full thread L ≤ |
|-----|------|----|-----|---|-----------------|
| M3  | 0,5  | 12 | 2,5 | 2 | 10              |
| M4  | 0,7  | 16 | 3,5 | 3 | 16              |
| M5  | 0,8  | 20 | 4   | 3 | 16              |
| M6  | 1    | 24 | 5   | 4 | 16              |
| M8  | 1,25 | 30 | 6   | 5 | 20              |
| M10 | 1,5  | 36 | 8   | 6 | 25              |

### Article groups

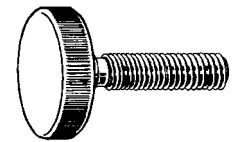
| Thread | Material           | Surface treatment | Packaging | Code  | Page  |
|--------|--------------------|-------------------|-----------|-------|-------|
| M      | Free-cutting steel | Zipl              | Standard  | 16660 | 6-172 |
| M      | Br Cu3             |                   | Standard  | 47490 | 6-172 |

6

#### 16660 Knurled thumb screw thin type

F11G

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Free-cutting steel |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |

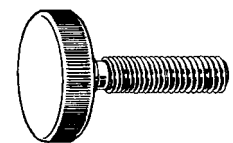


| d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|----|-------------------------------|--------|----|-------------------------------|
| M3X6  | 100 | <a href="#">16660.030.006</a> | M5X8  | 50 | <a href="#">16660.050.008</a> | M8X12  | 25 | <a href="#">16660.080.012</a> |
| M3X8  | 100 | <a href="#">16660.030.008</a> | M5X10 | 50 | <a href="#">16660.050.010</a> | M8X16  | 25 | <a href="#">16660.080.016</a> |
| M3X10 | 100 | <a href="#">16660.030.010</a> | M5X12 | 50 | <a href="#">16660.050.012</a> | M8X20  | 25 | <a href="#">16660.080.020</a> |
| M3X12 | 100 | <a href="#">16660.030.012</a> | M5X16 | 50 | <a href="#">16660.050.016</a> | M8X25  | 25 | <a href="#">16660.080.025</a> |
| M3X16 | 100 | <a href="#">16660.030.016</a> | M5X20 | 50 | <a href="#">16660.050.020</a> | M8X30  | 25 | <a href="#">16660.080.030</a> |
| M3X20 | 100 | <a href="#">16660.030.020</a> | M5X25 | 50 | <a href="#">16660.050.025</a> | M8X40  | 25 | <a href="#">16660.080.040</a> |
| M3X25 | 100 | <a href="#">16660.030.025</a> | M5X30 | 50 | <a href="#">16660.050.030</a> | M8X50  | 25 | <a href="#">16660.080.050</a> |
| M4X6  | 50  | <a href="#">16660.040.006</a> | M5X40 | 50 | <a href="#">16660.050.040</a> | M10X20 | 10 | <a href="#">16660.100.020</a> |
| M4X8  | 50  | <a href="#">16660.040.008</a> | M6X10 | 25 | <a href="#">16660.060.010</a> | M10X25 | 10 | <a href="#">16660.100.025</a> |
| M4X10 | 50  | <a href="#">16660.040.010</a> | M6X12 | 25 | <a href="#">16660.060.012</a> | M10X30 | 10 | <a href="#">16660.100.030</a> |
| M4X12 | 50  | <a href="#">16660.040.012</a> | M6X16 | 25 | <a href="#">16660.060.016</a> | M10X40 | 10 | <a href="#">16660.100.040</a> |
| M4X16 | 50  | <a href="#">16660.040.016</a> | M6X20 | 25 | <a href="#">16660.060.020</a> | M10X50 | 10 | <a href="#">16660.100.050</a> |
| M4X20 | 50  | <a href="#">16660.040.020</a> | M6X25 | 25 | <a href="#">16660.060.025</a> |        |    |                               |
| M4X25 | 50  | <a href="#">16660.040.025</a> | M6X30 | 25 | <a href="#">16660.060.030</a> |        |    |                               |
| M4X30 | 50  | <a href="#">16660.040.030</a> | M6X40 | 25 | <a href="#">16660.060.040</a> |        |    |                               |
|       |     |                               | M6X50 | 25 | <a href="#">16660.060.050</a> |        |    |                               |

#### 47490 Knurled thumb screw thin type

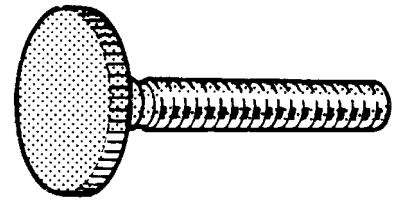
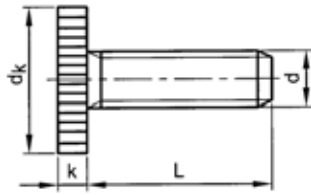
M11D

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Brass Cu3     |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M3X6  | 100 | <a href="#">47490.030.006</a> | M4X25 | 50 | <a href="#">47490.040.025</a> | M6X16 | 25 | <a href="#">47490.060.016</a> |
| M3X8  | 100 | <a href="#">47490.030.008</a> | M5X8  | 50 | <a href="#">47490.050.008</a> | M6X20 | 25 | <a href="#">47490.060.020</a> |
| M3X10 | 100 | <a href="#">47490.030.010</a> | M5X10 | 50 | <a href="#">47490.050.010</a> | M6X25 | 25 | <a href="#">47490.060.025</a> |
| M3X12 | 100 | <a href="#">47490.030.012</a> | M5X12 | 50 | <a href="#">47490.050.012</a> | M6X30 | 25 | <a href="#">47490.060.030</a> |
| M3X16 | 100 | <a href="#">47490.030.016</a> | M5X16 | 50 | <a href="#">47490.050.016</a> | M8X16 | 25 | <a href="#">47490.080.016</a> |
| M3X20 | 100 | <a href="#">47490.030.020</a> | M5X20 | 50 | <a href="#">47490.050.020</a> | M8X20 | 25 | <a href="#">47490.080.020</a> |
| M4X8  | 50  | <a href="#">47490.040.008</a> | M5X25 | 50 | <a href="#">47490.050.025</a> | M8X25 | 25 | <a href="#">47490.080.025</a> |
| M4X10 | 50  | <a href="#">47490.040.010</a> | M5X30 | 50 | <a href="#">47490.050.030</a> | M8X30 | 25 | <a href="#">47490.080.030</a> |
| M4X12 | 50  | <a href="#">47490.040.012</a> | M6X10 | 25 | <a href="#">47490.060.010</a> | M8X40 | 25 | <a href="#">47490.080.040</a> |
| M4X16 | 50  | <a href="#">47490.040.016</a> | M6X12 | 25 | <a href="#">47490.060.012</a> |       |    |                               |
| M4X20 | 50  | <a href="#">47490.040.020</a> |       |    |                               |       |    |                               |

## Knurled thumb screw



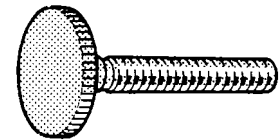
### Technical data

| d              | M5  | M6  | M8   |
|----------------|-----|-----|------|
| P              | 0,8 | 1   | 1,25 |
| d <sub>k</sub> | 16  | 16  | 16   |
| k              | 3,4 | 3,4 | 3,4  |

### 56230 Knurled thumb screw plastic

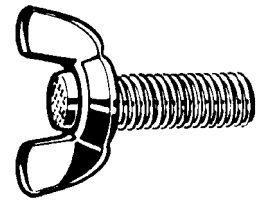
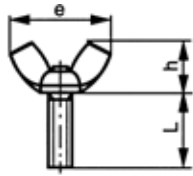
W02A

|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |



| d x L | ☒   | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M5X30 | 100 | <a href="#">56230.050.030</a> | M6X20 | 50 | <a href="#">56230.060.020</a> | M8X16 | 25 | <a href="#">56230.080.016</a> |
| M6X8  | 100 | <a href="#">56230.060.008</a> | M6X25 | 50 | <a href="#">56230.060.025</a> | M8X20 | 25 | <a href="#">56230.080.020</a> |
| M6X10 | 50  | <a href="#">56230.060.010</a> | M6X30 | 50 | <a href="#">56230.060.030</a> | M8X25 | 25 | <a href="#">56230.080.025</a> |
| M6X16 | 50  | <a href="#">56230.060.016</a> |       |    |                               |       |    |                               |

## Wing screw light (American) type



### Technical data

| d   | P    | e ≈  | h ≈  |
|-----|------|------|------|
| M4  | 0,7  | 22   | 10,5 |
| M5  | 0,8  | 22   | 10,5 |
| M6  | 1    | 26,8 | 12,9 |
| M8  | 1,25 | 30,3 | 14,8 |
| M10 | 1,5  | 35,3 | 17,3 |

### Article groups

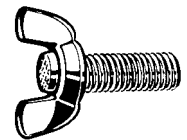
| Thread | Driving features | Material  | Packaging | Code  | Page  |
|--------|------------------|-----------|-----------|-------|-------|
| M      | wing             | St.St. A2 | Standard  | 51820 | 6-174 |
| M      | wing             | St.St. A4 | Standard  | 55820 | 6-174 |

6

#### 51820 Wing screw light (American) type

R09A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard

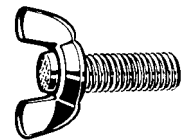


| d x L    | ☒  | Art.number                    | d x L    | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|--------|----|-------------------------------|
| M4X16    | 25 | <a href="#">51820.040.016</a> | M6X20    | 25 | <a href="#">51820.060.020</a> | M8X40  | 10 | <a href="#">51820.080.040</a> |
| M5X10    | 25 | <a href="#">51820.050.010</a> | M6X25    | 25 | <a href="#">51820.060.025</a> | M10X20 | 10 | <a href="#">51820.100.020</a> |
| M5X15/16 | 25 | <a href="#">51820.050.015</a> | M6X30    | 25 | <a href="#">51820.060.030</a> | M10X25 | 10 | <a href="#">51820.100.025</a> |
| M5X20    | 25 | <a href="#">51820.050.020</a> | M6X40    | 25 | <a href="#">51820.060.040</a> | M10X30 | 10 | <a href="#">51820.100.030</a> |
| M5X25    | 25 | <a href="#">51820.050.025</a> | M8X15/16 | 10 | <a href="#">51820.080.015</a> | M10X40 | 10 | <a href="#">51820.100.040</a> |
| M5X30    | 25 | <a href="#">51820.050.030</a> | M8X20    | 10 | <a href="#">51820.080.020</a> | 10X50  | 10 | <a href="#">51820.100.050</a> |
| M6X10    | 25 | <a href="#">51820.060.010</a> | M8X25    | 10 | <a href="#">51820.080.025</a> |        |    |                               |
| M6X15/16 | 25 | <a href="#">51820.060.015</a> | M8X30    | 10 | <a href="#">51820.080.030</a> |        |    |                               |

#### 55820 Wing screw light (American) type

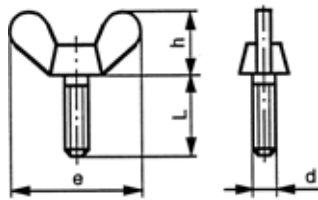
R49A

**Thread** Metric thread  
**Material** Stainless steel A4  
**Packaging** Standard

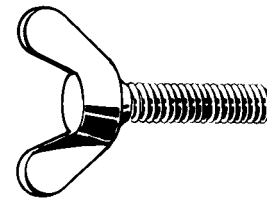


| d x L    | ☒  | Art.number                    | d x L    | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
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| M5X15/16 | 25 | <a href="#">55820.050.015</a> | M6X40    | 25 | <a href="#">55820.060.040</a> | M10X20 | 10 | <a href="#">55820.100.020</a> |
| M6X10    | 25 | <a href="#">55820.060.010</a> | M8X15/16 | 10 | <a href="#">55820.080.015</a> | M10X25 | 10 | <a href="#">55820.100.025</a> |
| M6X15/16 | 25 | <a href="#">55820.060.015</a> | M8X20    | 10 | <a href="#">55820.080.020</a> | M10X30 | 10 | <a href="#">55820.100.030</a> |
| M6X20    | 25 | <a href="#">55820.060.020</a> | M8X25    | 10 | <a href="#">55820.080.025</a> | M10X40 | 10 | <a href="#">55820.100.040</a> |
| M6X25    | 25 | <a href="#">55820.060.025</a> | M8X30    | 10 | <a href="#">55820.080.030</a> |        |    |                               |

## Wing screw rounded wings



DIN 316  
NEN 1624



### Technical data

| d   | P    | e (max.) | h (max.) |
|-----|------|----------|----------|
| M4  | 0,7  | 20       | 10,5     |
| M5  | 0,8  | 26       | 13       |
| M6  | 1    | 33       | 17       |
| M8  | 1,25 | 39       | 20       |
| M10 | 1,5  | 51       | 25       |
| M12 | 1,75 | 65       | 33,5     |
| M16 | 2    | 73       | 37,5     |

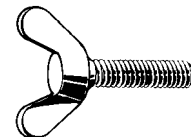
### Article groups

| Thread | Driving features | Material | Surface treatment | Packaging | Code  | Page  |
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| M      | wing             | Cl       | Zipl              | Standard  | 16210 | 6-175 |
| M      | wing             | Br       |                   | Standard  | 47530 | 6-175 |

#### 16210 Wing screw rounded wings

F11G

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Cast iron     |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



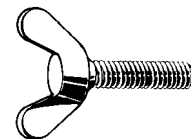
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| M4X16 | 200 | <a href="#">16210.040.016</a> | M6X40  | 100 | <a href="#">16210.060.040</a> | M10X70 | 20 | <a href="#">16210.100.070</a> |
| M4X20 | 200 | <a href="#">16210.040.020</a> | M6X50  | 100 | <a href="#">16210.060.050</a> | M10X80 | 20 | <a href="#">16210.100.080</a> |
| M4X25 | 200 | <a href="#">16210.040.025</a> |        |     |                               |        |    |                               |
| M5X10 | 200 | <a href="#">16210.050.010</a> | M8X12  | 100 | <a href="#">16210.080.012</a> | M12X20 | 20 | <a href="#">16210.120.020</a> |
| M5X16 | 200 | <a href="#">16210.050.016</a> | M8X16  | 100 | <a href="#">16210.080.016</a> | M12X25 | 20 | <a href="#">16210.120.025</a> |
| M5X20 | 200 | <a href="#">16210.050.020</a> | M8X20  | 100 | <a href="#">16210.080.020</a> | M12X30 | 20 | <a href="#">16210.120.030</a> |
| M5X25 | 200 | <a href="#">16210.050.025</a> | M8X25  | 100 | <a href="#">16210.080.025</a> | M12X40 | 20 | <a href="#">16210.120.040</a> |
| M5X30 | 100 | <a href="#">16210.050.030</a> | M8X30  | 100 | <a href="#">16210.080.030</a> | M12X50 | 20 | <a href="#">16210.120.050</a> |
| M5X35 | 100 | <a href="#">16210.050.035</a> | M8X40  | 50  | <a href="#">16210.080.040</a> | M12X60 | 20 | <a href="#">16210.120.060</a> |
| M5X40 | 100 | <a href="#">16210.050.040</a> | M8X50  | 50  | <a href="#">16210.080.050</a> | M12X70 | 20 | <a href="#">16210.120.070</a> |
| M5X50 | 100 | <a href="#">16210.050.050</a> | M8X60  | 50  | <a href="#">16210.080.060</a> | M12X80 | 20 | <a href="#">16210.120.080</a> |
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| M6X12 | 100 | <a href="#">16210.060.012</a> | M10X25 | 50  | <a href="#">16210.100.025</a> | M16X50 | 10 | <a href="#">16210.160.050</a> |
| M6X16 | 100 | <a href="#">16210.060.016</a> | M10X30 | 50  | <a href="#">16210.100.030</a> | M16X60 | 10 | <a href="#">16210.160.060</a> |
| M6X20 | 100 | <a href="#">16210.060.020</a> | M10X40 | 50  | <a href="#">16210.100.040</a> |        |    |                               |
| M6X25 | 100 | <a href="#">16210.060.025</a> | M10X50 | 20  | <a href="#">16210.100.050</a> |        |    |                               |

#### 47530 Wing screw rounded wings

M11D

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Brass         |
| <b>Packaging</b> | Standard      |



| d x L | ☒   | Art.number                    | d x L | ☒   | Art.number                    | d x L  | ☒  | Art.number                    |
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| M5X16 | 100 | <a href="#">47530.050.016</a> | M6X30 | 100 | <a href="#">47530.060.030</a> | M8X50  | 25 | <a href="#">47530.080.050</a> |
| M5X20 | 100 | <a href="#">47530.050.020</a> | M6X40 | 100 | <a href="#">47530.060.040</a> |        |    |                               |
| M5X25 | 100 | <a href="#">47530.050.025</a> |       |     |                               | M10X20 | 50 | <a href="#">47530.100.020</a> |
| M5X30 | 100 | <a href="#">47530.050.030</a> | M8X10 | 50  | <a href="#">47530.080.010</a> | M10X25 | 50 | <a href="#">47530.100.025</a> |
|       |     |                               | M8X12 | 50  | <a href="#">47530.080.012</a> | M10X30 | 25 | <a href="#">47530.100.030</a> |
| M6X10 | 100 | <a href="#">47530.060.010</a> | M8X16 | 50  | <a href="#">47530.080.016</a> | M10X40 | 25 | <a href="#">47530.100.040</a> |
| M6X12 | 100 | <a href="#">47530.060.012</a> | M8X20 | 50  | <a href="#">47530.080.020</a> | M10X50 | 25 | <a href="#">47530.100.050</a> |
| M6X16 | 100 | <a href="#">47530.060.016</a> | M8X25 | 50  | <a href="#">47530.080.025</a> |        |    |                               |
| M6X20 | 100 | <a href="#">47530.060.020</a> | M8X30 | 25  | <a href="#">47530.080.030</a> |        |    |                               |

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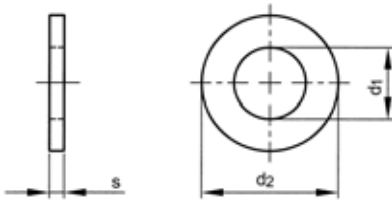
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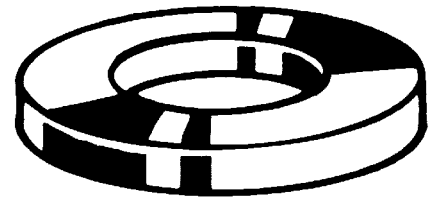
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## Plain washer



ISO 7089  
 DIN 125-1A  
 NEN 2269 A



### Technical data

| For nom.size    | d <sub>1</sub> | d <sub>2</sub> | s    |
|-----------------|----------------|----------------|------|
| M1 (#DIN)       | 1,1            | 3,2            | 0,3  |
| M1,2 (#DIN)     | 1,3            | 3,8            | 0,3  |
| M1,4 (#DIN)     | 1,5            | 3,8            | 0,3  |
| M1,6            | 1,7            | 4              | 0,3  |
| M1,7            | 1,8            | 4,5            | 0,3  |
| M2-5/64         | 2,2            | 5              | 0,3  |
| M2,5            | 2,7            | 6              | 0,5  |
| M2,6            | 2,8            | 7              | 0,5  |
| M3              | 3,2            | 7              | 0,5  |
| M3,5-1/8        | 3,7            | 8              | 0,5  |
| M4-5/32         | 4,3            | 9              | 0,8  |
| M5-3/16         | 5,3            | 10             | 1    |
| M6              | 6,4            | 12             | 1,6  |
| 1/4             | 6,7            | 12,6           | 1,6  |
| M7-9/32         | 7,4            | 14             | 1,6  |
| M8-5/16         | 8,4            | 16             | 1,6  |
| M10-3/8         | 10,5           | 20             | 2    |
| M11-7/16 (#DIN) | 12             | 24             | 2,5  |
| M12-1/2         | 13             | 24             | 2,5  |
| M14-9/16        | 15             | 28             | 2,5  |
| M14,5           | 14,5           | 22             | 2,2  |
| M16-5/8         | 17             | 30             | 3    |
| M18-11/16       | 19             | 34             | 3    |
| M20-3/4         | 21             | 37             | 3    |
| M22-7/8         | 23             | 39             | 3    |
| M24             | 25             | 44             | 4    |
| M26 (#DIN)      | 27,3           | 49,5           | 3,8  |
| M27-1.IN.       | 28             | 50             | 4    |
| M30-1.1/8       | 31             | 56             | 4    |
| M33-1.1/4       | 34             | 60             | 5    |
| M36-1.3/8       | 37             | 66             | 5    |
| M39-1.1/2       | 40             | 72             | 6    |
| M42-1.5/8       | 43             | 78             | 7    |
| M45-1.3/4       | 46             | 85             | 7    |
| M48             | 50             | 92             | 8    |
| M50             | 52             | 92             | 8    |
| M52-2.IN.       | 54             | 98             | 8    |
| M56-2.1/4       | 58             | 105            | 9    |
| M58 (#DIN)      | 60             | 110            | 9    |
| M60             | 62             | 110            | 9    |
| M64-2.1/2       | 66             | 115            | 9    |
| M72 (#DIN)      | 74,3           | 123,7          | 9,75 |

- Plain washers without chamfer acc. to DIN 125-1 A with a minimum hardness of 140HV.
- Because of the low compression strength these plain washers are exclusively appropriate in combination with bolts with property class < 8.8 c.q. with nuts with property class < 8.

### Article groups

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| Material   | Class  | Surface treatment | Packaging | Code  | Page |
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| 38100 Plain washer |             | L01A  |
|--------------------|-------------|---|
| <b>Material</b>    | Steel 140HV |  |
| <b>Packaging</b>   | Standard    |   |
|                    |             |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M6            | 250 | <a href="#">38100.060.001</a> | M20           | 100 | <a href="#">38100.200.001</a> | M42           | 10 | <a href="#">38100.420.001</a> |
| M8            | 250 | <a href="#">38100.080.001</a> | M22           | 50  | <a href="#">38100.220.001</a> | M45           | 10 | <a href="#">38100.450.001</a> |
| M10           | 200 | <a href="#">38100.100.001</a> | M24           | 50  | <a href="#">38100.240.001</a> | M48           | 10 | <a href="#">38100.480.001</a> |
| M11           | 150 | <a href="#">38100.110.001</a> | M27           | 100 | <a href="#">38100.270.001</a> | M52           | 5  | <a href="#">38100.520.001</a> |
| M12           | 150 | <a href="#">38100.120.001</a> | M30           | 25  | <a href="#">38100.300.001</a> | M56           | 5  | <a href="#">38100.560.001</a> |
| M14           | 100 | <a href="#">38100.140.001</a> | M33           | 25  | <a href="#">38100.330.001</a> | M58           | 1  | <a href="#">38100.580.001</a> |
| M16           | 100 | <a href="#">38100.160.001</a> | M36           | 25  | <a href="#">38100.360.001</a> | M64           | 1  | <a href="#">38100.640.001</a> |
| M18           | 100 | <a href="#">38100.180.001</a> | M39           | 10  | <a href="#">38100.390.001</a> | M72           | 1  | <a href="#">38100.720.001</a> |

| 38031 Plain washer without chamfer flatpunched |             | L01A  |
|--|-------------|---|
| <b>Material</b>                                | Steel 140HV |  |
| <b>Surface treatment</b>                       | Zinc plated |   |
| <b>Packaging</b>                               | Standard    |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">38031.030.001</a> | M11           | 150 | <a href="#">38031.110.001</a> | M22           | 50 | <a href="#">38031.220.001</a> |
| M4            | 250 | <a href="#">38031.040.001</a> | M12           | 150 | <a href="#">38031.120.001</a> | M24           | 25 | <a href="#">38031.240.001</a> |
| M5            | 250 | <a href="#">38031.050.001</a> | M14           | 100 | <a href="#">38031.140.001</a> | M27           | 10 | <a href="#">38031.270.001</a> |
| M6            | 250 | <a href="#">38031.060.001</a> | M16           | 100 | <a href="#">38031.160.001</a> | M30           | 10 | <a href="#">38031.300.001</a> |
| M8            | 250 | <a href="#">38031.080.001</a> | M18           | 100 | <a href="#">38031.180.001</a> |               |    |                               |
| M10           | 200 | <a href="#">38031.100.001</a> | M20           | 100 | <a href="#">38031.200.001</a> |               |    |                               |

| 38081 Plain washer       |                                  | L95A  |
|--------------------------|----------------------------------|---|
| <b>Material</b>          | Steel 140HV                      |  |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated |   |
| <b>Packaging</b>         | Standard                         |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">38081.030.001</a> | M8            | 250 | <a href="#">38081.080.001</a> | M20           | 100 | <a href="#">38081.200.001</a> |
| M4            | 250 | <a href="#">38081.040.001</a> | M10           | 200 | <a href="#">38081.100.001</a> | M22           | 50  | <a href="#">38081.220.001</a> |
| M5            | 250 | <a href="#">38081.050.001</a> | M12           | 150 | <a href="#">38081.120.001</a> | M24           | 50  | <a href="#">38081.240.001</a> |
| M6            | 250 | <a href="#">38081.060.001</a> | M14           | 100 | <a href="#">38081.140.001</a> | M27           | 25  | <a href="#">38081.270.001</a> |
| M6,4X12,5X1,5 | 250 | <a href="#">38081.064.125</a> | M16           | 100 | <a href="#">38081.160.001</a> | M30           | 25  | <a href="#">38081.300.001</a> |
| M7            | 250 | <a href="#">38081.070.001</a> | M18           | 100 | <a href="#">38081.180.001</a> |               |     |                               |

- Technical brochure available on request.

| 38130 Plain washer       |             | L01A  |
|--------------------------|-------------|---|
| <b>Material</b>          | Steel 140HV |  |
| <b>Surface treatment</b> | Zinc plated |   |
| <b>Packaging</b>         | Standard    |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M1,6          | 500 | <a href="#">38130.016.001</a> | M2,5          | 500 | <a href="#">38130.025.001</a> | M3            | 250 | <a href="#">38130.030.001</a> |
| M2            | 500 | <a href="#">38130.020.001</a> | M2,6          | 500 | <a href="#">38130.026.001</a> | M4            | 250 | <a href="#">38130.040.001</a> |

| 38130 Plain washer |   |                                   |               |   |                                   |               |   |                                  |
|--------------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|----------------------------------|
| For nom. size      | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                       |
| M5                 |   | 250 <a href="#">38130.050.001</a> | M18           |   | 100 <a href="#">38130.180.001</a> | M39           |   | 10 <a href="#">38130.390.001</a> |
| M6                 |   | 250 <a href="#">38130.060.001</a> | M20           |   | 100 <a href="#">38130.200.001</a> | M42           |   | 10 <a href="#">38130.420.001</a> |
| M7                 |   | 250 <a href="#">38130.070.001</a> | M22           |   | 50 <a href="#">38130.220.001</a>  | M45           |   | 10 <a href="#">38130.450.001</a> |
| M8                 |   | 250 <a href="#">38130.080.001</a> | M24           |   | 50 <a href="#">38130.240.001</a>  | M48           |   | 10 <a href="#">38130.480.001</a> |
| M10                |   | 200 <a href="#">38130.100.001</a> | M26           |   | 50 <a href="#">38130.260.001</a>  | M52           |   | 5 <a href="#">38130.520.001</a>  |
| M11                |   | 150 <a href="#">38130.110.001</a> | M27           |   | 25 <a href="#">38130.270.001</a>  | M56           |   | 5 <a href="#">38130.560.001</a>  |
| M12                |   | 150 <a href="#">38130.120.001</a> | M30           |   | 25 <a href="#">38130.300.001</a>  | M60           |   | 5 <a href="#">38130.600.001</a>  |
| M14                |   | 100 <a href="#">38130.140.001</a> | M33           |   | 25 <a href="#">38130.330.001</a>  | M64           |   | 5 <a href="#">38130.640.001</a>  |
| M16                |   | 100 <a href="#">38130.160.001</a> | M36           |   | 25 <a href="#">38130.360.001</a>  |               |   |                                  |

| 38140 Plain washer       |             | L01A  |
|--------------------------|-------------|---|
| <b>Material</b>          | Steel 140HV |  |
| <b>Surface treatment</b> | Zinc plated |   |
| <b>Packaging</b>         | Large       |   |

| For nom. size | ☒ | Art.number                         | For nom. size | ☒ | Art.number                         | For nom. size | ☒ | Art.number                        |
|---------------|---|------------------------------------|---------------|---|------------------------------------|---------------|---|-----------------------------------|
| M3            |   | 2500 <a href="#">38140.030.001</a> | M8            |   | 2000 <a href="#">38140.080.001</a> | M16           |   | 400 <a href="#">38140.160.001</a> |
| M3,5          |   | 2500 <a href="#">38140.035.001</a> | M10           |   | 1000 <a href="#">38140.100.001</a> | M20           |   | 250 <a href="#">38140.200.001</a> |
| M4            |   | 2500 <a href="#">38140.040.001</a> | M11           |   | 500 <a href="#">38140.110.001</a>  | M24           |   | 250 <a href="#">38140.240.001</a> |
| M5            |   | 2500 <a href="#">38140.050.001</a> | M12           |   | 500 <a href="#">38140.120.001</a>  |               |   |                                   |
| M6            |   | 2000 <a href="#">38140.060.001</a> | M14           |   | 400 <a href="#">38140.140.001</a>  |               |   |                                   |

| 38080 Plain washer       |                               | L01A   |
|--------------------------|-------------------------------|--|
| <b>Material</b>          | Steel 140HV                   |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |  |
| <b>Packaging</b>         | Standard                      |  |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M3            |   | 250 <a href="#">38080.030.001</a> | M10           |   | 200 <a href="#">38080.100.001</a> | M20           |   | 100 <a href="#">38080.200.001</a> |
| M4            |   | 250 <a href="#">38080.040.001</a> | M11           |   | 150 <a href="#">38080.110.001</a> | M22           |   | 50 <a href="#">38080.220.001</a>  |
| M5            |   | 250 <a href="#">38080.050.001</a> | M12           |   | 150 <a href="#">38080.120.001</a> | M24           |   | 50 <a href="#">38080.240.001</a>  |
| M6            |   | 250 <a href="#">38080.060.001</a> | M14           |   | 100 <a href="#">38080.140.001</a> | M27           |   | 25 <a href="#">38080.270.001</a>  |
| M7            |   | 250 <a href="#">38080.070.001</a> | M16           |   | 100 <a href="#">38080.160.001</a> | M30           |   | 25 <a href="#">38080.300.001</a>  |
| M8            |   | 250 <a href="#">38080.080.001</a> | M18           |   | 100 <a href="#">38080.180.001</a> | M33           |   | 25 <a href="#">38080.330.001</a>  |

| 38143 Plain washer       |                              | L01A  |
|--------------------------|------------------------------|---|
| <b>Material</b>          | Steel 140HV                  |  |
| <b>Surface treatment</b> | Zinc plated black passivated |   |
| <b>Packaging</b>         | Standard                     |   |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M3            |   | 250 <a href="#">38143.030.001</a> | M8            |   | 250 <a href="#">38143.080.001</a> | M16           |   | 100 <a href="#">38143.160.001</a> |
| M4            |   | 250 <a href="#">38143.040.001</a> | M10           |   | 200 <a href="#">38143.100.001</a> | M20           |   | 100 <a href="#">38143.200.001</a> |
| M5            |   | 250 <a href="#">38143.050.001</a> | M12           |   | 150 <a href="#">38143.120.001</a> |               |   |                                   |
| M6            |   | 250 <a href="#">38143.060.001</a> | M14           |   | 100 <a href="#">38143.140.001</a> |               |   |                                   |

| 38157 Plain washer       |                    | L01A  |
|--------------------------|--------------------|---|
| <b>Material</b>          | Steel 140HV        |  |
| <b>Surface treatment</b> | Hot dip galvanized |   |
| <b>Packaging</b>         | Standard           |   |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M10           |   | 200 <a href="#">38157.100.001</a> | M16           |   | 100 <a href="#">38157.160.001</a> | M20           |   | 100 <a href="#">38157.200.001</a> |
| M12           |   | 150 <a href="#">38157.120.001</a> | M18           |   | 100 <a href="#">38157.180.001</a> | M24           |   | 100 <a href="#">38157.240.001</a> |

|                           |   |  |  |  |  |  |  |             |
|---------------------------|---|--|--|--|--|--|--|-------------|
| <b>38152 Plain washer</b> |   |  |  |  |  |  |  | <b>L01A</b> |
| <b>Material</b>           | Steel 140HV                             |  |  |  |  |  |  |             |
| <b>Surface treatment</b>  | Zinc flake Cr6+ free - ISO 10683 flZnnc |  |  |  |  |  |  |             |
| <b>Packaging</b>          | Standard                                |  |  |  |  |  |  |             |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                       |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|----------------------------------|
| M6            |   | 250 <a href="#">38152.060.001</a> | M14           |   | 100 <a href="#">38152.140.001</a> | M27           |   | 50 <a href="#">38152.270.001</a> |
| M8            |   | 250 <a href="#">38152.080.001</a> | M16           |   | 100 <a href="#">38152.160.001</a> | M30           |   | 25 <a href="#">38152.300.001</a> |
| M10           |   | 200 <a href="#">38152.100.001</a> | M20           |   | 100 <a href="#">38152.200.001</a> |               |   |                                  |
| M12           |   | 150 <a href="#">38152.120.001</a> | M24           |   | 50 <a href="#">38152.240.001</a>  |               |   |                                  |

|                           |             |  |  |  |  |  |  |             |
|---------------------------|-------------|--|--|--|--|--|--|-------------|
| <b>38093 Plain washer</b> |             |  |  |  |  |  |  | <b>L01A</b> |
| <b>Material</b>           | Steel 200HV |  |  |  |  |  |  |             |
| <b>Surface treatment</b>  | Zinc plated |  |  |  |  |  |  |             |
| <b>Packaging</b>          | Standard    |  |  |  |  |  |  |             |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                       |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|----------------------------------|
| M6            |   | 250 <a href="#">38093.060.001</a> | M16           |   | 100 <a href="#">38093.160.001</a> | M30           |   | 25 <a href="#">38093.300.001</a> |
| M8            |   | 250 <a href="#">38093.080.001</a> | M18           |   | 100 <a href="#">38093.180.001</a> | M33           |   | 25 <a href="#">38093.330.001</a> |
| M10           |   | 200 <a href="#">38093.100.001</a> | M20           |   | 100 <a href="#">38093.200.001</a> | M36           |   | 25 <a href="#">38093.360.001</a> |
| M12           |   | 150 <a href="#">38093.120.001</a> | M24           |   | 50 <a href="#">38093.240.001</a>  |               |   |                                  |
| M14           |   | 100 <a href="#">38093.140.001</a> | M27           |   | 25 <a href="#">38093.270.001</a>  |               |   |                                  |

|                           |   |  |  |  |  |  |  |             |
|---------------------------|---|--|--|--|--|--|--|-------------|
| <b>38125 Plain washer</b> |   |  |  |  |  |  |  | <b>L01A</b> |
| <b>Material</b>           | Steel 200HV                             |  |  |  |  |  |  |             |
| <b>Surface treatment</b>  | Zinc flake Cr6+ free - ISO 10683 flZnnc |  |  |  |  |  |  |             |
| <b>Packaging</b>          | Standard                                |  |  |  |  |  |  |             |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                       |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|----------------------------------|
| M6            |   | 250 <a href="#">38125.060.001</a> | M12           |   | 150 <a href="#">38125.120.001</a> | M24           |   | 50 <a href="#">38125.240.001</a> |
| M8            |   | 250 <a href="#">38125.080.001</a> | M16           |   | 100 <a href="#">38125.160.001</a> | M30           |   | 25 <a href="#">38125.300.001</a> |
| M10           |   | 200 <a href="#">38125.100.001</a> | M20           |   | 100 <a href="#">38125.200.001</a> |               |   |                                  |

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|                           |                    |  |  |  |  |  |  |             |
|---------------------------|--------------------|--|--|--|--|--|--|-------------|
| <b>51420 Plain washer</b> |                    |  |  |  |  |  |  | <b>R05A</b> |
| <b>Material</b>           | Stainless steel A2 |  |  |  |  |  |  |             |
| <b>Packaging</b>          | Standard           |  |  |  |  |  |  |             |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M1,2          |   | 200 <a href="#">51420.012.001</a> | M8            |   | 500 <a href="#">51420.080.001</a> | M20           |   | 200 <a href="#">51420.200.001</a> |
| M1,6          |   | 200 <a href="#">51420.016.001</a> | 3/8           |   | 200 <a href="#">51420.096.001</a> | M22           |   | 100 <a href="#">51420.220.001</a> |
| M2            |   | 200 <a href="#">51420.020.001</a> | M10           |   | 500 <a href="#">51420.100.001</a> | 7/8           |   | 50 <a href="#">51420.222.001</a>  |
| M2,5          |   | 200 <a href="#">51420.025.001</a> | 7/16          |   | 200 <a href="#">51420.111.001</a> | M24           |   | 100 <a href="#">51420.240.001</a> |
| M3            |   | 500 <a href="#">51420.030.001</a> | M12           |   | 500 <a href="#">51420.120.001</a> | 1.IN.         |   | 25 <a href="#">51420.254.001</a>  |
| M3,5          |   | 500 <a href="#">51420.035.001</a> | 1/2           |   | 200 <a href="#">51420.127.001</a> | M27           |   | 50 <a href="#">51420.270.001</a>  |
| M4            |   | 500 <a href="#">51420.040.001</a> | M14           |   | 200 <a href="#">51420.140.001</a> | M30           |   | 50 <a href="#">51420.300.001</a>  |
| M5            |   | 500 <a href="#">51420.050.001</a> | 9/16          |   | 100 <a href="#">51420.142.001</a> | 1.1/4         |   | 25 <a href="#">51420.317.001</a>  |
| M6            |   | 500 <a href="#">51420.060.001</a> | 5/8           |   | 100 <a href="#">51420.158.001</a> | M33           |   | 50 <a href="#">51420.330.001</a>  |
| 1/4           |   | 250 <a href="#">51420.063.001</a> | M16           |   | 200 <a href="#">51420.160.001</a> | M36           |   | 50 <a href="#">51420.360.001</a>  |
| M7            |   | 500 <a href="#">51420.070.001</a> | M18           |   | 200 <a href="#">51420.180.001</a> | 1.1/2         |   | 25 <a href="#">51420.381.001</a>  |
| 5/16          |   | 250 <a href="#">51420.079.001</a> | 3/4           |   | 100 <a href="#">51420.191.001</a> | M42           |   | 20 <a href="#">51420.420.001</a>  |

|                           |                    |  |  |  |  |  |  |             |
|---------------------------|--------------------|--|--|--|--|--|--|-------------|
| <b>55420 Plain washer</b> |                    |  |  |  |  |  |  | <b>R45A</b> |
| <b>Material</b>           | Stainless steel A4 |  |  |  |  |  |  |             |
| <b>Packaging</b>          | Standard           |  |  |  |  |  |  |             |

| For nom. size | ☒ | Art.number                         | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                         |
|---------------|---|------------------------------------|---------------|---|-----------------------------------|---------------|---|------------------------------------|
| M1,6          |   | 200 <a href="#">55420.016.001</a>  | M2            |   | 200 <a href="#">55420.020.001</a> | M3            |   | 500 <a href="#">55420.030.001</a>  |
| M1,7 *        |   | 2000 <a href="#">55420.017.001</a> | M2,5          |   | 200 <a href="#">55420.025.001</a> | M3,5 *        |   | 1000 <a href="#">55420.035.001</a> |

| 55420 Plain washer |     |                               |               |     |                               |               |    |                               |
|--------------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| For nom. size      | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
| M4                 | 500 | <a href="#">55420.040.001</a> | M14           | 200 | <a href="#">55420.140.001</a> | 1.1/8         | 25 | <a href="#">55420.285.001</a> |
| M5                 | 500 | <a href="#">55420.050.001</a> | 5/8           | 100 | <a href="#">55420.158.001</a> | M30           | 50 | <a href="#">55420.300.001</a> |
| M6                 | 500 | <a href="#">55420.060.001</a> | M16           | 200 | <a href="#">55420.160.001</a> | 1.1/4         | 25 | <a href="#">55420.317.001</a> |
| 1/4                | 250 | <a href="#">55420.063.001</a> | M18           | 200 | <a href="#">55420.180.001</a> | M33           | 50 | <a href="#">55420.330.001</a> |
| M7                 | 500 | <a href="#">55420.070.001</a> | 3/4           | 100 | <a href="#">55420.191.001</a> | M36           | 50 | <a href="#">55420.360.001</a> |
| 5/16               | 250 | <a href="#">55420.079.001</a> | M20           | 200 | <a href="#">55420.200.001</a> | M39 *         | 25 | <a href="#">55420.390.001</a> |
| M8                 | 500 | <a href="#">55420.080.001</a> | M22           | 100 | <a href="#">55420.220.001</a> | M42 *         | 25 | <a href="#">55420.420.001</a> |
| 3/8                | 200 | <a href="#">55420.096.001</a> | 7/8           | 50  | <a href="#">55420.222.001</a> | M45 *         | 10 | <a href="#">55420.450.001</a> |
| M10                | 500 | <a href="#">55420.100.001</a> | M24           | 100 | <a href="#">55420.240.001</a> | M50 *         | 10 | <a href="#">55420.500.001</a> |
| M12                | 500 | <a href="#">55420.120.001</a> | 1.IN.         | 50  | <a href="#">55420.254.001</a> | M52 *         | 10 | <a href="#">55420.520.001</a> |
| 1/2                | 100 | <a href="#">55420.127.001</a> | M27           | 50  | <a href="#">55420.270.001</a> |               |    |                               |

| 45184 Plain washer |             | W010 |  |
|--------------------|-------------|------|--|
| <b>Material</b>    | Aluminium   |      |  |
| <b>Packaging</b>   | Standard    |      |  |
|                    | ISO ≈7089   |      |  |
|                    | DIN ≈125-1A |      |  |
|                    | NEN ≈2269 A |      |  |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">45184.030.001</a> | M6            | 250 | <a href="#">45184.060.001</a> | M12           | 150 | <a href="#">45184.120.001</a> |
| M4            | 250 | <a href="#">45184.040.001</a> | M8            | 250 | <a href="#">45184.080.001</a> | M16           | 100 | <a href="#">45184.160.001</a> |
| M5            | 250 | <a href="#">45184.050.001</a> | M10           | 200 | <a href="#">45184.100.001</a> |               |     |                               |

| 50060 Plain washer |          | M11F |  |
|--------------------|----------|------|--|
| <b>Material</b>    | Brass    |      |  |
| <b>Packaging</b>   | Standard |      |  |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">50060.030.001</a> | M8            | 250 | <a href="#">50060.080.001</a> | M18           | 50 | <a href="#">50060.180.001</a> |
| M4            | 250 | <a href="#">50060.040.001</a> | M10           | 100 | <a href="#">50060.100.001</a> | M20           | 50 | <a href="#">50060.200.001</a> |
| M5            | 250 | <a href="#">50060.050.001</a> | M12           | 100 | <a href="#">50060.120.001</a> | M24           | 50 | <a href="#">50060.240.001</a> |
| M6            | 250 | <a href="#">50060.060.001</a> | M14           | 100 | <a href="#">50060.140.001</a> |               |    |                               |
| M7            | 250 | <a href="#">50060.070.001</a> | M16           | 100 | <a href="#">50060.160.001</a> |               |    |                               |

| 50065 Plain washer       |               | M11F |  |
|--------------------------|---------------|------|--|
| <b>Material</b>          | Brass         |      |  |
| <b>Surface treatment</b> | Nickel plated |      |  |
| <b>Packaging</b>         | Standard      |      |  |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">50065.030.001</a> | M8            | 250 | <a href="#">50065.080.001</a> | M20           | 50 | <a href="#">50065.200.001</a> |
| M4            | 250 | <a href="#">50065.040.001</a> | M10           | 100 | <a href="#">50065.100.001</a> | M24           | 50 | <a href="#">50065.240.001</a> |
| M5            | 250 | <a href="#">50065.050.001</a> | M12           | 100 | <a href="#">50065.120.001</a> |               |    |                               |
| M6            | 250 | <a href="#">50065.060.001</a> | M16           | 100 | <a href="#">50065.160.001</a> |               |    |                               |

| 56300 Plain washer |                           | W02A |  |
|--------------------|---------------------------|------|--|
| <b>Material</b>    | Plastic Polyamide (nylon) |      |  |
| <b>Class</b>       | PA 6.6                    |      |  |
| <b>Packaging</b>   | Standard                  |      |  |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M2            | 200 | <a href="#">56300.020.001</a> | M10           | 100 | <a href="#">56300.100.001</a> | M24           | 50 | <a href="#">56300.240.001</a> |
| M2,5          | 200 | <a href="#">56300.025.001</a> | M12           | 100 | <a href="#">56300.120.001</a> | M27           | 50 | <a href="#">56300.270.001</a> |
| M3            | 200 | <a href="#">56300.030.001</a> | M14           | 100 | <a href="#">56300.140.001</a> | M30           | 50 | <a href="#">56300.300.001</a> |
| M4            | 200 | <a href="#">56300.040.001</a> | M14,5         | 100 | <a href="#">56300.145.001</a> | M33           | 50 | <a href="#">56300.330.001</a> |
| M5            | 200 | <a href="#">56300.050.001</a> | M16           | 50  | <a href="#">56300.160.001</a> | M36           | 50 | <a href="#">56300.360.001</a> |
| M6            | 200 | <a href="#">56300.060.001</a> | M20           | 50  | <a href="#">56300.200.001</a> |               |    |                               |
| M8            | 200 | <a href="#">56300.080.001</a> | M22           | 50  | <a href="#">56300.220.001</a> |               |    |                               |

| 56310 Plain washer |                           | W02A |
|--------------------|---------------------------|------|
| <b>Material</b>    | Plastic Polyamide (nylon) |      |
| <b>Class</b>       | PA 6.6                    |      |
| <b>Packaging</b>   | Large                     |      |

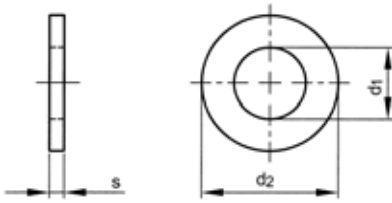
| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">56310.030.001</a> | M8            | 1000 | <a href="#">56310.080.001</a> | M16           | 500 | <a href="#">56310.160.001</a> |
| M4            | 1000 | <a href="#">56310.040.001</a> | M10           | 500  | <a href="#">56310.100.001</a> | M20           | 500 | <a href="#">56310.200.001</a> |
| M5            | 1000 | <a href="#">56310.050.001</a> | M12           | 500  | <a href="#">56310.120.001</a> |               |     |                               |
| M6            | 1000 | <a href="#">56310.060.001</a> | M14           | 500  | <a href="#">56310.140.001</a> |               |     |                               |

| 45930 Plain washer |                            | W01A |
|--------------------|----------------------------|------|
| <b>Material</b>    | Titanium ASTM              |      |
| <b>Packaging</b>   | Standard                   |      |
|                    | ISO ≈7089                  |      |
|                    | DIN ≈125-1A<br>NEN ≈2269 A |      |

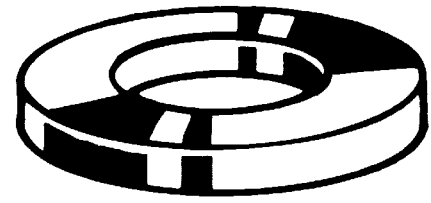
| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 25 | <a href="#">45930.060.001</a> | M8            | 25 | <a href="#">45930.080.001</a> | M10           | 25 | <a href="#">45930.100.001</a> |

- Titanium ASTM Grade 2 (materialnumber 3.7035) with a high percentage of pure titanium, ensures product stability and -suitability in extremely corrosive environments where other materials i.e. stainless steel fail.
- Titanium Grade 2 is also suitable for other light loaded applications.

## Plain washer



ISO 7091  
 DIN 126  
 NEN 2268  
 NF E25-513



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M5           | 5,5            | 10             | 1   |
| M6           | 6,6            | 12             | 1,6 |
| M8           | 9              | 16             | 1,6 |
| M10          | 11             | 20             | 2   |
| M12          | 13,5           | 24             | 2,5 |
| M14          | 15,5           | 27             | 3   |
| M16          | 17,5           | 30             | 3   |
| M18          | 19,8           | 34             | 3   |
| M20          | 22             | 37             | 3   |
| M22          | 24             | 39             | 3   |
| M24          | 26             | 44             | 4   |
| M27          | 30             | 50             | 4   |
| M30          | 33             | 56             | 4   |
| M33          | 36             | 60             | 5   |
| M36          | 39             | 66             | 5   |
| M39          | 42             | 72             | 6   |
| M42          | 45             | 78             | 7   |
| M45          | 48             | 85             | 7   |
| M48          | 52             | 92             | 8   |
| M52          | 56             | 98             | 8   |
| M56          | 62             | 105            | 9   |
| M60          | 66             | 110            | 9   |
| M64          | 70             | 115            | 9   |
| M72          | 78             | 125            | 10  |
| M80          | 86             | 140            | 12  |
| M90          | 96             | 160            | 12  |

### Article groups

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| St       |                   | Standard  | 38200 | 7-9  |
| St       | Zipl              | Standard  | 38205 | 7-10 |
| St       | Hot d.g.          | Standard  | 38740 | 7-10 |

7

#### 38200 Plain washer

L07G

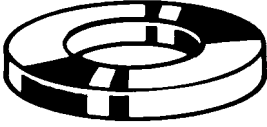
Material Steel  
 Packaging Standard



| For nom. size | ✉    | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉  | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 1000 | <a href="#">38200.050.001</a> | M24           | 100 | <a href="#">38200.240.001</a> | M48           | 25 | <a href="#">38200.480.001</a> |
| M6            | 1000 | <a href="#">38200.060.001</a> | M27           | 100 | <a href="#">38200.270.001</a> | M52           | 25 | <a href="#">38200.520.001</a> |
| M8            | 1000 | <a href="#">38200.080.001</a> | M30           | 100 | <a href="#">38200.300.001</a> | M56           | 25 | <a href="#">38200.560.001</a> |
| M10           | 1000 | <a href="#">38200.100.001</a> | M33           | 100 | <a href="#">38200.330.001</a> | M60           | 10 | <a href="#">38200.600.001</a> |
| M12           | 500  | <a href="#">38200.120.001</a> | M36           | 100 | <a href="#">38200.360.001</a> | M64           | 10 | <a href="#">38200.640.001</a> |
| M16           | 250  | <a href="#">38200.160.001</a> | M39           | 50  | <a href="#">38200.390.001</a> | M72           | 10 | <a href="#">38200.720.001</a> |
| M20           | 200  | <a href="#">38200.200.001</a> | M42           | 50  | <a href="#">38200.420.001</a> | M80           | 5  | <a href="#">38200.800.001</a> |
| M22           | 100  | <a href="#">38200.220.001</a> | M45           | 25  | <a href="#">38200.450.001</a> | M90           | 5  | <a href="#">38200.900.001</a> |

|                           |             |   |
|---------------------------|-------------|---|
| <b>38205 Plain washer</b> |             | <b>L07G</b>   |
| <b>Material</b>           | Steel       |  |
| <b>Surface treatment</b>  | Zinc plated |   |
| <b>Packaging</b>          | Standard    |   |

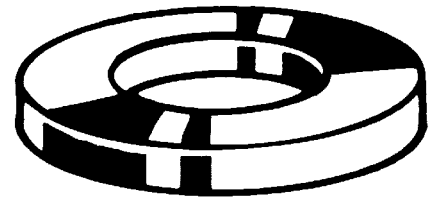
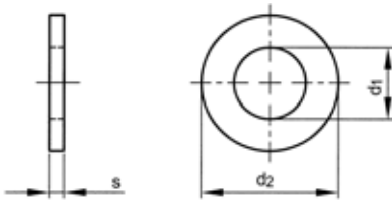
| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M6            | 1000 | <a href="#">38205.060.001</a> | M16           | 250 | <a href="#">38205.160.001</a> | M27           | 100 | <a href="#">38205.270.001</a> |
| M8            | 1000 | <a href="#">38205.080.001</a> | M18           | 200 | <a href="#">38205.180.001</a> | M30           | 100 | <a href="#">38205.300.001</a> |
| M10           | 1000 | <a href="#">38205.100.001</a> | M20           | 200 | <a href="#">38205.200.001</a> | M33           | 100 | <a href="#">38205.330.001</a> |
| M12           | 500  | <a href="#">38205.120.001</a> | M22           | 200 | <a href="#">38205.220.001</a> | M36           | 100 | <a href="#">38205.360.001</a> |
| M14           | 100  | <a href="#">38205.140.001</a> | M24           | 100 | <a href="#">38205.240.001</a> | M39           | 50  | <a href="#">38205.390.001</a> |

|                           |                    |   |
|---------------------------|--------------------|---|
| <b>38740 Plain washer</b> |                    | <b>L07G</b>   |
| <b>Material</b>           | Steel              |  |
| <b>Surface treatment</b>  | Hot dip galvanized |   |
| <b>Packaging</b>          | Standard           |   |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M6            | 1000 | <a href="#">38740.060.001</a> | M22           | 100 | <a href="#">38740.220.001</a> | M45           | 25 | <a href="#">38740.450.001</a> |
| M8            | 1000 | <a href="#">38740.080.001</a> | M24           | 100 | <a href="#">38740.240.001</a> | M48           | 25 | <a href="#">38740.480.001</a> |
| M10           | 1000 | <a href="#">38740.100.001</a> | M27           | 100 | <a href="#">38740.270.001</a> | M52           | 25 | <a href="#">38740.520.001</a> |
| M12           | 500  | <a href="#">38740.120.001</a> | M30           | 100 | <a href="#">38740.300.001</a> | M56           | 25 | <a href="#">38740.560.001</a> |
| M14           | 100  | <a href="#">38740.140.001</a> | M33           | 100 | <a href="#">38740.330.001</a> | M60           | 10 | <a href="#">38740.600.001</a> |
| M16           | 250  | <a href="#">38740.160.001</a> | M36           | 100 | <a href="#">38740.360.001</a> | M64           | 10 | <a href="#">38740.640.001</a> |
| M18           | 250  | <a href="#">38740.180.001</a> | M39           | 50  | <a href="#">38740.390.001</a> |               |    |                               |
| M20           | 200  | <a href="#">38740.200.001</a> | M42           | 50  | <a href="#">38740.420.001</a> |               |    |                               |

## Plain washer type L

NF E25-513



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M3           | 3,2                   | 12                    | 0,8 |
| M4           | 4,3                   | 14                    | 0,8 |
| M5           | 5,3                   | 16                    | 1   |
| M6           | 6,4                   | 18                    | 1,2 |
| M7           | 7,4                   | 20                    | 1,5 |
| M8           | 8,4                   | 22                    | 1,5 |
| M10          | 10,5                  | 27                    | 2   |
| M12          | 13                    | 32                    | 2,5 |
| M14          | 15                    | 36                    | 2,5 |
| M16          | 17                    | 40                    | 3   |
| M18          | 19                    | 45                    | 3   |
| M20          | 21                    | 50                    | 3   |
| M22          | 23                    | 55                    | 3   |
| M24          | 25                    | 60                    | 4   |
| M27          | 28                    | 65                    | 4   |
| M30          | 31                    | 70                    | 4   |

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        |                   | Standard  | 38063 | 7-11 |
| St        | Zipl              | Standard  | 38065 | 7-11 |
| St        | Zipl yell.p.      | Standard  | 38067 | 7-12 |
| St.St. A2 |                   | Standard  | 51418 | 7-12 |
| St.St. A4 |                   | Standard  | 55418 | 7-12 |

#### 38063 Plain washer type L

L07G

Material Steel  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38063.030.001</a> | M10           | 200 | <a href="#">38063.100.001</a> | M22           | 100 | <a href="#">38063.220.001</a> |
| M4            | 500 | <a href="#">38063.040.001</a> | M12           | 200 | <a href="#">38063.120.001</a> | M24           | 100 | <a href="#">38063.240.001</a> |
| M5            | 500 | <a href="#">38063.050.001</a> | M14           | 200 | <a href="#">38063.140.001</a> | M27           | 100 | <a href="#">38063.270.001</a> |
| M6            | 500 | <a href="#">38063.060.001</a> | M16           | 100 | <a href="#">38063.160.001</a> | M30           | 100 | <a href="#">38063.300.001</a> |
| M7            | 250 | <a href="#">38063.070.001</a> | M18           | 100 | <a href="#">38063.180.001</a> |               |     |                               |
| M8            | 250 | <a href="#">38063.080.001</a> | M20           | 100 | <a href="#">38063.200.001</a> |               |     |                               |

#### 38065 Plain washer type L

L07G

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38065.030.001</a> | M10           | 200 | <a href="#">38065.100.001</a> | M22           | 100 | <a href="#">38065.220.001</a> |
| M4            | 500 | <a href="#">38065.040.001</a> | M12           | 200 | <a href="#">38065.120.001</a> | M24           | 100 | <a href="#">38065.240.001</a> |
| M5            | 500 | <a href="#">38065.050.001</a> | M14           | 200 | <a href="#">38065.140.001</a> | M27           | 100 | <a href="#">38065.270.001</a> |
| M6            | 500 | <a href="#">38065.060.001</a> | M16           | 100 | <a href="#">38065.160.001</a> | M30           | 100 | <a href="#">38065.300.001</a> |
| M7            | 250 | <a href="#">38065.070.001</a> | M18           | 100 | <a href="#">38065.180.001</a> |               |     |                               |
| M8            | 250 | <a href="#">38065.080.001</a> | M20           | 100 | <a href="#">38065.200.001</a> |               |     |                               |



|                                  |                               |             |
|----------------------------------|-------------------------------|-------------|
| <b>38067 Plain washer type L</b> |                               | <b>L07G</b> |
| <b>Material</b>                  | Steel                         |             |
| <b>Surface treatment</b>         | Zinc plated yellow passivated |             |
| <b>Packaging</b>                 | Standard                      |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38067.030.001</a> | M10           | 200 | <a href="#">38067.100.001</a> | M22           | 100 | <a href="#">38067.220.001</a> |
| M4            | 500 | <a href="#">38067.040.001</a> | M12           | 200 | <a href="#">38067.120.001</a> | M24           | 100 | <a href="#">38067.240.001</a> |
| M5            | 500 | <a href="#">38067.050.001</a> | M14           | 100 | <a href="#">38067.140.001</a> | M27           | 100 | <a href="#">38067.270.001</a> |
| M6            | 500 | <a href="#">38067.060.001</a> | M16           | 100 | <a href="#">38067.160.001</a> | M30           | 100 | <a href="#">38067.300.001</a> |
| M7            | 250 | <a href="#">38067.070.001</a> | M18           | 100 | <a href="#">38067.180.001</a> |               |     |                               |
| M8            | 250 | <a href="#">38067.080.001</a> | M20           | 100 | <a href="#">38067.200.001</a> |               |     |                               |

|                                  |                    |             |
|----------------------------------|--------------------|-------------|
| <b>51418 Plain washer type L</b> |                    | <b>R05A</b> |
| <b>Material</b>                  | Stainless steel A2 |             |
| <b>Packaging</b>                 | Standard           |             |
|                                  | NF ≈E25-513        |             |

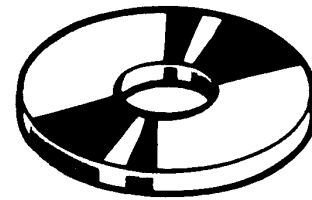
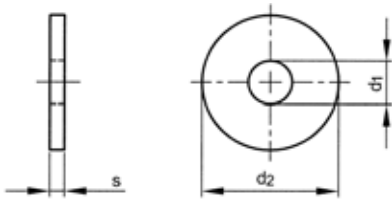
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">51418.030.001</a> | M10           | 250 | <a href="#">51418.100.001</a> | M20           | 100 | <a href="#">51418.200.001</a> |
| M4            | 250 | <a href="#">51418.040.001</a> | M12           | 200 | <a href="#">51418.120.001</a> | M24           | 50  | <a href="#">51418.240.001</a> |
| M5            | 250 | <a href="#">51418.050.001</a> | M14           | 200 | <a href="#">51418.140.001</a> | M27           | 50  | <a href="#">51418.270.001</a> |
| M6            | 250 | <a href="#">51418.060.001</a> | M16           | 100 | <a href="#">51418.160.001</a> |               |     |                               |
| M8            | 250 | <a href="#">51418.080.001</a> | M18           | 100 | <a href="#">51418.180.001</a> |               |     |                               |

|                                  |                    |             |
|----------------------------------|--------------------|-------------|
| <b>55418 Plain washer type L</b> |                    | <b>R45A</b> |
| <b>Material</b>                  | Stainless steel A4 |             |
| <b>Packaging</b>                 | Standard           |             |
|                                  | NF ≈E25-513        |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">55418.030.001</a> | M10           | 250 | <a href="#">55418.100.001</a> | M20           | 100 | <a href="#">55418.200.001</a> |
| M4            | 250 | <a href="#">55418.040.001</a> | M12           | 200 | <a href="#">55418.120.001</a> | M24           | 50  | <a href="#">55418.240.001</a> |
| M5            | 250 | <a href="#">55418.050.001</a> | M14           | 200 | <a href="#">55418.140.001</a> | M27           | 50  | <a href="#">55418.270.001</a> |
| M6            | 250 | <a href="#">55418.060.001</a> | M16           | 100 | <a href="#">55418.160.001</a> | M30           | 25  | <a href="#">55418.300.001</a> |
| M8            | 250 | <a href="#">55418.080.001</a> | M18           | 100 | <a href="#">55418.180.001</a> |               |     |                               |

## Plain washer type LL

NF E25-513



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M3           | 3,2                   | 14                    | 0,8 |
| M4           | 4,3                   | 16                    | 0,8 |
| M5           | 5,3                   | 20                    | 1   |
| M6           | 6,4                   | 24                    | 1,2 |
| M7           | 7,4                   | 27                    | 1,5 |
| M8           | 8,4                   | 30                    | 1,5 |
| M10          | 10,5                  | 36                    | 2   |
| M12          | 13                    | 40                    | 2,5 |
| M14          | 15                    | 45                    | 2,5 |
| M16          | 17                    | 50                    | 3   |
| M18          | 19                    | 55                    | 3   |
| M20          | 21                    | 60                    | 3   |
| M22 (#NF)    | 23                    | 65                    | 3   |
| M24 (#NF)    | 25                    | 70                    | 4   |
| M27 (#NF)    | 28                    | 78                    | 4   |
| M30 (#NF)    | 31                    | 80                    | 4   |

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        |                   | Standard  | 38073 | 7-13 |
| St        | Zipl              | Standard  | 38075 | 7-13 |
| St        | Zipl yell.p.      | Standard  | 38077 | 7-14 |
| St.St. A2 |                   | Standard  | 51419 | 7-14 |
| St.St. A4 |                   | Standard  | 55419 | 7-14 |

#### 38073 Plain washer type LL

L07G

Material Steel  
 Packaging Standard



| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">38073.030.001</a> | M10           | 200 | <a href="#">38073.100.001</a> | M22           | 100 | <a href="#">38073.220.001</a> |
| M4            | 500  | <a href="#">38073.040.001</a> | M12           | 200 | <a href="#">38073.120.001</a> | M24           | 100 | <a href="#">38073.240.001</a> |
| M5            | 500  | <a href="#">38073.050.001</a> | M14           | 100 | <a href="#">38073.140.001</a> | M27           | 100 | <a href="#">38073.270.001</a> |
| M6            | 250  | <a href="#">38073.060.001</a> | M16           | 100 | <a href="#">38073.160.001</a> | M30           | 100 | <a href="#">38073.300.001</a> |
| M7            | 250  | <a href="#">38073.070.001</a> | M18           | 100 | <a href="#">38073.180.001</a> |               |     |                               |
| M8            | 250  | <a href="#">38073.080.001</a> | M20           | 100 | <a href="#">38073.200.001</a> |               |     |                               |

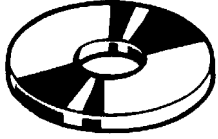
#### 38075 Plain washer type LL

L07G

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">38075.030.001</a> | M10           | 200 | <a href="#">38075.100.001</a> | M22           | 100 | <a href="#">38075.220.001</a> |
| M4            | 500  | <a href="#">38075.040.001</a> | M12           | 200 | <a href="#">38075.120.001</a> | M24           | 100 | <a href="#">38075.240.001</a> |
| M5            | 500  | <a href="#">38075.050.001</a> | M14           | 100 | <a href="#">38075.140.001</a> | M27           | 100 | <a href="#">38075.270.001</a> |
| M6            | 250  | <a href="#">38075.060.001</a> | M16           | 100 | <a href="#">38075.160.001</a> | M30           | 100 | <a href="#">38075.300.001</a> |
| M7            | 250  | <a href="#">38075.070.001</a> | M18           | 100 | <a href="#">38075.180.001</a> |               |     |                               |
| M8            | 250  | <a href="#">38075.080.001</a> | M20           | 100 | <a href="#">38075.200.001</a> |               |     |                               |

| 38077 Plain washer type LL |                               | L07G  |
|----------------------------|-------------------------------|---|
| <b>Material</b>            | Steel                         |  |
| <b>Surface treatment</b>   | Zinc plated yellow passivated |   |
| <b>Packaging</b>           | Standard                      |   |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">38077.030.001</a> | M10           | 200 | <a href="#">38077.100.001</a> | M22           | 100 | <a href="#">38077.220.001</a> |
| M4            | 500  | <a href="#">38077.040.001</a> | M12           | 200 | <a href="#">38077.120.001</a> | M24           | 100 | <a href="#">38077.240.001</a> |
| M5            | 500  | <a href="#">38077.050.001</a> | M14           | 100 | <a href="#">38077.140.001</a> | M27           | 100 | <a href="#">38077.270.001</a> |
| M6            | 250  | <a href="#">38077.060.001</a> | M16           | 100 | <a href="#">38077.160.001</a> | M30           | 100 | <a href="#">38077.300.001</a> |
| M7            | 250  | <a href="#">38077.070.001</a> | M18           | 100 | <a href="#">38077.180.001</a> |               |     |                               |
| M8            | 250  | <a href="#">38077.080.001</a> | M20           | 100 | <a href="#">38077.200.001</a> |               |     |                               |

| 51419 Plain washer type LL |                    | R05A  |
|----------------------------|--------------------|---|
| <b>Material</b>            | Stainless steel A2 |  |
| <b>Packaging</b>           | Standard           |   |
|                            | NF ≈E25-513        |   |

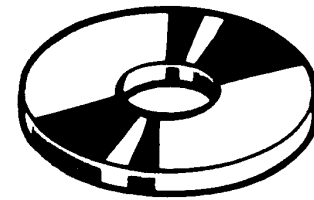
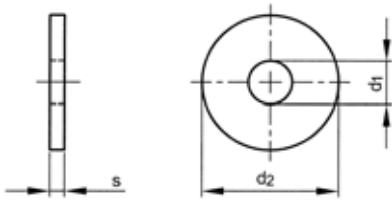
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 250 | <a href="#">51419.040.001</a> | M8            | 250 | <a href="#">51419.080.001</a> | M14           | 100 | <a href="#">51419.140.001</a> |
| M5            | 250 | <a href="#">51419.050.001</a> | M10           | 250 | <a href="#">51419.100.001</a> | M16           | 100 | <a href="#">51419.160.001</a> |
| M6            | 250 | <a href="#">51419.060.001</a> | M12           | 200 | <a href="#">51419.120.001</a> |               |     |                               |

| 55419 Plain washer type LL |                    | R45A  |
|----------------------------|--------------------|---|
| <b>Material</b>            | Stainless steel A4 |  |
| <b>Packaging</b>           | Standard           |   |
|                            | NF ≈E25-513        |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|---|------------|
| M6            | 250 | <a href="#">55419.060.001</a> | M10           | 250 | <a href="#">55419.100.001</a> |               |   |            |
| M8            | 250 | <a href="#">55419.080.001</a> | M12           | 200 | <a href="#">55419.120.001</a> |               |   |            |

## Plain washer type M

NF E25-513



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M2,5         | 2,7                   | 7                     | 0,5 |
| M3           | 3,2                   | 8                     | 0,8 |
| M4           | 4,3                   | 10                    | 0,8 |
| M5           | 5,3                   | 12                    | 1   |
| M6           | 6,4                   | 14                    | 1,2 |
| M7           | 7,4                   | 16                    | 1,5 |
| M8           | 8,4                   | 18                    | 1,5 |
| M10          | 10,5                  | 22                    | 2   |
| M12          | 13                    | 27                    | 2,5 |
| M14          | 15                    | 30                    | 2,5 |
| M16          | 17                    | 32                    | 3   |
| M18          | 19                    | 36                    | 3   |
| M20          | 21                    | 40                    | 3   |
| M22          | 23                    | 45                    | 3   |
| M24          | 25                    | 50                    | 4   |
| M27          | 28                    | 55                    | 4   |
| M30          | 31                    | 60                    | 4   |
| M33          | 34                    | 65                    | 5   |
| M36          | 37                    | 70                    | 5   |
| M39          | 40                    | 75                    | 6   |
| M42          | 43                    | 80                    | 6   |
| M45          | 46                    | 85                    | 7   |
| M48          | 50                    | 90                    | 7   |
| M52          | 54                    | 100                   | 8   |
| M56 (#NF)    | 60                    | 105                   | 9   |

### Article groups

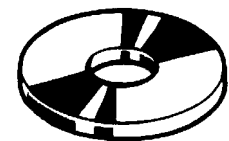
| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        |                   | Standard  | 38053 | 7-15 |
| St        | Zipl              | Standard  | 38055 | 7-16 |
| St        | Zipl yell.p.      | Standard  | 38057 | 7-16 |
| St.St. A2 |                   | Standard  | 51417 | 7-16 |
| St.St. A4 |                   | Standard  | 55417 | 7-16 |

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### 38053 Plain washer type M

L07G

Material Steel  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38053.030.001</a> | M14           | 200 | <a href="#">38053.140.001</a> | M33           | 100 | <a href="#">38053.330.001</a> |
| M4            | 500 | <a href="#">38053.040.001</a> | M16           | 100 | <a href="#">38053.160.001</a> | M36           | 100 | <a href="#">38053.360.001</a> |
| M5            | 500 | <a href="#">38053.050.001</a> | M18           | 100 | <a href="#">38053.180.001</a> | M39           | 100 | <a href="#">38053.390.001</a> |
| M6            | 500 | <a href="#">38053.060.001</a> | M20           | 100 | <a href="#">38053.200.001</a> | M42           | 100 | <a href="#">38053.420.001</a> |
| M7            | 250 | <a href="#">38053.070.001</a> | M22           | 100 | <a href="#">38053.220.001</a> | M45           | 100 | <a href="#">38053.450.001</a> |
| M8            | 250 | <a href="#">38053.080.001</a> | M24           | 100 | <a href="#">38053.240.001</a> | M48           | 25  | <a href="#">38053.480.001</a> |
| M10           | 200 | <a href="#">38053.100.001</a> | M27           | 100 | <a href="#">38053.270.001</a> | M52           | 25  | <a href="#">38053.520.001</a> |
| M12           | 200 | <a href="#">38053.120.001</a> | M30           | 100 | <a href="#">38053.300.001</a> | M56           | 25  | <a href="#">38053.560.001</a> |

| 38055 Plain washer type M |             | L07G  |
|---------------------------|-------------|---|
| <b>Material</b>           | Steel       |  |
| <b>Surface treatment</b>  | Zinc plated |   |
| <b>Packaging</b>          | Standard    |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38055.030.001</a> | M12           | 200 | <a href="#">38055.120.001</a> | M27           | 100 | <a href="#">38055.270.001</a> |
| M4            | 500 | <a href="#">38055.040.001</a> | M14           | 200 | <a href="#">38055.140.001</a> | M30           | 100 | <a href="#">38055.300.001</a> |
| M5            | 500 | <a href="#">38055.050.001</a> | M16           | 100 | <a href="#">38055.160.001</a> | M33           | 100 | <a href="#">38055.330.001</a> |
| M6            | 500 | <a href="#">38055.060.001</a> | M18           | 100 | <a href="#">38055.180.001</a> | M36           | 100 | <a href="#">38055.360.001</a> |
| M7            | 250 | <a href="#">38055.070.001</a> | M20           | 100 | <a href="#">38055.200.001</a> | M39           | 100 | <a href="#">38055.390.001</a> |
| M8            | 250 | <a href="#">38055.080.001</a> | M22           | 100 | <a href="#">38055.220.001</a> | M42           | 100 | <a href="#">38055.420.001</a> |
| M10           | 200 | <a href="#">38055.100.001</a> | M24           | 100 | <a href="#">38055.240.001</a> | M45           | 100 | <a href="#">38055.450.001</a> |

| 38057 Plain washer type M |                               | L07G  |
|---------------------------|-------------------------------|---|
| <b>Material</b>           | Steel                         |  |
| <b>Surface treatment</b>  | Zinc plated yellow passivated |   |
| <b>Packaging</b>          | Standard                      |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38057.030.001</a> | M14           | 200 | <a href="#">38057.140.001</a> | M33           | 100 | <a href="#">38057.330.001</a> |
| M4            | 500 | <a href="#">38057.040.001</a> | M16           | 100 | <a href="#">38057.160.001</a> | M36           | 100 | <a href="#">38057.360.001</a> |
| M5            | 500 | <a href="#">38057.050.001</a> | M18           | 100 | <a href="#">38057.180.001</a> | M39           | 100 | <a href="#">38057.390.001</a> |
| M6            | 500 | <a href="#">38057.060.001</a> | M20           | 100 | <a href="#">38057.200.001</a> | M42           | 100 | <a href="#">38057.420.001</a> |
| M7            | 250 | <a href="#">38057.070.001</a> | M22           | 100 | <a href="#">38057.220.001</a> | M45           | 100 | <a href="#">38057.450.001</a> |
| M8            | 250 | <a href="#">38057.080.001</a> | M24           | 100 | <a href="#">38057.240.001</a> | M48           | 50  | <a href="#">38057.480.001</a> |
| M10           | 200 | <a href="#">38057.100.001</a> | M27           | 100 | <a href="#">38057.270.001</a> |               |     |                               |
| M12           | 200 | <a href="#">38057.120.001</a> | M30           | 100 | <a href="#">38057.300.001</a> |               |     |                               |

| 51417 Plain washer type M |                    | R05A  |
|---------------------------|--------------------|---|
| <b>Material</b>           | Stainless steel A2 |  |
| <b>Packaging</b>          | Standard           |   |
|                           | NF ≈E25-513        |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M2,5          | 250 | <a href="#">51417.025.001</a> | M10           | 250 | <a href="#">51417.100.001</a> | M22           | 50 | <a href="#">51417.220.001</a> |
| M3            | 250 | <a href="#">51417.030.001</a> | M12           | 200 | <a href="#">51417.120.001</a> | M24           | 50 | <a href="#">51417.240.001</a> |
| M4            | 250 | <a href="#">51417.040.001</a> | M14           | 100 | <a href="#">51417.140.001</a> | M27           | 25 | <a href="#">51417.270.001</a> |
| M5            | 250 | <a href="#">51417.050.001</a> | M16           | 100 | <a href="#">51417.160.001</a> | M30           | 25 | <a href="#">51417.300.001</a> |
| M6            | 250 | <a href="#">51417.060.001</a> | M18           | 100 | <a href="#">51417.180.001</a> | M33           | 25 | <a href="#">51417.330.001</a> |
| M8            | 250 | <a href="#">51417.080.001</a> | M20           | 100 | <a href="#">51417.200.001</a> | M36           | 25 | <a href="#">51417.360.001</a> |

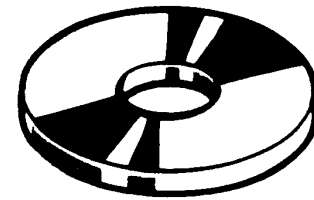
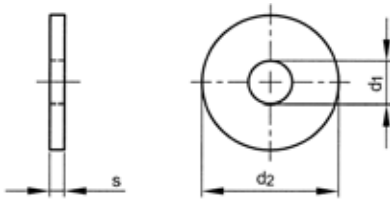
| 55417 Plain washer type M |                    | R45A  |
|---------------------------|--------------------|---|
| <b>Material</b>           | Stainless steel A4 |  |
| <b>Packaging</b>          | Standard           |   |
|                           | NF ≈E25-513        |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">55417.030.001</a> | M12           | 200 | <a href="#">55417.120.001</a> | M24           | 50 | <a href="#">55417.240.001</a> |
| M4            | 250 | <a href="#">55417.040.001</a> | M14           | 100 | <a href="#">55417.140.001</a> | M27           | 25 | <a href="#">55417.270.001</a> |
| M5            | 250 | <a href="#">55417.050.001</a> | M16           | 100 | <a href="#">55417.160.001</a> | M30           | 25 | <a href="#">55417.300.001</a> |
| M6            | 250 | <a href="#">55417.060.001</a> | M18           | 100 | <a href="#">55417.180.001</a> | M33           | 25 | <a href="#">55417.330.001</a> |
| M8            | 250 | <a href="#">55417.080.001</a> | M20           | 100 | <a href="#">55417.200.001</a> | M36           | 25 | <a href="#">55417.360.001</a> |
| M10           | 250 | <a href="#">55417.100.001</a> | M22           | 50  | <a href="#">55417.220.001</a> |               |    |                               |

7

## Plain washer type Z

NF E25-513



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M3           | 3,2                   | 6                     | 0,8 |
| M4           | 4,3                   | 8                     | 0,8 |
| M5           | 5,3                   | 10                    | 1   |
| M6           | 6,4                   | 12                    | 1,2 |
| M7           | 7,4                   | 14                    | 1,5 |
| M8           | 8,4                   | 16                    | 1,5 |
| M10          | 10,5                  | 20                    | 2   |
| M12          | 13                    | 24                    | 2,5 |
| M14          | 15                    | 27                    | 2,5 |
| M16          | 17                    | 30                    | 3   |
| M18          | 19                    | 32                    | 3   |
| M20          | 21                    | 36                    | 3   |
| M22          | 23                    | 40                    | 3   |
| M24          | 25                    | 45                    | 4   |
| M27          | 28                    | 48                    | 4   |
| M30          | 31                    | 52                    | 4   |

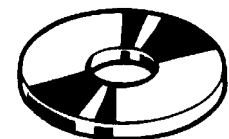
### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        |                   | Standard  | 38043 | 7-17 |
| St        | Zipl              | Standard  | 38045 | 7-17 |
| St        | Zipl yell.p.      | Standard  | 38047 | 7-18 |
| St.St. A2 |                   | Standard  | 51416 | 7-18 |
| St.St. A4 |                   | Standard  | 55416 | 7-18 |

#### 38043 Plain washer type Z

L07G

Material Steel  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38043.030.001</a> | M10           | 200 | <a href="#">38043.100.001</a> | M20           | 100 | <a href="#">38043.200.001</a> |
| M4            | 500 | <a href="#">38043.040.001</a> | M12           | 150 | <a href="#">38043.120.001</a> | M22           | 100 | <a href="#">38043.220.001</a> |
| M5            | 500 | <a href="#">38043.050.001</a> | M14           | 100 | <a href="#">38043.140.001</a> | M24           | 100 | <a href="#">38043.240.001</a> |
| M6            | 250 | <a href="#">38043.060.001</a> | M16           | 100 | <a href="#">38043.160.001</a> | M27           | 100 | <a href="#">38043.270.001</a> |
| M8            | 250 | <a href="#">38043.080.001</a> | M18           | 100 | <a href="#">38043.180.001</a> | M30           | 100 | <a href="#">38043.300.001</a> |

#### 38045 Plain washer type Z

L07G

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38045.030.001</a> | M10           | 200 | <a href="#">38045.100.001</a> | M20           | 100 | <a href="#">38045.200.001</a> |
| M4            | 500 | <a href="#">38045.040.001</a> | M12           | 150 | <a href="#">38045.120.001</a> | M22           | 100 | <a href="#">38045.220.001</a> |
| M5            | 500 | <a href="#">38045.050.001</a> | M14           | 100 | <a href="#">38045.140.001</a> | M24           | 100 | <a href="#">38045.240.001</a> |
| M6            | 250 | <a href="#">38045.060.001</a> | M16           | 100 | <a href="#">38045.160.001</a> | M27           | 100 | <a href="#">38045.270.001</a> |
| M8            | 250 | <a href="#">38045.080.001</a> | M18           | 100 | <a href="#">38045.180.001</a> | M30           | 100 | <a href="#">38045.300.001</a> |

|                          |                               |   |
|--------------------------|-------------------------------|---|
| <b>38047</b>             | <b>Plain washer type Z</b>    | <b>L07G</b>   |
| <b>Material</b>          | Steel                         |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |   |
| <b>Packaging</b>         | Standard                      |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">38047.030.001</a> | M10           | 200 | <a href="#">38047.100.001</a> | M22           | 100 | <a href="#">38047.220.001</a> |
| M4            | 500 | <a href="#">38047.040.001</a> | M12           | 150 | <a href="#">38047.120.001</a> | M24           | 100 | <a href="#">38047.240.001</a> |
| M5            | 500 | <a href="#">38047.050.001</a> | M14           | 100 | <a href="#">38047.140.001</a> | M27           | 100 | <a href="#">38047.270.001</a> |
| M6            | 250 | <a href="#">38047.060.001</a> | M16           | 100 | <a href="#">38047.160.001</a> | M30           | 100 | <a href="#">38047.300.001</a> |
| M7            | 250 | <a href="#">38047.070.001</a> | M18           | 100 | <a href="#">38047.180.001</a> |               |     |                               |
| M8            | 250 | <a href="#">38047.080.001</a> | M20           | 100 | <a href="#">38047.200.001</a> |               |     |                               |

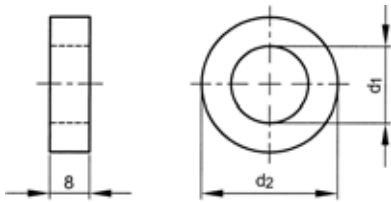
|                  |                            |   |
|------------------|----------------------------|---|
| <b>51416</b>     | <b>Plain washer type Z</b> | <b>R05A</b>   |
| <b>Material</b>  | Stainless steel A2         |  |
| <b>Packaging</b> | Standard                   |   |
|                  | NF ≈E25-513                |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">51416.030.001</a> | M8            | 250 | <a href="#">51416.080.001</a> | M20           | 100 | <a href="#">51416.200.001</a> |
| M4            | 250 | <a href="#">51416.040.001</a> | M10           | 200 | <a href="#">51416.100.001</a> | M24           | 50  | <a href="#">51416.240.001</a> |
| M5            | 250 | <a href="#">51416.050.001</a> | M12           | 200 | <a href="#">51416.120.001</a> | M27           | 25  | <a href="#">51416.270.001</a> |
| M6            | 250 | <a href="#">51416.060.001</a> | M16           | 100 | <a href="#">51416.160.001</a> | M30           | 25  | <a href="#">51416.300.001</a> |

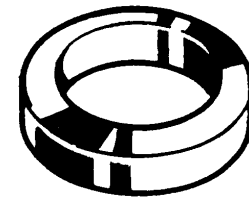
|                  |                            |   |
|------------------|----------------------------|---|
| <b>55416</b>     | <b>Plain washer type Z</b> | <b>R45A</b>   |
| <b>Material</b>  | Stainless steel A4         |  |
| <b>Packaging</b> | Standard                   |   |
|                  | NF ≈E25-513                |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">55416.030.001</a> | M8            | 250 | <a href="#">55416.080.001</a> | M20           | 100 | <a href="#">55416.200.001</a> |
| M4            | 250 | <a href="#">55416.040.001</a> | M10           | 200 | <a href="#">55416.100.001</a> | M24           | 50  | <a href="#">55416.240.001</a> |
| M5            | 250 | <a href="#">55416.050.001</a> | M12           | 200 | <a href="#">55416.120.001</a> | M30           | 25  | <a href="#">55416.300.001</a> |
| M6            | 250 | <a href="#">55416.060.001</a> | M16           | 100 | <a href="#">55416.160.001</a> |               |     |                               |

## Washer for steel structures



DIN 7989 A




### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | For nom.size | d <sub>1</sub> | d <sub>2</sub> | For nom.size | d <sub>1</sub> | d <sub>2</sub> |
|--------------|----------------|----------------|--------------|----------------|----------------|--------------|----------------|----------------|
| M10          | 11             | 20             | M20          | 22             | 37             | M30          | 33             | 56             |
| M12          | 13,5           | 24             | M24          | 26             | 44             | M33 (#DIN)   | 35             | 60             |
| M16          | 17,5           | 30             | M27          | 30             | 50             | M36 (#DIN)   | 38             | 66             |

- Thickness 8 mm, specially applicable for hexagon head bolts, for steel structures, acc. to DIN 7990.

### Article groups

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| St       | Zipl              | Standard  | 38280 | 7-19 |
| St       | Hot d.g.          | Standard  | 38270 | 7-19 |

| 38280 Washer for steel structures |             |  |  | L07G   |
|-----------------------------------|-------------|--|--|--|
| <b>Material</b>                   | Steel       |  |  |  |
| <b>Surface treatment</b>          | Zinc plated |  |  |  |
| <b>Packaging</b>                  | Standard    |  |  |  |

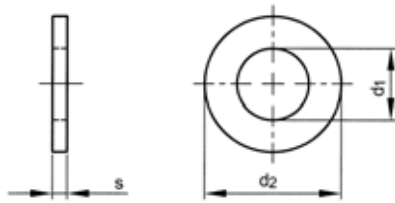
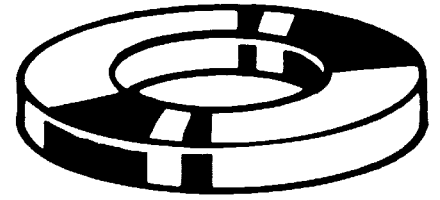
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M10           | 500 | <a href="#">38280.100.001</a> | M20           | 100 | <a href="#">38280.200.001</a> | M30           | 50 | <a href="#">38280.300.001</a> |
| M12           | 500 | <a href="#">38280.120.001</a> | M24           | 100 | <a href="#">38280.240.001</a> | M33           | 25 | <a href="#">38280.330.001</a> |
| M16           | 250 | <a href="#">38280.160.001</a> | M27           | 50  | <a href="#">38280.270.001</a> | M36           | 25 | <a href="#">38280.360.001</a> |

| 38270 Washer for steel structures |                    |  |  | L07G  |
|-----------------------------------|--------------------|--|--|---|
| <b>Material</b>                   | Steel              |  |  |  |
| <b>Surface treatment</b>          | Hot dip galvanized |  |  |   |
| <b>Packaging</b>                  | Standard           |  |  |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M10           | 500 | <a href="#">38270.100.001</a> | M20           | 100 | <a href="#">38270.200.001</a> | M30           | 50 | <a href="#">38270.300.001</a> |
| M12           | 500 | <a href="#">38270.120.001</a> | M24           | 100 | <a href="#">38270.240.001</a> |               |    |                               |
| M16           | 250 | <a href="#">38270.160.001</a> | M27           | 50  | <a href="#">38270.270.001</a> |               |    |                               |



## Washer for bolts with heavy type spring pins


 DIN 7349  
 NEN 2274


### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M3           | 3,2            | 9              | 1   |
| M4           | 4,3            | 12             | 1,6 |
| M5           | 5,3            | 15             | 2   |
| M6           | 6,4            | 17             | 3   |
| M8           | 8,4            | 21             | 4   |
| M10          | 10,5           | 25             | 4   |
| M12          | 13             | 30             | 6   |
| M14          | 15             | 36             | 6   |
| M16          | 17             | 40             | 6   |
| M18          | 19             | 44             | 8   |
| M20          | 21             | 44             | 8   |
| M22          | 23             | 50             | 8   |
| M24          | 25             | 50             | 10  |
| M27          | 28             | 60             | 10  |
| M30          | 31             | 68             | 10  |

- These washers are applied in combination with spring type straight pins slotted acc. to DIN 1481 (ISO 8752).

### Article groups

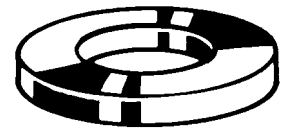
| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        |                   | Standard  | 38420 | 7-20 |
| St        | Zipl              | Standard  | 38430 | 7-20 |
| St        | Zipl yell.p.      | Standard  | 38435 | 7-21 |
| St        | Hot d.g.          | Standard  | 38438 | 7-21 |
| St.St. A2 |                   | Standard  | 51532 | 7-21 |
| St.St. A4 |                   | Standard  | 55532 | 7-21 |

7

#### 38420 Washer for bolts with heavy type spring pins

L07G

Material Steel  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">38420.030.001</a> | M10           | 100 | <a href="#">38420.100.001</a> | M20           | 50  | <a href="#">38420.200.001</a> |
| M4            | 250 | <a href="#">38420.040.001</a> | M12           | 100 | <a href="#">38420.120.001</a> | M22           | 100 | <a href="#">38420.220.001</a> |
| M5            | 250 | <a href="#">38420.050.001</a> | M14           | 50  | <a href="#">38420.140.001</a> | M24           | 25  | <a href="#">38420.240.001</a> |
| M6            | 100 | <a href="#">38420.060.001</a> | M16           | 50  | <a href="#">38420.160.001</a> | M30           | 25  | <a href="#">38420.300.001</a> |
| M8            | 100 | <a href="#">38420.080.001</a> | M18           | 100 | <a href="#">38420.180.001</a> |               |     |                               |

#### 38430 Washer for bolts with heavy type spring pins

L07G

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">38430.030.001</a> | M10           | 200 | <a href="#">38430.100.001</a> | M22           | 50 | <a href="#">38430.220.001</a> |
| M4            | 250 | <a href="#">38430.040.001</a> | M12           | 150 | <a href="#">38430.120.001</a> | M24           | 50 | <a href="#">38430.240.001</a> |
| M5            | 250 | <a href="#">38430.050.001</a> | M16           | 100 | <a href="#">38430.160.001</a> | M27           | 25 | <a href="#">38430.270.001</a> |
| M6            | 250 | <a href="#">38430.060.001</a> | M18           | 100 | <a href="#">38430.180.001</a> | M30           | 25 | <a href="#">38430.300.001</a> |
| M8            | 250 | <a href="#">38430.080.001</a> | M20           | 100 | <a href="#">38430.200.001</a> |               |    |                               |

|                          |   |  |             |  |
|--------------------------|---|--|-------------|--|
| <b>38435</b>             | <b>Washer for bolts with heavy type spring pins</b> |  | <b>L07G</b> |  |
| <b>Material</b>          | Steel   |  |             |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated                       |  |             |  |
| <b>Packaging</b>         | Standard  |  |             |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M5            | 250 | <a href="#">38435.050.001</a> | M10           | 200 | <a href="#">38435.100.001</a> | M20           | 100 | <a href="#">38435.200.001</a> |
| M6            | 250 | <a href="#">38435.060.001</a> | M12           | 150 | <a href="#">38435.120.001</a> | M24           | 50  | <a href="#">38435.240.001</a> |
| M8            | 250 | <a href="#">38435.080.001</a> | M16           | 100 | <a href="#">38435.160.001</a> |               |     |                               |

|                          |   |  |             |  |
|--------------------------|---|--|-------------|--|
| <b>38438</b>             | <b>Washer for bolts with heavy type spring pins</b> |  | <b>L07G</b> |  |
| <b>Material</b>          | Steel   |  |             |  |
| <b>Surface treatment</b> | Hot dip galvanized                                  |  |             |  |
| <b>Packaging</b>         | Standard  |  |             |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 250 | <a href="#">38438.050.001</a> | M12           | 150 | <a href="#">38438.120.001</a> | M22           | 50 | <a href="#">38438.220.001</a> |
| M6            | 250 | <a href="#">38438.060.001</a> | M16           | 100 | <a href="#">38438.160.001</a> | M24           | 50 | <a href="#">38438.240.001</a> |
| M8            | 250 | <a href="#">38438.080.001</a> | M18           | 100 | <a href="#">38438.180.001</a> |               |    |                               |
| M10           | 200 | <a href="#">38438.100.001</a> | M20           | 100 | <a href="#">38438.200.001</a> |               |    |                               |

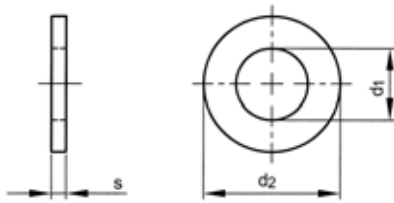
|                  |   |  |             |  |
|------------------|---|--|-------------|--|
| <b>51532</b>     | <b>Washer for bolts with heavy type spring pins</b> |  | <b>R09A</b> |  |
| <b>Material</b>  | Stainless steel A2                                  |  |             |  |
| <b>Packaging</b> | Standard  |  |             |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 100 | <a href="#">51532.030.001</a> | M10           | 100 | <a href="#">51532.100.001</a> | M20           | 50 | <a href="#">51532.200.001</a> |
| M4            | 100 | <a href="#">51532.040.001</a> | M12           | 50  | <a href="#">51532.120.001</a> | M22 *         | 50 | <a href="#">51532.220.001</a> |
| M5            | 100 | <a href="#">51532.050.001</a> | M14 *         | 100 | <a href="#">51532.140.001</a> | M24 *         | 50 | <a href="#">51532.240.001</a> |
| M6            | 100 | <a href="#">51532.060.001</a> | M16           | 50  | <a href="#">51532.160.001</a> |               |    |                               |
| M8            | 100 | <a href="#">51532.080.001</a> | M18 *         | 50  | <a href="#">51532.180.001</a> |               |    |                               |

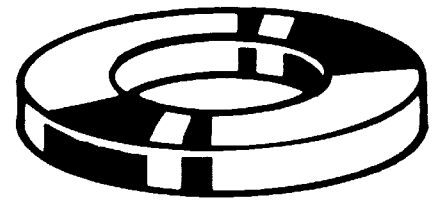
|                  |   |  |             |  |
|------------------|---|--|-------------|--|
| <b>55532</b>     | <b>Washer for bolts with heavy type spring pins</b> |  | <b>R49A</b> |  |
| <b>Material</b>  | Stainless steel A4                                  |  |             |  |
| <b>Packaging</b> | Standard  |  |             |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 100 | <a href="#">55532.030.001</a> | M8            | 100 | <a href="#">55532.080.001</a> | M16           | 50 | <a href="#">55532.160.001</a> |
| M4            | 100 | <a href="#">55532.040.001</a> | M10           | 100 | <a href="#">55532.100.001</a> | M20           | 50 | <a href="#">55532.200.001</a> |
| M5            | 100 | <a href="#">55532.050.001</a> | M12           | 50  | <a href="#">55532.120.001</a> | M22 *         | 50 | <a href="#">55532.220.001</a> |
| M6            | 100 | <a href="#">55532.060.001</a> | M14 *         | 100 | <a href="#">55532.140.001</a> | M24           | 50 | <a href="#">55532.240.001</a> |

## Plain washer for cheese head screws



ISO 7092  
 DIN 433  
 NEN 2270



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M2           | 2,2            | 4,5            | 0,3 |
| M2,5         | 2,7            | 5,0            | 0,5 |
| M2,6 (≠DIN)  | 2,7            | 5,5            | 0,5 |
| M3           | 3,2            | 6              | 0,5 |
| M3,5         | 3,7            | 7              | 0,5 |
| M4           | 4,3            | 8              | 0,5 |
| M5           | 5,3            | 9              | 1   |
| M6           | 6,4            | 11             | 1,6 |
| M8           | 8,4            | 15             | 1,6 |
| M10          | 10,5           | 18             | 1,6 |
| M12          | 13             | 20             | 2   |
| M14          | 15             | 24             | 2,5 |
| M16          | 17             | 28             | 2,5 |
| M18          | 19             | 30             | 2,5 |
| M20          | 21             | 34             | 3   |

### Article groups

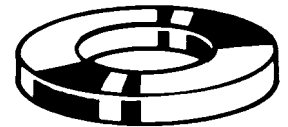
| Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|------------|--------|-------------------|--------|-----------|-------|------|
| St         |        | Zipl              |        | Standard  | 38250 | 7-22 |
| Br         |        | Ni.pl.            |        | Standard  | 50100 | 7-22 |
| St.St. A2  |        |                   |        | Standard  | 51930 | 7-23 |
| St.St. A4  |        |                   |        | Standard  | 55930 | 7-23 |
| Plastic PA | PA 6.6 |                   | White  | Standard  | 56320 | 7-23 |

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#### 38250 Plain washer for cheese head screws

L07G

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">38250.020.001</a> | M6            | 250 | <a href="#">38250.060.001</a> | M16           | 100 | <a href="#">38250.160.001</a> |
| M2,6          | 500 | <a href="#">38250.026.001</a> | M8            | 200 | <a href="#">38250.080.001</a> | M18           | 100 | <a href="#">38250.180.001</a> |
| M3            | 250 | <a href="#">38250.030.001</a> | M10           | 200 | <a href="#">38250.100.001</a> | M20           | 100 | <a href="#">38250.200.001</a> |
| M4            | 250 | <a href="#">38250.040.001</a> | M12           | 100 | <a href="#">38250.120.001</a> |               |     |                               |
| M5            | 250 | <a href="#">38250.050.001</a> | M14           | 100 | <a href="#">38250.140.001</a> |               |     |                               |

#### 50100 Plain washer for cheese head screws

M11F

|                          |               |
|--------------------------|---------------|
| <b>Material</b>          | Brass         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">50100.020.001</a> | M5            | 250 | <a href="#">50100.050.001</a> | M12           | 100 | <a href="#">50100.120.001</a> |
| M2,6          | 500 | <a href="#">50100.026.001</a> | M6            | 250 | <a href="#">50100.060.001</a> | M14           | 100 | <a href="#">50100.140.001</a> |
| M3            | 250 | <a href="#">50100.030.001</a> | M8            | 200 | <a href="#">50100.080.001</a> | M16           | 100 | <a href="#">50100.160.001</a> |
| M4            | 250 | <a href="#">50100.040.001</a> | M10           | 200 | <a href="#">50100.100.001</a> |               |     |                               |

|  |                    |             |
|--|--------------------|-------------|
| <b>51930 Plain washer for cheese head screws</b> |                    | <b>R09A</b> |
| <b>Material</b>                                  | Stainless steel A2 |             |
| <b>Packaging</b>                                 | Standard           |             |
|  |                    |             |

| For nom. size | ✉    | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2,5          | 500  | <a href="#">51930.025.001</a> | M6            | 500 | <a href="#">51930.060.001</a> | M16           | 100 | <a href="#">51930.160.001</a> |
| M3            | 500  | <a href="#">51930.030.001</a> | M8            | 200 | <a href="#">51930.080.001</a> | M18           | 100 | <a href="#">51930.180.001</a> |
| M3,5 *        | 1000 | <a href="#">51930.035.001</a> | M10           | 200 | <a href="#">51930.100.001</a> | M20           | 100 | <a href="#">51930.200.001</a> |
| M4            | 500  | <a href="#">51930.040.001</a> | M12           | 100 | <a href="#">51930.120.001</a> |               |     |                               |
| M5            | 500  | <a href="#">51930.050.001</a> | M14           | 100 | <a href="#">51930.140.001</a> |               |     |                               |

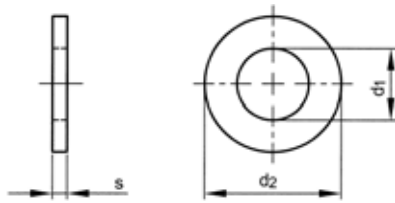
|  |                    |             |
|--|--------------------|-------------|
| <b>55930 Plain washer for cheese head screws</b> |                    | <b>R49A</b> |
| <b>Material</b>                                  | Stainless steel A4 |             |
| <b>Packaging</b>                                 | Standard           |             |
|  |                    |             |

| For nom. size | ✉    | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 100  | <a href="#">55930.020.001</a> | M5            | 500 | <a href="#">55930.050.001</a> | M14           | 100 | <a href="#">55930.140.001</a> |
| M2,5          | 100  | <a href="#">55930.025.001</a> | M6            | 500 | <a href="#">55930.060.001</a> | M16           | 100 | <a href="#">55930.160.001</a> |
| M3            | 500  | <a href="#">55930.030.001</a> | M8            | 200 | <a href="#">55930.080.001</a> | M18           | 100 | <a href="#">55930.180.001</a> |
| M3,5 *        | 1000 | <a href="#">55930.035.001</a> | M10           | 200 | <a href="#">55930.100.001</a> | M20           | 100 | <a href="#">55930.200.001</a> |
| M4            | 500  | <a href="#">55930.040.001</a> | M12           | 100 | <a href="#">55930.120.001</a> |               |     |                               |

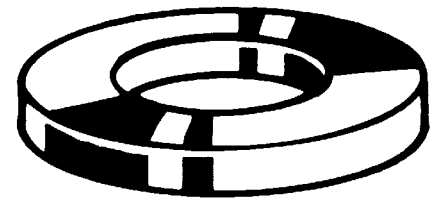
|  |                           |             |
|--|---------------------------|-------------|
| <b>56320 Plain washer for cheese head screws</b> |                           | <b>W02A</b> |
| <b>Material</b>                                  | Plastic Polyamide (nylon) |             |
| <b>Class</b>                                     | PA 6.6                    |             |
| <b>Colour</b>                                    | White                     |             |
| <b>Packaging</b>                                 | Standard                  |             |
|  | ISO ≈7092                 |             |
|  | DIN ≈433                  |             |
|  | NEN ≈2270                 |             |
|  |                           |             |

| For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 200 | <a href="#">56320.030.001</a> | M5            | 200 | <a href="#">56320.050.001</a> | M8            | 200 | <a href="#">56320.080.001</a> |
| M4            | 200 | <a href="#">56320.040.001</a> | M6            | 200 | <a href="#">56320.060.001</a> | M10           | 100 | <a href="#">56320.100.001</a> |

## Plain washer for clevis pins



ISO (8738)  
DIN 1440



### Technical data

| For pin $\varnothing$ | $d_1$ (H11) | $d_2$   | s       |
|-----------------------|-------------|---------|---------|
| 3                     | 3           | 6       | 0,8     |
| 4                     | 4           | 8       | 0,8     |
| 5                     | 5           | 10      | 0,8 (1) |
| 6                     | 6           | 12      | 1,6     |
| 7                     | 7           | 14      | 1,6     |
| 8                     | 8           | 16 (15) | 2       |
| 10                    | 10          | 20 (18) | 2,5     |
| 12                    | 12          | 25 (20) | 3       |
| 13                    | 13          | 25      | 3       |
| 14                    | 14          | 28 (22) | 3       |
| 16                    | 16          | 28 (24) | 3       |
| 18                    | 18          | 30      | 4       |
| 20                    | 20          | 32      | 4       |
| 22                    | 22          | 34      | 4       |
| 23                    | 23          | 36      | 4       |
| 24                    | 24          | 38      | 4       |
| 25                    | 25          | 40      | 4       |
| 26                    | 26          | 40      | 5       |
| 27                    | 27          | 40      | 5       |
| 28                    | 28          | 42      | 5       |
| 30                    | 30          | 45      | 5       |
| 32                    | 32          | 50      | 5       |
| 40                    | 40          | 58      | 6       |

• Depending on availability can be supplied acc. to ISO 8738 with the appropriate values stated between brackets.

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        | Zipl              | Standard  | 38760 | 7-24 |
| St.St. A2 |                   | Standard  | 51534 | 7-24 |

7

| 38760 Plain washer for clevis pins |             |  | L07G  |
|------------------------------------|-------------|--|---|
| <b>Material</b>                    | Steel       |  |  |
| <b>Surface treatment</b>           | Zinc plated |  |   |
| <b>Packaging</b>                   | Standard    |  |   |

| For pin $\varnothing$ | ☒   | Art.number                    | For pin $\varnothing$ | ☒   | Art.number                    | For pin $\varnothing$ | ☒  | Art.number                    |
|-----------------------|-----|-------------------------------|-----------------------|-----|-------------------------------|-----------------------|----|-------------------------------|
| 4MM                   | 250 | <a href="#">38760.040.001</a> | 14MM                  | 150 | <a href="#">38760.140.001</a> | 25MM                  | 25 | <a href="#">38760.250.001</a> |
| 5MM                   | 250 | <a href="#">38760.050.001</a> | 16MM                  | 100 | <a href="#">38760.160.001</a> | 26MM                  | 25 | <a href="#">38760.260.001</a> |
| 6MM                   | 250 | <a href="#">38760.060.001</a> | 18MM                  | 100 | <a href="#">38760.180.001</a> | 28MM                  | 25 | <a href="#">38760.280.001</a> |
| 8MM                   | 250 | <a href="#">38760.080.001</a> | 20MM                  | 100 | <a href="#">38760.200.001</a> | 30MM                  | 25 | <a href="#">38760.300.001</a> |
| 10MM                  | 200 | <a href="#">38760.100.001</a> | 22MM                  | 50  | <a href="#">38760.220.001</a> |                       |    |                               |
| 12MM                  | 150 | <a href="#">38760.120.001</a> | 23MM                  | 25  | <a href="#">38760.230.001</a> |                       |    |                               |

| 51534 Plain washer for clevis pins |                    |  | R09A  |
|------------------------------------|--------------------|--|---|
| <b>Material</b>                    | Stainless steel A2 |  |  |
| <b>Packaging</b>                   | Standard           |  |   |

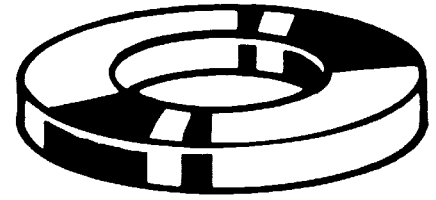
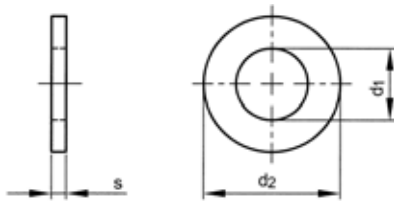
| For pin $\varnothing$ | ☒   | Art.number                    | For pin $\varnothing$ | ☒   | Art.number                    | For pin $\varnothing$ | ☒   | Art.number                    |
|-----------------------|-----|-------------------------------|-----------------------|-----|-------------------------------|-----------------------|-----|-------------------------------|
| 3MM *                 | 500 | <a href="#">51534.030.001</a> | 6MM                   | 100 | <a href="#">51534.060.001</a> | 10MM                  | 100 | <a href="#">51534.100.001</a> |
| 4MM                   | 100 | <a href="#">51534.040.001</a> | 7MM *                 | 500 | <a href="#">51534.070.001</a> | 12MM                  | 100 | <a href="#">51534.120.001</a> |
| 5MM                   | 100 | <a href="#">51534.050.001</a> | 8MM                   | 100 | <a href="#">51534.080.001</a> | 13MM *                | 100 | <a href="#">51534.130.001</a> |

**51534 Plain washer for clevis pins** ←

| For pin ø | ☒   | Art.number                    | For pin ø | ☒  | Art.number                    | For pin ø | ☒  | Art.number                    |
|-----------|-----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 14MM      | 50  | <a href="#">51534.140.001</a> | 23MM *    | 50 | <a href="#">51534.230.001</a> | 28MM *    | 50 | <a href="#">51534.280.001</a> |
| 16MM      | 50  | <a href="#">51534.160.001</a> | 24MM *    | 50 | <a href="#">51534.240.001</a> | 30MM *    | 50 | <a href="#">51534.300.001</a> |
| 18MM *    | 100 | <a href="#">51534.180.001</a> | 25MM *    | 50 | <a href="#">51534.250.001</a> | 32MM *    | 50 | <a href="#">51534.320.001</a> |
| 20MM *    | 100 | <a href="#">51534.200.001</a> | 26MM *    | 50 | <a href="#">51534.260.001</a> | 40MM *    | 25 | <a href="#">51534.400.001</a> |
| 22MM *    | 100 | <a href="#">51534.220.001</a> | 27MM *    | 50 | <a href="#">51534.270.001</a> |           |    |                               |

## Plain washer for clevis pins

DIN 1441



### Technical data

| For pin ø | d <sub>1</sub> | d <sub>2</sub> | s   |
|-----------|----------------|----------------|-----|
| 5         | 5,5            | 10             | 0,8 |
| 6         | 7              | 12             | 1,6 |
| 7         | 8              | 14             | 1,6 |
| 8         | 9              | 16             | 2   |
| 10        | 11             | 20             | 2,5 |
| 12        | 13             | 25             | 3   |
| 14        | 15             | 28             | 3   |
| 16        | 17             | 28             | 3   |
| 18        | 19             | 30             | 4   |

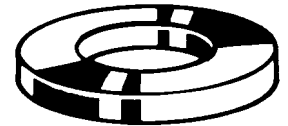
| For pin ø | d <sub>1</sub> | d <sub>2</sub> | s |
|-----------|----------------|----------------|---|
| 20        | 21             | 32             | 4 |
| 22        | 23             | 34             | 4 |
| 23        | 24             | 36             | 4 |
| 24        | 25             | 38             | 4 |
| 25        | 26             | 40             | 4 |
| 26        | 27             | 40             | 5 |
| 28        | 29             | 42             | 5 |
| 30        | 31             | 45             | 5 |
| 33        | 34             | 50             | 5 |

| For pin ø | d <sub>1</sub> | d <sub>2</sub> | s  |
|-----------|----------------|----------------|----|
| 36        | 37             | 52             | 6  |
| 40        | 41             | 58             | 6  |
| 50        | 51             | 68             | 8  |
| 60        | 62             | 80             | 9  |
| 70        | 72             | 95             | 10 |
| 75        | 78             | 100            | 10 |
| 80        | 82             | 110            | 12 |

### 38958 Plain washer for clevis pins

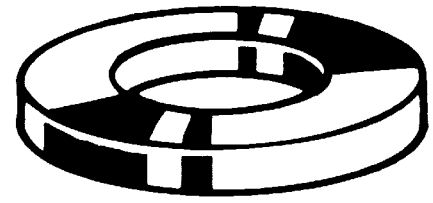
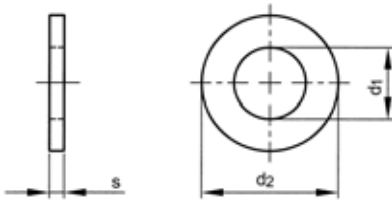
L07G

**Material** Steel  
**Packaging** Standard



| For pin ø | ☒   | Art.number                    | For pin ø | ☒   | Art.number                    | For pin ø | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 12MM      | 500 | <a href="#">38958.120.001</a> | 23MM      | 100 | <a href="#">38958.230.001</a> | 40MM      | 100 | <a href="#">38958.400.001</a> |
| 14MM      | 500 | <a href="#">38958.140.001</a> | 25MM      | 100 | <a href="#">38958.250.001</a> | 50MM      | 100 | <a href="#">38958.500.001</a> |
| 16MM      | 500 | <a href="#">38958.160.001</a> | 28MM      | 100 | <a href="#">38958.280.001</a> | 60MM      | 25  | <a href="#">38958.600.001</a> |
| 18MM      | 100 | <a href="#">38958.180.001</a> | 30MM      | 100 | <a href="#">38958.300.001</a> | 70MM      | 25  | <a href="#">38958.700.001</a> |
| 20MM      | 100 | <a href="#">38958.200.001</a> | 33MM      | 100 | <a href="#">38958.330.001</a> | 75MM      | 25  | <a href="#">38958.750.001</a> |
| 22MM      | 100 | <a href="#">38958.220.001</a> | 36MM      | 100 | <a href="#">38958.360.001</a> | 80MM      | 25  | <a href="#">38958.800.001</a> |

## Plain washer



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M2           | 2,2            | 5,5            | 0,3 |
| M2,6         | 2,8            | 7              | 0,5 |
| M3           | 3,5            | 8              | 0,5 |
| M3,5         | 3,7            | 8              | 0,5 |
| M4           | 4,2            | 9              | 0,6 |
| M5           | 5,2            | 12             | 0,7 |
| M6           | 6,5            | 14             | 0,8 |
| M8           | 8,5            | 18             | 1,5 |
| M10          | 10,3           | 22             | 1,5 |
| M12          | 13,2           | 28             | 2   |
| M14          | 14,8           | 31             | 2   |
| M16          | 16,5           | 34             | 2   |
| M20          | 21             | 40             | 2,5 |
| M22          | 22,8           | 46             | 2,5 |
| M24          | 26,5           | 52             | 3   |

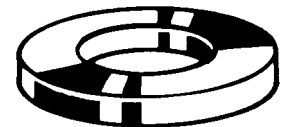
### Article groups

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| Al       |                   | Standard  | 45180 | 7-27 |
| Br       | Ni.pl.            | Standard  | 50020 | 7-27 |
| Br       | Ni.pl.            | Large     | 50030 | 7-28 |

#### 45180 Plain washer

W01A

Material Aluminium  
 Packaging Standard



| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 1000 | <a href="#">45180.040.001</a> | M8            | 250 | <a href="#">45180.080.001</a> | M16           | 100 | <a href="#">45180.160.001</a> |
| M5            | 1000 | <a href="#">45180.050.001</a> | M10           | 250 | <a href="#">45180.100.001</a> | M20           | 50  | <a href="#">45180.200.001</a> |
| M6            | 1000 | <a href="#">45180.060.001</a> | M12           | 100 | <a href="#">45180.120.001</a> |               |     |                               |

#### 50020 Plain washer

M11F

Material Brass  
 Surface treatment Nickel plated  
 Packaging Standard



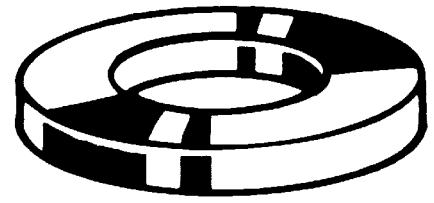
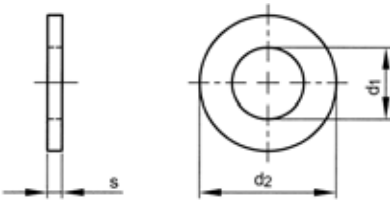
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">50020.020.001</a> | M3,5          | 250 | <a href="#">50020.035.001</a> | M6            | 250 | <a href="#">50020.060.001</a> |
| M2,6          | 500 | <a href="#">50020.026.001</a> | M4            | 250 | <a href="#">50020.040.001</a> |               |     |                               |
| M3            | 250 | <a href="#">50020.030.001</a> | M5            | 250 | <a href="#">50020.050.001</a> |               |     |                               |



|                           |               |   |
|---------------------------|---------------|---|
| <b>50030 Plain washer</b> |               | <b>M11F</b>   |
| <b>Material</b>           | Brass         |  |
| <b>Surface treatment</b>  | Nickel plated |   |
| <b>Packaging</b>          | Large         |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 250 | <a href="#">50030.080.001</a> | M14           | 100 | <a href="#">50030.140.001</a> | M22           | 50 | <a href="#">50030.220.001</a> |
| M10           | 250 | <a href="#">50030.100.001</a> | M16           | 100 | <a href="#">50030.160.001</a> | M24           | 50 | <a href="#">50030.240.001</a> |
| M12           | 100 | <a href="#">50030.120.001</a> | M20           | 50  | <a href="#">50030.200.001</a> |               |    |                               |

## Plain washer AG3



### Technical data

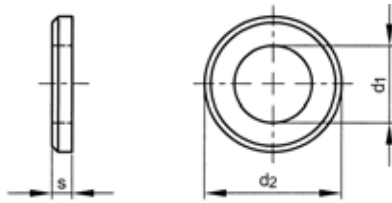
| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M3           | 3,5            | 8              | 0,8 |
| M4           | 4,5            | 10             | 0,8 |
| M5           | 5,5            | 12             | 1   |
| M6           | 6,25           | 14             | 1,2 |
| M8           | 8,25           | 18             | 1,5 |
| M10          | 10,25          | 22             | 2   |
| M12          | 12,5           | 27             | 2,5 |
| M16          | 16,5           | 32             | 3   |
| M20          | 21             | 40             | 3   |
| M24          | 25             | 50             | 4   |

- SOPRAL AG3 washers are pickled and greased, and recommended for use with SOPRAL P60 hexagon head screws, see article group 45210.

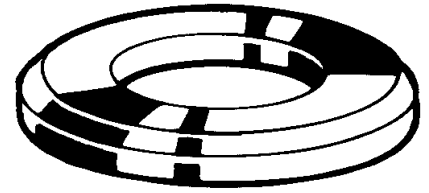
| 45150 Plain washer AG3   |                | W01A   |
|--------------------------|----------------|--|
| <b>Material</b>          | Aluminium A-G3 |  |
| <b>Surface treatment</b> | Anodized       |  |
| <b>Packaging</b>         | Standard       |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">45150.030.001</a> | M5            | 500 | <a href="#">45150.050.001</a> | M8            | 250 | <a href="#">45150.080.001</a> |
| M4            | 500 | <a href="#">45150.040.001</a> | M6            | 500 | <a href="#">45150.060.001</a> | M10           | 200 | <a href="#">45150.100.001</a> |

## Single chamfer plain washer



ISO 7090  
 DIN 125-1B  
 NEN 2269 B



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M2,5         | 2,7            | 6              | 0,5 |
| M3           | 3,2            | 7              | 0,5 |
| M4           | 4,3            | 9              | 0,8 |
| M5           | 5,3            | 10             | 1   |
| M6           | 6,4            | 12             | 1,6 |
| M7           | 7,4            | 14             | 1,6 |
| M8           | 8,4            | 16             | 1,6 |
| M10          | 10,5           | 20             | 2   |
| M12          | 13             | 24             | 2,5 |
| M14          | 15             | 28             | 2,5 |
| M16          | 17             | 30             | 3   |
| M18          | 19             | 34             | 3   |
| M20          | 21             | 37             | 3   |
| M22          | 23             | 39             | 3   |
| M24          | 25             | 44             | 4   |
| M27          | 28             | 50             | 4   |
| M30          | 31             | 56             | 4   |
| M33          | 34             | 60             | 5   |
| M36          | 37             | 66             | 5   |
| M39          | 40             | 72             | 6   |
| M42          | 43             | 78             | 7   |
| M45          | 46             | 85             | 7   |
| M48          | 50             | 92             | 8   |
| M52          | 54             | 98             | 8   |
| M56          | 58             | 105            | 9   |
| M60          | 62             | 110            | 9   |
| M64          | 66             | 115            | 9   |

7

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St 140HV  |                   | Standard  | 38160 | 7-30 |
| St 140HV  | Zipl              | Standard  | 38180 | 7-31 |
| St 140HV  | Zipl              | Large     | 38190 | 7-31 |
| St.St. A4 |                   | Standard  | 55426 | 7-31 |
| Br        |                   | Standard  | 50040 | 7-31 |
| Br        | Ni.pl.            | Standard  | 50150 | 7-31 |

### 38160 Single chamfer plain washer

L07G

**Material** Steel 140HV  
**Packaging** Standard




| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M4            | 250 | <a href="#">38160.040.001</a> | M18           | 100 | <a href="#">38160.180.001</a> | M42           | 10 | <a href="#">38160.420.001</a> |
| M5            | 250 | <a href="#">38160.050.001</a> | M20           | 100 | <a href="#">38160.200.001</a> | M45           | 10 | <a href="#">38160.450.001</a> |
| M6            | 250 | <a href="#">38160.060.001</a> | M22           | 50  | <a href="#">38160.220.001</a> | M48           | 10 | <a href="#">38160.480.001</a> |
| M7            | 250 | <a href="#">38160.070.001</a> | M24           | 50  | <a href="#">38160.240.001</a> | M52           | 5  | <a href="#">38160.520.001</a> |
| M8            | 250 | <a href="#">38160.080.001</a> | M27           | 25  | <a href="#">38160.270.001</a> | M56           | 5  | <a href="#">38160.560.001</a> |
| M10           | 200 | <a href="#">38160.100.001</a> | M30           | 25  | <a href="#">38160.300.001</a> | M60           | 5  | <a href="#">38160.600.001</a> |
| M12           | 150 | <a href="#">38160.120.001</a> | M33           | 25  | <a href="#">38160.330.001</a> | M64           | 5  | <a href="#">38160.640.001</a> |
| M14           | 100 | <a href="#">38160.140.001</a> | M36           | 25  | <a href="#">38160.360.001</a> |               |    |                               |
| M16           | 100 | <a href="#">38160.160.001</a> | M39           | 10  | <a href="#">38160.390.001</a> |               |    |                               |

|                          |                                    |   |
|--------------------------|------------------------------------|---|
| <b>38180</b>             | <b>Single chamfer plain washer</b> | <b>L07G</b>   |
| <b>Material</b>          | Steel 140HV                        |  |
| <b>Surface treatment</b> | Zinc plated                        |   |
| <b>Packaging</b>         | Standard                           |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M4            | 250 | <a href="#">38180.040.001</a> | M18           | 100 | <a href="#">38180.180.001</a> | M42           | 10 | <a href="#">38180.420.001</a> |
| M5            | 250 | <a href="#">38180.050.001</a> | M20           | 100 | <a href="#">38180.200.001</a> | M45           | 10 | <a href="#">38180.450.001</a> |
| M6            | 250 | <a href="#">38180.060.001</a> | M22           | 50  | <a href="#">38180.220.001</a> | M48           | 10 | <a href="#">38180.480.001</a> |
| M7            | 250 | <a href="#">38180.070.001</a> | M24           | 50  | <a href="#">38180.240.001</a> | M52           | 5  | <a href="#">38180.520.001</a> |
| M8            | 250 | <a href="#">38180.080.001</a> | M27           | 25  | <a href="#">38180.270.001</a> | M56           | 5  | <a href="#">38180.560.001</a> |
| M10           | 200 | <a href="#">38180.100.001</a> | M30           | 25  | <a href="#">38180.300.001</a> | M60           | 5  | <a href="#">38180.600.001</a> |
| M12           | 150 | <a href="#">38180.120.001</a> | M33           | 25  | <a href="#">38180.330.001</a> | M64           | 5  | <a href="#">38180.640.001</a> |
| M14           | 100 | <a href="#">38180.140.001</a> | M36           | 25  | <a href="#">38180.360.001</a> |               |    |                               |
| M16           | 100 | <a href="#">38180.160.001</a> | M39           | 10  | <a href="#">38180.390.001</a> |               |    |                               |

|                          |                                    |   |
|--------------------------|------------------------------------|---|
| <b>38190</b>             | <b>Single chamfer plain washer</b> | <b>L07G</b>   |
| <b>Material</b>          | Steel 140HV                        |  |
| <b>Surface treatment</b> | Zinc plated                        |   |
| <b>Packaging</b>         | Large                              |   |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M5            | 2500 | <a href="#">38190.050.001</a> | M8            | 2000 | <a href="#">38190.080.001</a> | M12           | 500 | <a href="#">38190.120.001</a> |
| M6            | 2000 | <a href="#">38190.060.001</a> | M10           | 1000 | <a href="#">38190.100.001</a> | M16           | 400 | <a href="#">38190.160.001</a> |

|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>55426</b>     | <b>Single chamfer plain washer</b> | <b>R45A</b>   |
| <b>Material</b>  | Stainless steel A4                 |  |
| <b>Packaging</b> | Standard                           |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 250 | <a href="#">55426.050.001</a> | M12           | 200 | <a href="#">55426.120.001</a> | M27           | 25 | <a href="#">55426.270.001</a> |
| M6            | 250 | <a href="#">55426.060.001</a> | M16           | 100 | <a href="#">55426.160.001</a> | M30           | 25 | <a href="#">55426.300.001</a> |
| M8            | 250 | <a href="#">55426.080.001</a> | M20           | 100 | <a href="#">55426.200.001</a> |               |    |                               |
| M10           | 200 | <a href="#">55426.100.001</a> | M24           | 50  | <a href="#">55426.240.001</a> |               |    |                               |

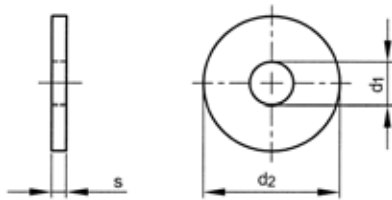
|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>50040</b>     | <b>Single chamfer plain washer</b> | <b>M11F</b>   |
| <b>Material</b>  | Brass                              |  |
| <b>Packaging</b> | Standard                           |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">50040.030.001</a> | M10           | 100 | <a href="#">50040.100.001</a> | M22           | 50 | <a href="#">50040.220.001</a> |
| M4            | 250 | <a href="#">50040.040.001</a> | M12           | 100 | <a href="#">50040.120.001</a> | M24           | 50 | <a href="#">50040.240.001</a> |
| M5            | 250 | <a href="#">50040.050.001</a> | M14           | 100 | <a href="#">50040.140.001</a> | M27-11N       | 50 | <a href="#">50040.270.001</a> |
| M6            | 250 | <a href="#">50040.060.001</a> | M16           | 100 | <a href="#">50040.160.001</a> | M30           | 25 | <a href="#">50040.300.001</a> |
| M7            | 250 | <a href="#">50040.070.001</a> | M18           | 100 | <a href="#">50040.180.001</a> |               |    |                               |
| M8            | 250 | <a href="#">50040.080.001</a> | M20           | 50  | <a href="#">50040.200.001</a> |               |    |                               |

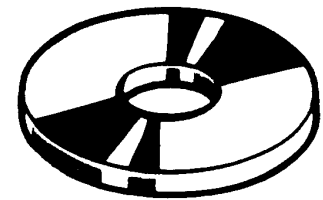
|                          |                                    |   |
|--------------------------|------------------------------------|---|
| <b>50150</b>             | <b>Single chamfer plain washer</b> | <b>M11F</b>   |
| <b>Material</b>          | Brass                              |  |
| <b>Surface treatment</b> | Nickel plated                      |   |
| <b>Packaging</b>         | Standard                           |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2,5          | 250 | <a href="#">50150.025.001</a> | M5            | 250 | <a href="#">50150.050.001</a> | M10           | 100 | <a href="#">50150.100.001</a> |
| M3            | 250 | <a href="#">50150.030.001</a> | M6            | 250 | <a href="#">50150.060.001</a> | M12           | 100 | <a href="#">50150.120.001</a> |
| M4            | 250 | <a href="#">50150.040.001</a> | M8            | 250 | <a href="#">50150.080.001</a> | M16           | 100 | <a href="#">50150.160.001</a> |

## Plain washer $d_2 \approx 3 \times d_1$



ISO 7093  
 DIN 9021  
 NEN 2276  
 NF E25-513



### Technical data

| For nom.size | $d_1$ (min.) | $d_2$ (max.) | s   |
|--------------|--------------|--------------|-----|
| M2 (#DIN)    | 2,2          | 7            | 0,8 |
| M2,5         | 2,7          | 8            | 0,8 |
| M3           | 3,2          | 9            | 0,8 |
| M3,5         | 3,7          | 11           | 0,8 |
| M4           | 4,3          | 12           | 1   |
| M5           | 5,3          | 15           | 1,2 |
| M6           | 6,4          | 18           | 1,6 |
| M7           | 7,4          | 22           | 2   |
| M8           | 8,4          | 24           | 2   |
| M10          | 10,5         | 30           | 2,5 |
| M12          | 13           | 37           | 3   |
| M14          | 15           | 44           | 3   |
| M16          | 17           | 50           | 3   |
| M18          | 20           | 56           | 4   |
| M20          | 22           | 60           | 4   |
| M24          | 26           | 72           | 5   |
| M30          | 33           | 92           | 6   |
| M36          | 39           | 110          | 8   |

### Article groups

| Material   | Class  | Surface treatment | Colour | Packaging | Code  | Page |
|------------|--------|-------------------|--------|-----------|-------|------|
| St         |        | Zipl              |        | Standard  | 38210 | 7-32 |
| St         |        | Zipl              |        | Large     | 38220 | 7-32 |
| St         |        | Zipl yell.p.      |        | Standard  | 38211 | 7-33 |
| St.St. A2  |        |                   |        | Standard  | 51530 | 7-33 |
| St.St. A4  |        |                   |        | Standard  | 55530 | 7-33 |
| Plastic PA | PA 6.6 |                   | Black  | Standard  | 56332 | 7-33 |
| Plastic PA | PA 6.6 |                   | White  | Standard  | 56330 | 7-33 |

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#### 38210 Plain washer $d_2 \approx 3 \times d_1$

L01A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">38210.030.001</a> | M7            | 250 | <a href="#">38210.070.001</a> | M16           | 100 | <a href="#">38210.160.001</a> |
| M3,5          | 250 | <a href="#">38210.035.001</a> | M8            | 250 | <a href="#">38210.080.001</a> | M18           | 100 | <a href="#">38210.180.001</a> |
| M4            | 250 | <a href="#">38210.040.001</a> | M10           | 200 | <a href="#">38210.100.001</a> | M20           | 100 | <a href="#">38210.200.001</a> |
| M5            | 250 | <a href="#">38210.050.001</a> | M12           | 200 | <a href="#">38210.120.001</a> | M24           | 100 | <a href="#">38210.240.001</a> |
| M6            | 250 | <a href="#">38210.060.001</a> | M14           | 100 | <a href="#">38210.140.001</a> |               |     |                               |

#### 38220 Plain washer $d_2 \approx 3 \times d_1$

L01A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Large



| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M4            | 2500 | <a href="#">38220.040.001</a> | M7            | 2000 | <a href="#">38220.070.001</a> | M12           | 500 | <a href="#">38220.120.001</a> |
| M5            | 2500 | <a href="#">38220.050.001</a> | M8            | 1000 | <a href="#">38220.080.001</a> |               |     |                               |
| M6            | 2000 | <a href="#">38220.060.001</a> | M10           | 750  | <a href="#">38220.100.001</a> |               |     |                               |

|                          |   |  |  |  |  |  |  |             |
|--------------------------|---|--|--|--|--|--|--|-------------|
| <b>38211</b>             | <b>Plain washer <math>d_2 \approx 3 \times d_1</math></b> |  |  |  |  |  |  | <b>L01A</b> |
| <b>Material</b>          | Steel   |  |  |  |  |  |  |             |
| <b>Surface treatment</b> | Zinc plated yellow passivated                             |  |  |  |  |  |  |             |
| <b>Packaging</b>         | Standard  |  |  |  |  |  |  |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">38211.030.001</a> | M7            | 250 | <a href="#">38211.070.001</a> | M14           | 100 | <a href="#">38211.140.001</a> |
| M4            | 250 | <a href="#">38211.040.001</a> | M8            | 250 | <a href="#">38211.080.001</a> | M16           | 100 | <a href="#">38211.160.001</a> |
| M5            | 250 | <a href="#">38211.050.001</a> | M10           | 200 | <a href="#">38211.100.001</a> | M20           | 100 | <a href="#">38211.200.001</a> |
| M6            | 250 | <a href="#">38211.060.001</a> | M12           | 200 | <a href="#">38211.120.001</a> | M24           | 100 | <a href="#">38211.240.001</a> |

|                  |   |  |  |  |  |  |  |             |
|------------------|---|--|--|--|--|--|--|-------------|
| <b>51530</b>     | <b>Plain washer <math>d_2 \approx 3 \times d_1</math></b> |  |  |  |  |  |  | <b>R05A</b> |
| <b>Material</b>  | Stainless steel A2  |  |  |  |  |  |  |             |
| <b>Packaging</b> | Standard  |  |  |  |  |  |  |             |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2 *          | 1000 | <a href="#">51530.020.001</a> | M6            | 200 | <a href="#">51530.060.001</a> | M16           | 200 | <a href="#">51530.160.001</a> |
| M2,5          | 1000 | <a href="#">51530.025.001</a> | M8            | 200 | <a href="#">51530.080.001</a> | M20           | 200 | <a href="#">51530.200.001</a> |
| M3            | 200  | <a href="#">51530.030.001</a> | M10           | 200 | <a href="#">51530.100.001</a> | M24 *         | 25  | <a href="#">51530.240.001</a> |
| M4            | 200  | <a href="#">51530.040.001</a> | M12           | 200 | <a href="#">51530.120.001</a> | M30 *         | 25  | <a href="#">51530.300.001</a> |
| M5            | 200  | <a href="#">51530.050.001</a> | M14           | 200 | <a href="#">51530.140.001</a> | M36 *         | 10  | <a href="#">51530.360.001</a> |

|                  |   |  |  |  |  |  |  |             |
|------------------|---|--|--|--|--|--|--|-------------|
| <b>55530</b>     | <b>Plain washer <math>d_2 \approx 3 \times d_1</math></b> |  |  |  |  |  |  | <b>R45A</b> |
| <b>Material</b>  | Stainless steel A4  |  |  |  |  |  |  |             |
| <b>Packaging</b> | Standard  |  |  |  |  |  |  |             |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2 *          | 1000 | <a href="#">55530.020.001</a> | M6            | 200 | <a href="#">55530.060.001</a> | M18 *         | 50  | <a href="#">55530.180.001</a> |
| M2,5          | 1000 | <a href="#">55530.025.001</a> | M8            | 200 | <a href="#">55530.080.001</a> | M20           | 200 | <a href="#">55530.200.001</a> |
| M3            | 200  | <a href="#">55530.030.001</a> | M10           | 200 | <a href="#">55530.100.001</a> | M24 *         | 25  | <a href="#">55530.240.001</a> |
| M3,5          | 1000 | <a href="#">55530.035.001</a> | M12           | 200 | <a href="#">55530.120.001</a> | M30 *         | 25  | <a href="#">55530.300.001</a> |
| M4            | 200  | <a href="#">55530.040.001</a> | M14           | 200 | <a href="#">55530.140.001</a> |               |     |                               |
| M5            | 200  | <a href="#">55530.050.001</a> | M16           | 200 | <a href="#">55530.160.001</a> |               |     |                               |

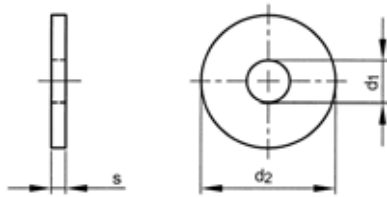
|                  |   |  |  |  |  |  |  |             |
|------------------|---|--|--|--|--|--|--|-------------|
| <b>56332</b>     | <b>Plain washer <math>d_2 \approx 3 \times d_1</math></b> |  |  |  |  |  |  | <b>W02A</b> |
| <b>Material</b>  | Plastic Polyamide (nylon)                                 |  |  |  |  |  |  |             |
| <b>Class</b>     | PA 6.6  |  |  |  |  |  |  |             |
| <b>Colour</b>    | Black   |  |  |  |  |  |  |             |
| <b>Packaging</b> | Standard  |  |  |  |  |  |  |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 200 | <a href="#">56332.030.001</a> | M6            | 200 | <a href="#">56332.060.001</a> | M12           | 100 | <a href="#">56332.120.001</a> |
| M4            | 200 | <a href="#">56332.040.001</a> | M8            | 200 | <a href="#">56332.080.001</a> |               |     |                               |
| M5            | 200 | <a href="#">56332.050.001</a> | M10           | 100 | <a href="#">56332.100.001</a> |               |     |                               |

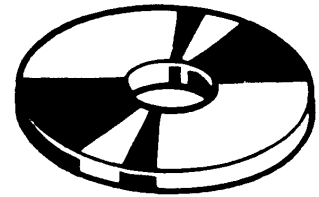
|                  |   |  |  |  |  |  |  |             |
|------------------|---|--|--|--|--|--|--|-------------|
| <b>56330</b>     | <b>Plain washer <math>d_2 \approx 3 \times d_1</math></b> |  |  |  |  |  |  | <b>W02A</b> |
| <b>Material</b>  | Plastic Polyamide (nylon)                                 |  |  |  |  |  |  |             |
| <b>Class</b>     | PA 6.6  |  |  |  |  |  |  |             |
| <b>Colour</b>    | White   |  |  |  |  |  |  |             |
| <b>Packaging</b> | Standard  |  |  |  |  |  |  |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size            | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|--------------------------|-----|-------------------------------|
| M3            | 200 | <a href="#">56330.030.009</a> | M6            | 200 | <a href="#">56330.060.017</a> | M10                      | 100 | <a href="#">56330.100.030</a> |
| M4            | 200 | <a href="#">56330.040.012</a> | M6 (s=2)      | 200 | <a href="#">56330.060.018</a> | M12 (d <sub>2</sub> =40) | 100 | <a href="#">56330.120.040</a> |
| M5            | 200 | <a href="#">56330.050.015</a> | M8            | 200 | <a href="#">56330.080.025</a> | M16                      | 100 | <a href="#">56330.160.050</a> |

## Washer for wood construction



ISO 7094  
 DIN 440 R  
 NEN 2275  
 NF E25-513



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s |
|--------------|----------------|----------------|---|
| M5           | 5,5            | 18             | 2 |
| M6           | 6,6            | 22             | 2 |
| M8           | 9              | 28             | 3 |
| M10          | 11             | 34             | 3 |
| M12          | 13,5           | 44             | 4 |
| M14          | 15,5           | 50             | 4 |
| M16          | 17,5           | 56             | 5 |
| M20          | 22             | 72             | 6 |
| M22          | 24             | 80             | 6 |
| M24          | 26             | 85             | 6 |
| M27          | 30             | 98             | 6 |
| M30          | 33             | 105            | 6 |

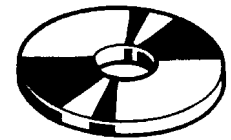
### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        | Zipl              | Standard  | 38240 | 7-34 |
| St        | Hot d.g.          | Standard  | 38230 | 7-34 |
| St.St. A2 |                   | Standard  | 51590 | 7-34 |
| St.St. A4 |                   | Standard  | 55590 | 7-35 |

#### 38240 Washer for wood construction

L07G

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

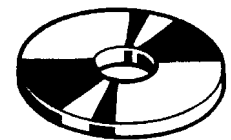


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 100 | <a href="#">38240.050.001</a> | M10           | 100 | <a href="#">38240.100.001</a> | M20           | 50 | <a href="#">38240.200.001</a> |
| M6            | 100 | <a href="#">38240.060.001</a> | M12           | 100 | <a href="#">38240.120.001</a> | M24           | 25 | <a href="#">38240.240.001</a> |
| M8            | 100 | <a href="#">38240.080.001</a> | M16           | 100 | <a href="#">38240.160.001</a> | M27           | 25 | <a href="#">38240.270.001</a> |

#### 38230 Washer for wood construction

L07G

**Material** Steel  
**Surface treatment** Hot dip galvanized  
**Packaging** Standard

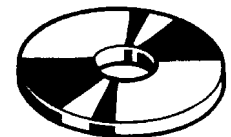


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 100 | <a href="#">38230.050.001</a> | M12           | 100 | <a href="#">38230.120.001</a> | M27           | 25 | <a href="#">38230.270.001</a> |
| M6            | 100 | <a href="#">38230.060.001</a> | M16           | 100 | <a href="#">38230.160.001</a> | M30           | 25 | <a href="#">38230.300.001</a> |
| M8            | 100 | <a href="#">38230.080.001</a> | M20           | 50  | <a href="#">38230.200.001</a> |               |    |                               |
| M10           | 100 | <a href="#">38230.100.001</a> | M24           | 25  | <a href="#">38230.240.001</a> |               |    |                               |

#### 51590 Washer for wood construction

R09A

**Material** Stainless steel A2  
**Packaging** Standard  
 ISO ≈7094  
 DIN ≈440R  
 NEN ≈2275  
 NF ≈E25-513



| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M5            | 50 | <a href="#">51590.050.001</a> | M8            | 50 | <a href="#">51590.080.001</a> | M12           | 50 | <a href="#">51590.120.001</a> |
| M6            | 50 | <a href="#">51590.060.001</a> | M10           | 50 | <a href="#">51590.100.001</a> | M14 *         | 50 | <a href="#">51590.140.001</a> |

7

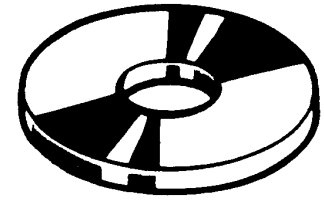
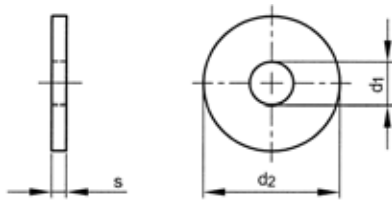
| 51590 Washer for wood construction |    |                               |               |    |                               |               |   |            |
|------------------------------------|----|-------------------------------|---------------|----|-------------------------------|---------------|---|------------|
| For nom. size                      | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number |
| M16                                | 50 | <a href="#">51590.160.001</a> | M22 *         | 25 | <a href="#">51590.220.001</a> |               |   |            |
| M20                                | 25 | <a href="#">51590.200.001</a> | M24           | 10 | <a href="#">51590.240.001</a> |               |   |            |

| 55590 Washer for wood construction |                    |  |  |  |  |  |  | R49A  |
|------------------------------------|--------------------|--|--|--|--|--|--|---|
| <b>Material</b>                    | Stainless steel A4 |  |  |  |  |  |  |  |
| <b>Packaging</b>                   | Standard           |  |  |  |  |  |  |   |
|                                    | ISO ≈7094          |  |  |  |  |  |  |   |
|                                    | DIN ≈440R          |  |  |  |  |  |  |   |
|                                    | NEN ≈2275          |  |  |  |  |  |  |   |
|                                    | NF ≈E25-513        |  |  |  |  |  |  |   |

| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M5            | 50 | <a href="#">55590.050.001</a> | M10           | 50 | <a href="#">55590.100.001</a> | M20           | 25 | <a href="#">55590.200.001</a> |
| M6            | 50 | <a href="#">55590.060.001</a> | M12           | 50 | <a href="#">55590.120.001</a> | M22 *         | 25 | <a href="#">55590.220.001</a> |
| M8            | 50 | <a href="#">55590.080.001</a> | M16           | 50 | <a href="#">55590.160.001</a> | M24           | 10 | <a href="#">55590.240.001</a> |



## Mudwing repair washer



### Technical data

| For nom.size | d <sub>1</sub> | s   | For nom.size | d <sub>1</sub> | s     | For nom.size | d <sub>1</sub> | s   |
|--------------|----------------|-----|--------------|----------------|-------|--------------|----------------|-----|
| M3           | 3,3            | 0,8 | M10          | 10,5           | 1,5/3 | M20          | 20,2           | 2,5 |
| M4           | 4,2            | 1,2 | M11          | 11,5           | 1,5   | M22          | 24             | 4   |
| M5           | 5,2            | 1,3 | M12          | 12,5           | 2     | M24          | 25             | 4   |
| M6           | 6,5            | 1,5 | M14          | 14,5           | 2     | M27          | 28             | 4   |
| M7           | 7,4            | 1,5 | M16          | 16,5           | 2,5   | M30          | 32             | 4   |
| M8           | 8,4            | 1,5 | M17          | 17,2           | 2,5   |              |                |     |

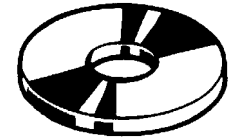
### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        | Zipl              | Standard  | 38400 | 7-36 |
| St        | Zipl              | Large     | 38410 | 7-36 |
| St        | Zipl yell.p.      | Standard  | 38401 | 7-37 |
| St.St. A2 |                   | Standard  | 51410 | 7-37 |
| St.St. A4 |                   | Standard  | 55410 | 7-37 |

#### 38400 Mudwing repair washer

L01A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

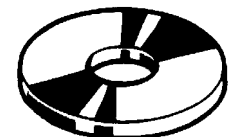


| For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| M3X10              | 100 | <a href="#">38400.030.010</a> | M8X30              | 100 | <a href="#">38400.080.030</a> | M12X60             | 100 | <a href="#">38400.120.060</a> |
| M4X20              | 100 | <a href="#">38400.040.020</a> | M8X35              | 100 | <a href="#">38400.080.035</a> | M14X36             | 100 | <a href="#">38400.140.036</a> |
| M5X20              | 100 | <a href="#">38400.050.020</a> | M8X38              | 100 | <a href="#">38400.080.038</a> | M14X40             | 100 | <a href="#">38400.140.040</a> |
| M5X25              | 100 | <a href="#">38400.050.025</a> | M8X40              | 100 | <a href="#">38400.080.040</a> | M14X45             | 100 | <a href="#">38400.140.045</a> |
| M5X30              | 100 | <a href="#">38400.050.030</a> | M8X45              | 100 | <a href="#">38400.080.045</a> | M16X40             | 100 | <a href="#">38400.160.040</a> |
| M6X14              | 100 | <a href="#">38400.060.014</a> | M8X50              | 100 | <a href="#">38400.080.050</a> | M16X45             | 100 | <a href="#">38400.160.045</a> |
| M6X20              | 100 | <a href="#">38400.060.020</a> | M10X30             | 100 | <a href="#">38400.100.030</a> | M16X50             | 100 | <a href="#">38400.160.050</a> |
| M6X25              | 100 | <a href="#">38400.060.025</a> | M10X35             | 100 | <a href="#">38400.100.035</a> | M17X40             | 100 | <a href="#">38400.170.040</a> |
| M6X27              | 100 | <a href="#">38400.060.027</a> | M10X38             | 100 | <a href="#">38400.100.038</a> | M17X45             | 100 | <a href="#">38400.170.045</a> |
| M6X30              | 100 | <a href="#">38400.060.030</a> | M10X40             | 100 | <a href="#">38400.100.040</a> | M20X50             | 100 | <a href="#">38400.200.050</a> |
| M6X35              | 100 | <a href="#">38400.060.035</a> | M10X50             | 100 | <a href="#">38400.100.050</a> | M20X55             | 100 | <a href="#">38400.200.055</a> |
| M6X38              | 100 | <a href="#">38400.060.038</a> | M10X50X3           | 100 | <a href="#">38400.100.051</a> | M22X75             | 50  | <a href="#">38400.220.075</a> |
| M6X40              | 100 | <a href="#">38400.060.040</a> | M10X60             | 100 | <a href="#">38400.100.060</a> | M24X80             | 50  | <a href="#">38400.240.080</a> |
| M7X20              | 100 | <a href="#">38400.070.020</a> | M11X35             | 100 | <a href="#">38400.110.035</a> | M24X85             | 50  | <a href="#">38400.240.085</a> |
| M7X25              | 100 | <a href="#">38400.070.025</a> | M12X30             | 100 | <a href="#">38400.120.030</a> | M27X85             | 25  | <a href="#">38400.270.085</a> |
| M7X30              | 100 | <a href="#">38400.070.030</a> | M12X36             | 100 | <a href="#">38400.120.036</a> | M30X95             | 25  | <a href="#">38400.300.095</a> |
| M8X25              | 100 | <a href="#">38400.080.025</a> | M12X40             | 100 | <a href="#">38400.120.040</a> |                    |     |                               |

#### 38410 Mudwing repair washer

L01A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Large       |



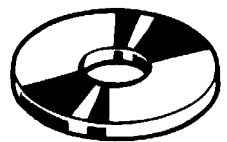
| For nom. size x d2 | ☒    | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    |
|--------------------|------|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| M4X20              | 2000 | <a href="#">38410.040.020</a> | M6X25              | 700 | <a href="#">38410.060.025</a> | M8X30              | 700 | <a href="#">38410.080.030</a> |
| M5X20              | 1000 | <a href="#">38410.050.020</a> | M6X30              | 700 | <a href="#">38410.060.030</a> | M10X30             | 700 | <a href="#">38410.100.030</a> |
| M5X30              | 1000 | <a href="#">38410.050.030</a> | M8X25              | 700 | <a href="#">38410.080.025</a> |                    |     |                               |

|                          |                               |   |
|--------------------------|-------------------------------|---|
| <b>38401</b>             | <b>Mudwing repair washer</b>  | <b>L01A</b>   |
| <b>Material</b>          | Steel                         |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |   |
| <b>Packaging</b>         | Standard                      |   |

| For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| M3X10              | 100 | <a href="#">38401.030.010</a> | M6X30              | 100 | <a href="#">38401.060.030</a> | M10X30             | 100 | <a href="#">38401.100.030</a> |
| M4X20              | 100 | <a href="#">38401.040.020</a> | M6X40              | 100 | <a href="#">38401.060.040</a> | M12X36             | 100 | <a href="#">38401.120.036</a> |
| M5X20              | 100 | <a href="#">38401.050.020</a> | M7X25              | 100 | <a href="#">38401.070.025</a> | M14X36             | 100 | <a href="#">38401.140.036</a> |
| M5X25              | 100 | <a href="#">38401.050.025</a> | M8X25              | 100 | <a href="#">38401.080.025</a> | M16X50             | 100 | <a href="#">38401.160.050</a> |
| M5X30              | 100 | <a href="#">38401.050.030</a> | M8X30              | 100 | <a href="#">38401.080.030</a> | M20X55             | 100 | <a href="#">38401.200.055</a> |
| M6X25              | 100 | <a href="#">38401.060.025</a> | M8X40              | 100 | <a href="#">38401.080.040</a> | M24X85             | 50  | <a href="#">38401.240.085</a> |

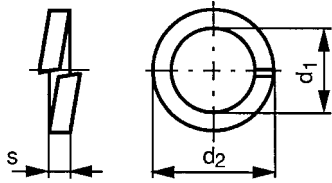
|                  |                              |   |
|------------------|------------------------------|---|
| <b>51410</b>     | <b>Mudwing repair washer</b> | <b>R05A</b>   |
| <b>Material</b>  | Stainless steel A2           |  |
| <b>Packaging</b> | Standard                     |   |
|                  |                              |   |

| For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| M4X20X1,2          | 200 | <a href="#">51410.040.020</a> | M6X30X1,5          | 200 | <a href="#">51410.060.030</a> | M10X35X1,5/3       | 200 | <a href="#">51410.100.035</a> |
| M5X20X1,3          | 200 | <a href="#">51410.050.020</a> | M8X25X1,5          | 200 | <a href="#">51410.080.025</a> | M12X36X2           | 200 | <a href="#">51410.120.036</a> |
| M6X18X1,5          | 200 | <a href="#">51410.060.018</a> | M8X30X1,5          | 200 | <a href="#">51410.080.030</a> | M16X50X2,5         | 200 | <a href="#">51410.160.050</a> |
| M6X20X1,5          | 200 | <a href="#">51410.060.020</a> | M10X25X1,5/3       | 200 | <a href="#">51410.100.025</a> |                    |     |                               |
| M6X25X1,5          | 200 | <a href="#">51410.060.025</a> | M10X30X1,5/3       | 200 | <a href="#">51410.100.030</a> |                    |     |                               |

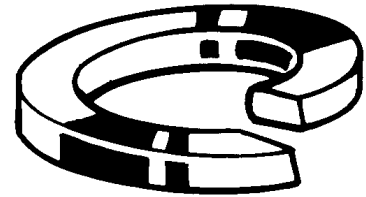
|                  |                              |   |
|------------------|------------------------------|---|
| <b>55410</b>     | <b>Mudwing repair washer</b> | <b>R45A</b>   |
| <b>Material</b>  | Stainless steel A4           |  |
| <b>Packaging</b> | Standard                     |   |
|                  |                              |   |

| For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| M4X20X1,2          | 200 | <a href="#">55410.040.020</a> | M6X25X1,5          | 200 | <a href="#">55410.060.025</a> | M10X30X1,5/3       | 200 | <a href="#">55410.100.030</a> |
| M5X20X1,3          | 200 | <a href="#">55410.050.020</a> | M8X30X1,5          | 200 | <a href="#">55410.080.030</a> | M12X36X2           | 200 | <a href="#">55410.120.036</a> |

## Spring lock washer with square ends



DIN 127 B  
 NEN 1197 B  
 NF E25-515  
 BS 4464 B



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M2           | 2,1                   | 4,4                   | 0,5 |
| M2,3 (#DIN)  | 2,4                   | 4,9                   | 0,6 |
| M2,5         | 2,6                   | 5,1                   | 0,6 |
| M2,6 (#DIN)  | 2,7                   | 5,2                   | 0,6 |
| M3           | 3,1                   | 6,2                   | 0,8 |
| M3,5         | 3,6                   | 6,7                   | 0,8 |
| M4           | 4,1                   | 7,6                   | 0,9 |
| M5           | 5,1                   | 9,2                   | 1,2 |
| M6           | 6,1                   | 11,8                  | 1,6 |
| 1/4 (#DIN)   | 6,4                   | 12,1                  | 1,6 |
| M7           | 7,1                   | 12,8                  | 1,6 |
| M8           | 8,1                   | 14,8                  | 2   |
| 3/8 (#DIN)   | 9,7                   | 17,6                  | 2,2 |
| M10          | 10,2                  | 18,1                  | 2,2 |
| M11 (#DIN)   | 11,2                  | 18,2                  | 2,2 |
| M12          | 12,2                  | 21,1                  | 2,5 |
| 1/2 (#DIN)   | 13                    | 21,8                  | 2,5 |
| M14          | 14,2                  | 24,1                  | 3   |
| M16          | 16,2                  | 27,4                  | 3,5 |
| M18          | 18,2                  | 29,4                  | 3,5 |
| M20          | 20,2                  | 33,6                  | 4   |
| M22          | 22,5                  | 35,9                  | 4   |
| M24          | 24,5                  | 40                    | 5   |
| 1.IN. (#DIN) | 26,5                  | 42,5                  | 5   |
| M27          | 27,5                  | 43                    | 5   |
| M30          | 30,5                  | 48,2                  | 6   |
| M33 (#DIN)   | 33,5                  | 55,2                  | 6   |
| M36          | 36,5                  | 58,2                  | 6   |
| M39          | 39,5                  | 61,2                  | 6   |
| M42          | 42,5                  | 68,2                  | 7   |
| M45          | 45,5                  | 71,2                  | 7   |
| M48          | 49                    | 75                    | 7   |
| M52          | 53                    | 83                    | 8   |
| M56          | 57                    | 87                    | 8   |
| M60          | 61                    | 91                    | 8   |
| M64          | 65                    | 95                    | 8   |
| M68          | 69                    | 99                    | 8   |
| M72          | 73                    | 103                   | 8   |
| M76 (#DIN)   | 77                    | 107                   | 8   |

- Spring washers acc. to DIN 127 B should be used in combination with fasteners of property class  $\leq 5.8$ , use under dynamic load is not allowed.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.
- Depending on availability these articles can be supplied zinc plated as well as mechanical plated.
- WARNING: electro-galvanizing of these products may cause hydrogen embrittlement

### Article groups

| Material               | Surface treatment | Packaging | Code  | Page |
|------------------------|-------------------|-----------|-------|------|
| Spring steel DIN267-26 |                   | Standard  | 37000 | 7-39 |
| Spring steel DIN267-26 | FLZNNC-NC6        | Standard  | 37024 | 7-39 |
| Spring steel DIN267-26 | Zipl              | Standard  | 37020 | 7-39 |
| Spring steel DIN267-26 | Zipl              | Large     | 37030 | 7-39 |
| Spring steel DIN267-26 | Zipl yell.p.      | Standard  | 37060 | 7-40 |
| Spring steel DIN267-26 | Hot d.g.          | Standard  | 37025 | 7-40 |
| St.St. A2              |                   | Standard  | 51450 | 7-40 |
| St.St. A4              |                   | Standard  | 55450 | 7-40 |

|  |                        |   |
|--|------------------------|---|
| <b>37000 Spring lock washer with square ends</b> |                        | <b>L05A</b>   |
| <b>Material</b>                                  | Spring steel DIN267-26 |  |
| <b>Packaging</b>                                 | Standard               |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">37000.030.001</a> | 1/2           | 150 | <a href="#">37000.127.001</a> | M39           | 10 | <a href="#">37000.390.001</a> |
| M3,5          | 250 | <a href="#">37000.035.001</a> | M14           | 100 | <a href="#">37000.140.001</a> | M42           | 10 | <a href="#">37000.420.001</a> |
| M4            | 250 | <a href="#">37000.040.001</a> | M16           | 100 | <a href="#">37000.160.001</a> | M45           | 10 | <a href="#">37000.450.001</a> |
| M5            | 250 | <a href="#">37000.050.001</a> | M18           | 100 | <a href="#">37000.180.001</a> | M48           | 10 | <a href="#">37000.480.001</a> |
| M6            | 250 | <a href="#">37000.060.001</a> | M20           | 100 | <a href="#">37000.200.001</a> | M52           | 10 | <a href="#">37000.520.001</a> |
| 1/4           | 250 | <a href="#">37000.063.001</a> | M22           | 50  | <a href="#">37000.220.001</a> | M56           | 5  | <a href="#">37000.560.001</a> |
| M7            | 250 | <a href="#">37000.070.001</a> | M24           | 50  | <a href="#">37000.240.001</a> | M60           | 5  | <a href="#">37000.600.001</a> |
| M8            | 200 | <a href="#">37000.080.001</a> | 1.IN.         | 50  | <a href="#">37000.254.001</a> | M64           | 5  | <a href="#">37000.640.001</a> |
| 3/8           | 200 | <a href="#">37000.096.001</a> | M27           | 25  | <a href="#">37000.270.001</a> | M68           | 5  | <a href="#">37000.680.001</a> |
| M10           | 200 | <a href="#">37000.100.001</a> | M30           | 25  | <a href="#">37000.300.001</a> | M72           | 5  | <a href="#">37000.720.001</a> |
| M11           | 150 | <a href="#">37000.110.001</a> | M33           | 25  | <a href="#">37000.330.001</a> | M76           | 5  | <a href="#">37000.760.001</a> |
| M12           | 150 | <a href="#">37000.120.001</a> | M36           | 25  | <a href="#">37000.360.001</a> |               |    |                               |

|  |   |   |
|--|---|---|
| <b>37024 Spring lock washer with square ends</b> |   | <b>L05A</b>   |
| <b>Material</b>                                  | Spring steel DIN267-26                  |  |
| <b>Surface treatment</b>                         | Zinc flake Cr6+ free - ISO 10683 fIZnnc |   |
| <b>Packaging</b>                                 | Standard                                |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M6            | 250 | <a href="#">37024.060.001</a> | M12           | 150 | <a href="#">37024.120.001</a> | M24           | 50 | <a href="#">37024.240.001</a> |
| M8            | 200 | <a href="#">37024.080.001</a> | M16           | 100 | <a href="#">37024.160.001</a> | M30           | 25 | <a href="#">37024.300.001</a> |
| M10           | 200 | <a href="#">37024.100.001</a> | M20           | 100 | <a href="#">37024.200.001</a> |               |    |                               |

• Technical brochure available on request.

|  |                        |   |
|--|------------------------|---|
| <b>37020 Spring lock washer with square ends</b> |                        | <b>L05A</b>   |
| <b>Material</b>                                  | Spring steel DIN267-26 |  |
| <b>Surface treatment</b>                         | Zinc plated            |   |
| <b>Packaging</b>                                 | Standard               |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">37020.020.001</a> | M7            | 250 | <a href="#">37020.070.001</a> | M18           | 100 | <a href="#">37020.180.001</a> |
| M2,3          | 500 | <a href="#">37020.023.001</a> | M8            | 200 | <a href="#">37020.080.001</a> | M20           | 100 | <a href="#">37020.200.001</a> |
| M2,6          | 500 | <a href="#">37020.026.001</a> | 3/8           | 200 | <a href="#">37020.096.001</a> | M22           | 50  | <a href="#">37020.220.001</a> |
| M3            | 250 | <a href="#">37020.030.001</a> | M10           | 200 | <a href="#">37020.100.001</a> | M24           | 50  | <a href="#">37020.240.001</a> |
| M3,5          | 250 | <a href="#">37020.035.001</a> | M11           | 150 | <a href="#">37020.110.001</a> | 1.IN.         | 50  | <a href="#">37020.254.001</a> |
| M4            | 250 | <a href="#">37020.040.001</a> | M12           | 150 | <a href="#">37020.120.001</a> | M27           | 25  | <a href="#">37020.270.001</a> |
| M5            | 250 | <a href="#">37020.050.001</a> | 1/2           | 150 | <a href="#">37020.127.001</a> | M30           | 25  | <a href="#">37020.300.001</a> |
| M6            | 250 | <a href="#">37020.060.001</a> | M14           | 100 | <a href="#">37020.140.001</a> | M33           | 25  | <a href="#">37020.330.001</a> |
| 1/4           | 250 | <a href="#">37020.063.001</a> | M16           | 100 | <a href="#">37020.160.001</a> | M36           | 25  | <a href="#">37020.360.001</a> |

|  |                        |   |
|--|------------------------|---|
| <b>37030 Spring lock washer with square ends</b> |                        | <b>L05A</b>   |
| <b>Material</b>                                  | Spring steel DIN267-26 |  |
| <b>Surface treatment</b>                         | Zinc plated            |   |
| <b>Packaging</b>                                 | Large                  |   |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 2500 | <a href="#">37030.030.001</a> | M8            | 2000 | <a href="#">37030.080.001</a> | M16           | 500 | <a href="#">37030.160.001</a> |
| M4            | 2500 | <a href="#">37030.040.001</a> | M10           | 1500 | <a href="#">37030.100.001</a> | M20           | 250 | <a href="#">37030.200.001</a> |
| M5            | 2500 | <a href="#">37030.050.001</a> | M12           | 1000 | <a href="#">37030.120.001</a> | M22           | 250 | <a href="#">37030.220.001</a> |
| M6            | 2000 | <a href="#">37030.060.001</a> | M14           | 500  | <a href="#">37030.140.001</a> | M24           | 250 | <a href="#">37030.240.001</a> |

| 37060 Spring lock washer with square ends |                               | L05A  |
|---|-------------------------------|---|
| <b>Material</b>                           | Spring steel DIN267-26        |  |
| <b>Surface treatment</b>                  | Zinc plated yellow passivated |   |
| <b>Packaging</b>                          | Standard                      |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">37060.030.001</a> | M8            | 200 | <a href="#">37060.080.001</a> | M18           | 100 | <a href="#">37060.180.001</a> |
| M4            | 250 | <a href="#">37060.040.001</a> | M10           | 200 | <a href="#">37060.100.001</a> | M20           | 100 | <a href="#">37060.200.001</a> |
| M5            | 250 | <a href="#">37060.050.001</a> | M12           | 150 | <a href="#">37060.120.001</a> | M22           | 50  | <a href="#">37060.220.001</a> |
| M6            | 250 | <a href="#">37060.060.001</a> | M14           | 100 | <a href="#">37060.140.001</a> | M24           | 50  | <a href="#">37060.240.001</a> |
| M7            | 250 | <a href="#">37060.070.001</a> | M16           | 100 | <a href="#">37060.160.001</a> |               |     |                               |

| 37025 Spring lock washer with square ends |                        | L05A  |
|---|------------------------|---|
| <b>Material</b>                           | Spring steel DIN267-26 |  |
| <b>Surface treatment</b>                  | Hot dip galvanized     |   |
| <b>Packaging</b>                          | Standard               |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M6            | 250 | <a href="#">37025.060.001</a> | M14           | 150 | <a href="#">37025.140.001</a> | M22           | 50 | <a href="#">37025.220.001</a> |
| M8            | 200 | <a href="#">37025.080.001</a> | M16           | 100 | <a href="#">37025.160.001</a> | M24           | 50 | <a href="#">37025.240.001</a> |
| M10           | 200 | <a href="#">37025.100.001</a> | M18           | 100 | <a href="#">37025.180.001</a> | M27           | 25 | <a href="#">37025.270.001</a> |
| M12           | 150 | <a href="#">37025.120.001</a> | M20           | 100 | <a href="#">37025.200.001</a> | M30           | 25 | <a href="#">37025.300.001</a> |

| 51450 Spring lock washer with square ends |                    | R07A  |
|---|--------------------|---|
| <b>Material</b>                           | Stainless steel A2 |  |
| <b>Packaging</b>                          | Standard           |   |
|   | DIN ≈127 B         |   |
|   | NEN ≈1197 B        |   |
|   | NF ≈E25-515        |   |
|   | BS ≈4464 B         |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 200 | <a href="#">51450.020.001</a> | M7            | 500 | <a href="#">51450.070.001</a> | M20           | 200 | <a href="#">51450.200.001</a> |
| M2,3          | 200 | <a href="#">51450.023.001</a> | M8            | 500 | <a href="#">51450.080.001</a> | M22           | 100 | <a href="#">51450.220.001</a> |
| M2,5          | 200 | <a href="#">51450.025.001</a> | 3/8           | 500 | <a href="#">51450.096.001</a> | M24           | 100 | <a href="#">51450.240.001</a> |
| M2,6          | 200 | <a href="#">51450.026.001</a> | M10           | 500 | <a href="#">51450.100.001</a> | 1.IN.         | 100 | <a href="#">51450.254.001</a> |
| M3            | 500 | <a href="#">51450.030.001</a> | M11           | 500 | <a href="#">51450.110.001</a> | M27           | 50  | <a href="#">51450.270.001</a> |
| M3,5          | 500 | <a href="#">51450.035.001</a> | M12           | 500 | <a href="#">51450.120.001</a> | M30           | 50  | <a href="#">51450.300.001</a> |
| M4            | 500 | <a href="#">51450.040.001</a> | 1/2           | 500 | <a href="#">51450.127.001</a> | M33           | 50  | <a href="#">51450.330.001</a> |
| M5            | 500 | <a href="#">51450.050.001</a> | M14           | 200 | <a href="#">51450.140.001</a> | M36           | 50  | <a href="#">51450.360.001</a> |
| M6            | 500 | <a href="#">51450.060.001</a> | M16           | 200 | <a href="#">51450.160.001</a> |               |     |                               |
| 1/4           | 500 | <a href="#">51450.063.001</a> | M18           | 200 | <a href="#">51450.180.001</a> |               |     |                               |

• Technical data is according to DIN with the exception of material type stainless steel.

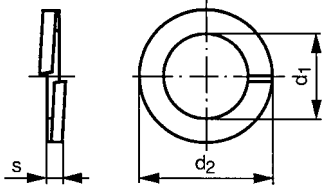
| 55450 Spring lock washer with square ends |                    | R47A  |
|---|--------------------|---|
| <b>Material</b>                           | Stainless steel A4 |  |
| <b>Packaging</b>                          | Standard           |   |
|   | DIN ≈127 B         |   |
|   | NEN ≈1197 B        |   |
|   | NF ≈E25-515        |   |
|   | BS ≈4464 B         |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 200 | <a href="#">55450.020.001</a> | 3/8           | 500 | <a href="#">55450.096.001</a> | M22           | 100 | <a href="#">55450.220.001</a> |
| M2,5          | 200 | <a href="#">55450.025.001</a> | M10           | 500 | <a href="#">55450.100.001</a> | M24           | 100 | <a href="#">55450.240.001</a> |
| M3            | 500 | <a href="#">55450.030.001</a> | M12           | 500 | <a href="#">55450.120.001</a> | 1.IN.         | 100 | <a href="#">55450.254.001</a> |
| M4            | 500 | <a href="#">55450.040.001</a> | 1/2           | 500 | <a href="#">55450.127.001</a> | M27           | 50  | <a href="#">55450.270.001</a> |
| M5            | 500 | <a href="#">55450.050.001</a> | M14           | 200 | <a href="#">55450.140.001</a> | M30           | 50  | <a href="#">55450.300.001</a> |
| M6            | 500 | <a href="#">55450.060.001</a> | M16           | 200 | <a href="#">55450.160.001</a> | M33           | 50  | <a href="#">55450.330.001</a> |
| 1/4           | 500 | <a href="#">55450.063.001</a> | M18           | 200 | <a href="#">55450.180.001</a> | M36           | 50  | <a href="#">55450.360.001</a> |
| M8            | 500 | <a href="#">55450.080.001</a> | M20           | 200 | <a href="#">55450.200.001</a> |               |     |                               |

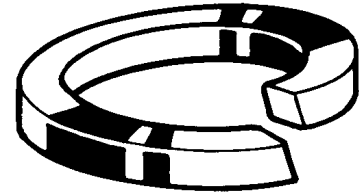
• Technical data is according to DIN with the exception of material type stainless steel.

7

## Spring lock washer for screws with cylindrical heads



DIN 7980  
BS 4464 A



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M3           | 3,1                   | 5,6                   | 1   |
| M4           | 4,1                   | 7                     | 1,2 |
| M5           | 5,1                   | 8,8                   | 1,6 |
| M6           | 6,1                   | 9,9                   | 1,6 |
| 1/4 (#DIN)   | 6,5                   | 11,2                  | 2   |
| M8           | 8,1                   | 12,7                  | 2   |
| M10          | 10,2                  | 16                    | 2,5 |
| M12          | 12,2                  | 18                    | 2,5 |
| 1/2 (#DIN)   | 13                    | 20,2                  | 3   |
| M14          | 14,2                  | 21,1                  | 3   |
| M16          | 16,2                  | 24,4                  | 3,5 |
| M18          | 18,2                  | 26,4                  | 3,5 |
| M20          | 20,2                  | 30,6                  | 4,5 |
| M22          | 22,5                  | 32,9                  | 4,5 |
| M24          | 24,5                  | 35,9                  | 5   |
| 1.IN.        | 25,9                  | 38,4                  | 5   |
| M27          | 27,5                  | 38,9                  | 5   |
| M30          | 30,5                  | 44,1                  | 6   |
| M36          | 36,5                  | 52,2                  | 7   |

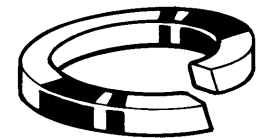
### Article groups

| Material               | Surface treatment | Packaging | Code  | Page |
|------------------------|-------------------|-----------|-------|------|
| Spring steel DIN267-26 |                   | Standard  | 37200 | 7-41 |
| Spring steel DIN267-26 | Zipl              | Standard  | 37220 | 7-42 |
| St.St. A2              |                   | Standard  | 51390 | 7-42 |
| St.St. A4              |                   | Standard  | 55390 | 7-42 |

### 37200 Spring lock washer for screws with cylindrical heads

L07D

**Material** Spring steel DIN267-26  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">37200.030.001</a> | M12           | 150 | <a href="#">37200.120.001</a> | M24           | 50 | <a href="#">37200.240.001</a> |
| M4            | 250 | <a href="#">37200.040.001</a> | 1/2           | 150 | <a href="#">37200.127.001</a> | 1.IN.         | 50 | <a href="#">37200.254.001</a> |
| M5            | 250 | <a href="#">37200.050.001</a> | M14           | 100 | <a href="#">37200.140.001</a> | M27           | 50 | <a href="#">37200.270.001</a> |
| M6            | 250 | <a href="#">37200.060.001</a> | M16           | 100 | <a href="#">37200.160.001</a> | M30           | 50 | <a href="#">37200.300.001</a> |
| 1/4           | 250 | <a href="#">37200.063.001</a> | M18           | 250 | <a href="#">37200.180.001</a> | M36           | 50 | <a href="#">37200.360.001</a> |
| M8            | 200 | <a href="#">37200.080.001</a> | M20           | 100 | <a href="#">37200.200.001</a> |               |    |                               |
| M10           | 200 | <a href="#">37200.100.001</a> | M22           | 50  | <a href="#">37200.220.001</a> |               |    |                               |

- Spring lock washers acc. to DIN 7980 should be used in combination with fasteners of property class < 8.8, use under dynamic load is not allowed.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.
- Depending on availability these articles can be supplied zinc plated as well as mechanical plated.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

| 37220 Spring lock washer for screws with cylindrical heads |                        | L07D |
|--|------------------------|------|
| <b>Material</b>  | Spring steel DIN267-26 |      |
| <b>Surface treatment</b>                                   | Zinc plated            |      |
| <b>Packaging</b>   | Standard               |      |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 250 | <a href="#">37220.030.001</a> | M10           | 200 | <a href="#">37220.100.001</a> | M22           | 50 | <a href="#">37220.220.001</a> |
| M4            | 250 | <a href="#">37220.040.001</a> | M12           | 150 | <a href="#">37220.120.001</a> | M24           | 50 | <a href="#">37220.240.001</a> |
| M5            | 250 | <a href="#">37220.050.001</a> | M14           | 100 | <a href="#">37220.140.001</a> | M27           | 50 | <a href="#">37220.270.001</a> |
| M6            | 250 | <a href="#">37220.060.001</a> | M16           | 100 | <a href="#">37220.160.001</a> | M30           | 50 | <a href="#">37220.300.001</a> |
| M8            | 200 | <a href="#">37220.080.001</a> | M20           | 100 | <a href="#">37220.200.001</a> |               |    |                               |

- Spring lock washers acc. to DIN 7980 should be used in combination with fasteners of property class < 8.8, use under dynamic load is not allowed.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.
- Depending on availability these articles can be supplied zinc plated as well as mechanical plated.

| 51390 Spring lock washer for screws with cylindrical heads |                         | R09A |
|--|-------------------------|------|
| <b>Material</b>  | Stainless steel A2      |      |
| <b>Packaging</b>   | Standard                |      |
|  | DIN ≈7980<br>BS ≈4464 A |      |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">51390.030.001</a> | M10           | 200 | <a href="#">51390.100.001</a> | M20           | 100 | <a href="#">51390.200.001</a> |
| M4            | 250 | <a href="#">51390.040.001</a> | M12           | 200 | <a href="#">51390.120.001</a> | M24           | 50  | <a href="#">51390.240.001</a> |
| M5            | 250 | <a href="#">51390.050.001</a> | M14           | 100 | <a href="#">51390.140.001</a> | M27           | 50  | <a href="#">51390.270.001</a> |
| M6            | 250 | <a href="#">51390.060.001</a> | M16           | 100 | <a href="#">51390.160.001</a> | M30           | 50  | <a href="#">51390.300.001</a> |
| M8            | 250 | <a href="#">51390.080.001</a> | M18           | 100 | <a href="#">51390.180.001</a> |               |     |                               |

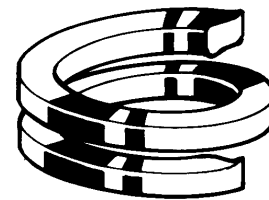
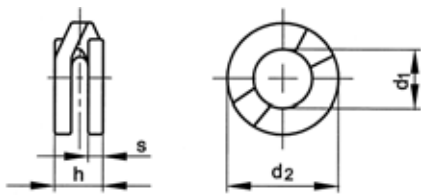
- Use under dynamic load is not allowed.
- For locking under dynamic load is referred to NORD-LOCK vibration proof washers and SCHNORR safety washers.
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

| 55390 Spring lock washer for screws with cylindrical heads |                         | R49A |
|--|-------------------------|------|
| <b>Material</b>  | Stainless steel A4      |      |
| <b>Packaging</b>   | Standard                |      |
|  | DIN ≈7980<br>BS ≈4464 A |      |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">55390.030.001</a> | M10           | 200 | <a href="#">55390.100.001</a> | M20           | 100 | <a href="#">55390.200.001</a> |
| M4            | 250 | <a href="#">55390.040.001</a> | M12           | 200 | <a href="#">55390.120.001</a> | M24           | 50  | <a href="#">55390.240.001</a> |
| M5            | 250 | <a href="#">55390.050.001</a> | M14           | 100 | <a href="#">55390.140.001</a> | M27           | 50  | <a href="#">55390.270.001</a> |
| M6            | 250 | <a href="#">55390.060.001</a> | M16           | 100 | <a href="#">55390.160.001</a> | M30           | 50  | <a href="#">55390.300.001</a> |
| M8            | 250 | <a href="#">55390.080.001</a> | M18           | 100 | <a href="#">55390.180.001</a> |               |     |                               |

- Use under dynamic load is not allowed.
- For locking under dynamic load is referred to NORD-LOCK vibration proof washers and SCHNORR safety washers.
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

## Double coil spring lock washer



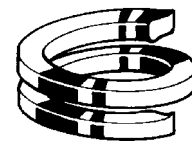
### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   | h    |
|--------------|----------------|----------------|-----|------|
| M5           | 5,1            | 8,7            | 1,2 | 4,2  |
| M6           | 6,1            | 11,1           | 1,6 | 5,6  |
| M8           | 8,2            | 14,2           | 2   | 7    |
| M10          | 10,2           | 17,2           | 2,2 | 7,7  |
| M12          | 12,2           | 20,2           | 2,5 | 8,8  |
| M16          | 16,2           | 26,2           | 3,5 | 12,3 |
| M20          | 20,2           | 32,2           | 4   | 14   |
| M22          | 22,5           | 34,5           | 4   | 14   |
| M26          | 26,5           | 40,5           | 5   | 17,5 |

### 37240 Double coil spring lock washer

L07D

**Material** Spring steel  
**Packaging** Standard



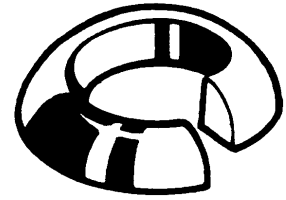
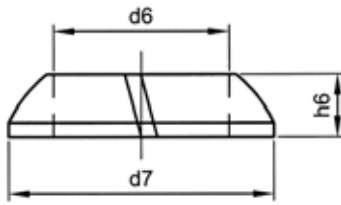
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 100 | <a href="#">37240.050.001</a> | M10           | 100 | <a href="#">37240.100.001</a> | M20           | 50 | <a href="#">37240.200.001</a> |
| M6            | 100 | <a href="#">37240.060.001</a> | M12           | 100 | <a href="#">37240.120.001</a> | M22           | 25 | <a href="#">37240.220.001</a> |
| M8            | 100 | <a href="#">37240.080.001</a> | M16           | 50  | <a href="#">37240.160.001</a> | M26           | 25 | <a href="#">37240.260.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



## Conical spring washer

DIN 74361 C



### Technical data

| d          | $d_6$ | $d_7$ | $h_6$ |
|------------|-------|-------|-------|
| M12        | 12,5  | 23    | 5     |
| M14        | 14,5  | 26    | 6     |
| M16 (#DIN) | 17,5  | 27    | 7     |
| M18        | 18,5  | 29    | 7     |
| M20        | 20,5  | 34    | 8     |
| M22        | 22,5  | 34    | 8     |

### 72030 Conical spring washer

Y92E

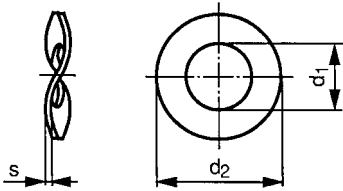
**Material** Spring steel DIN17221  
**Packaging** Standard



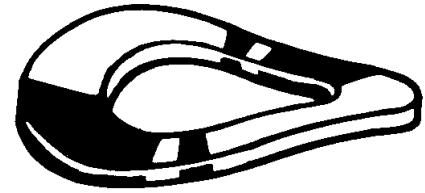
| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 50 | <a href="#">72030.120.001</a> | M16 | 50 | <a href="#">72030.160.001</a> | M20 | 25 | <a href="#">72030.200.001</a> |
| M14 | 50 | <a href="#">72030.140.001</a> | M18 | 25 | <a href="#">72030.180.001</a> | M22 | 25 | <a href="#">72030.220.001</a> |

- Usable for wheelbolts

## Wave spring washer



DIN 137 B  
 NEN 2457  
 NF E27-620



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M3           | 3,2            | 8              | 0,5 |
| M3,5         | 3,7            | 8              | 0,5 |
| M4           | 4,3            | 9              | 0,5 |
| M5           | 5,3            | 11             | 0,5 |
| M6           | 6,4            | 12             | 0,5 |
| M7           | 7,4            | 14             | 0,8 |
| M8           | 8,4            | 15             | 0,8 |
| M10          | 10,5           | 21             | 1   |
| M12          | 13             | 24             | 1,2 |
| M14          | 15             | 28             | 1,6 |
| M16          | 17             | 30             | 1,6 |
| M18          | 19             | 34             | 1,6 |
| M20          | 21             | 36             | 1,6 |
| M22          | 23             | 40             | 1,8 |
| M24          | 25             | 44             | 1,8 |
| M27          | 28             | 50             | 2   |

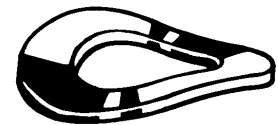
### Article groups

| Material               | Surface treatment | Packaging | Code  | Page |
|------------------------|-------------------|-----------|-------|------|
| Spring steel DIN267-26 |                   | Standard  | 37160 | 7-45 |
| Spring steel DIN267-26 | Zipl yell.p.      | Standard  | 37150 | 7-45 |
| St.St. A2              |                   | Standard  | 51551 | 7-46 |

#### 37160 Wave spring washer

L07D

**Material** Spring steel DIN267-26  
**Packaging** Standard



7

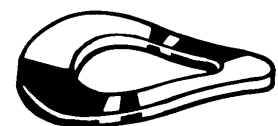
| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">37160.030.001</a> | M8            | 1000 | <a href="#">37160.080.001</a> | M20           | 100 | <a href="#">37160.200.001</a> |
| M4            | 1000 | <a href="#">37160.040.001</a> | M10           | 500  | <a href="#">37160.100.001</a> | M22           | 100 | <a href="#">37160.220.001</a> |
| M5            | 1000 | <a href="#">37160.050.001</a> | M12           | 500  | <a href="#">37160.120.001</a> | M24           | 100 | <a href="#">37160.240.001</a> |
| M6            | 1000 | <a href="#">37160.060.001</a> | M14           | 100  | <a href="#">37160.140.001</a> |               |     |                               |
| M7            | 1000 | <a href="#">37160.070.001</a> | M16           | 100  | <a href="#">37160.160.001</a> |               |     |                               |

- Spring washers acc. to DIN 137 should be used in combination with fasteners of property class < 5.8, use under dynamic load is not allowed.
- They are intended to counteract the effect of "play or setting" which results in bolt/nut assemblies working loose (see DIN 267-26).
- They do not effectively prevent loosening of the assembly under varying radial load and are designed for use with short bolts predominantly subject to thrust.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.
- **Warning:** electro-galvanizing of these products may cause hydrogen embrittlement.

#### 37150 Wave spring washer

L07D

**Material** Spring steel DIN267-26  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard



| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">37150.030.001</a> | M7            | 1000 | <a href="#">37150.070.001</a> | M14           | 100 | <a href="#">37150.140.001</a> |
| M4            | 1000 | <a href="#">37150.040.001</a> | M8            | 1000 | <a href="#">37150.080.001</a> | M16           | 100 | <a href="#">37150.160.001</a> |
| M5            | 1000 | <a href="#">37150.050.001</a> | M10           | 500  | <a href="#">37150.100.001</a> |               |     |                               |
| M6            | 1000 | <a href="#">37150.060.001</a> | M12           | 500  | <a href="#">37150.120.001</a> |               |     |                               |

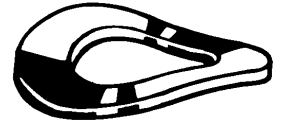
**37150 Wave spring washer**

| For nom. size | Art.number | For nom. size | Art.number | For nom. size | Art.number |
|---------------|------------|---------------|------------|---------------|------------|
|---------------|------------|---------------|------------|---------------|------------|

- Spring washers acc. to DIN 137 should be used in combination with fasteners of property class < 5.8, use under dynamic load is not allowed.
- They are intended to counteract the effect of "play or setting" which results in bolt/nut assemblies working loose (see DIN 267-26).
- They do not effectively prevent loosening of the assembly under varying radial load and are designed for use with short bolts predominantly subject to thrust.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**51551 Wave spring washer**
**R09A**

**Material** Stainless steel A2  
**Packaging** Standard  
**DIN** ≈137 B  
**NEN** ≈2457  
**NF** ≈E27-620

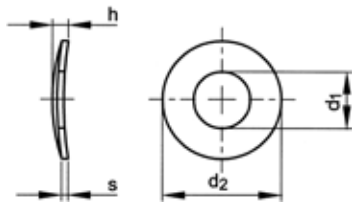


| For nom. size | Art.number | For nom. size | Art.number | For nom. size | Art.number |
|---------------|------------|---------------|------------|---------------|------------|
|---------------|------------|---------------|------------|---------------|------------|

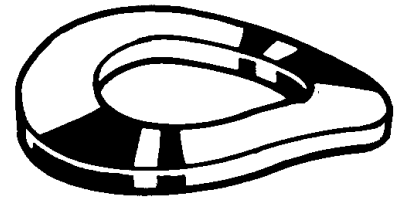
|      |      |                               |       |     |                               |       |     |                               |
|------|------|-------------------------------|-------|-----|-------------------------------|-------|-----|-------------------------------|
| M3   | 200  | <a href="#">51551.030.001</a> | M8    | 200 | <a href="#">51551.080.001</a> | M20   | 50  | <a href="#">51551.200.001</a> |
| M3,5 | 1000 | <a href="#">51551.035.001</a> | M10   | 100 | <a href="#">51551.100.001</a> | M22 * | 100 | <a href="#">51551.220.001</a> |
| M4   | 200  | <a href="#">51551.040.001</a> | M12   | 100 | <a href="#">51551.120.001</a> | M24   | 50  | <a href="#">51551.240.001</a> |
| M5   | 200  | <a href="#">51551.050.001</a> | M14 * | 200 | <a href="#">51551.140.001</a> | M27 * | 100 | <a href="#">51551.270.001</a> |
| M6   | 200  | <a href="#">51551.060.001</a> | M16   | 100 | <a href="#">51551.160.001</a> |       |     |                               |
| M7 * | 500  | <a href="#">51551.070.001</a> | M18 * | 200 | <a href="#">51551.180.001</a> |       |     |                               |

- Use under dynamic load is not allowed.
- For locking under dynamic load is referred to NORD-LOCK vibration proof washers and SCHNORR safety washers.
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

## Curved spring washer DIN 137A



DIN 137 A  
NEN 2456



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   | h (max.) |
|--------------|----------------|----------------|-----|----------|
| M2           | 2,2            | 4,5            | 0,3 | 1        |
| M2,3         | 2,5            | 5              | 0,3 | 1        |
| M2,5 (#DIN)  | 2,6            | 5              | 0,3 | 1        |
| M2,6         | 2,8            | 5,5            | 0,3 | 1,1      |
| M3           | 3,2            | 6              | 0,4 | 1,3      |
| M3,5         | 3,7            | 7              | 0,4 | 1,4      |
| M4           | 4,3            | 8              | 0,5 | 1,6      |
| M5           | 5,3            | 10             | 0,5 | 1,8      |
| M6           | 6,4            | 11             | 0,5 | 2,2      |
| M7           | 7,4            | 12             | 0,5 | 2,4      |
| M8           | 8,4            | 15             | 0,5 | 3,4      |
| M10          | 10,5           | 18             | 0,8 | 4        |

- Spring washers acc. to DIN 137 should be used in combination with fasteners of property class < 5.8, use under dynamic load is not allowed.
- They are intended to counteract the effect of "play or setting" which results in bolt/nut assemblies working loose (see DIN 267-26).
- They do not effectively prevent loosening of the assembly under varying radial load and are designed for use with short bolts predominantly subject to thrust.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.

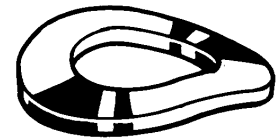
### Article groups

| Material               | Surface treatment | Packaging | Code  | Page |
|------------------------|-------------------|-----------|-------|------|
| Spring steel DIN267-26 |                   | Standard  | 37120 | 7-47 |
| Spring steel DIN267-26 | Zipl yell.p.      | Standard  | 37110 | 7-47 |

#### 37120 Curved spring washer DIN 137A

L07D

**Material** Spring steel DIN267-26  
**Packaging** Standard



7

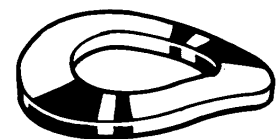
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">37120.020.001</a> | M3,5          | 500 | <a href="#">37120.035.001</a> | M7            | 500 | <a href="#">37120.070.001</a> |
| M2,3          | 500 | <a href="#">37120.023.001</a> | M4            | 500 | <a href="#">37120.040.001</a> | M8            | 500 | <a href="#">37120.080.001</a> |
| M2,6          | 500 | <a href="#">37120.026.001</a> | M5            | 500 | <a href="#">37120.050.001</a> | M10           | 200 | <a href="#">37120.100.001</a> |
| M3            | 500 | <a href="#">37120.030.001</a> | M6            | 500 | <a href="#">37120.060.001</a> |               |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 37110 Curved spring washer DIN 137A

L07D

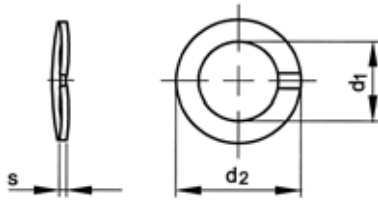
**Material** Spring steel DIN267-26  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard



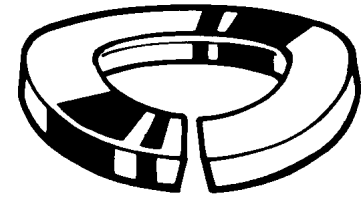
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">37110.020.001</a> | M4            | 500 | <a href="#">37110.040.001</a> | M7            | 500 | <a href="#">37110.070.001</a> |
| M2,5          | 500 | <a href="#">37110.025.001</a> | M5            | 500 | <a href="#">37110.050.001</a> | M8            | 500 | <a href="#">37110.080.001</a> |
| M3            | 500 | <a href="#">37110.030.001</a> | M6            | 500 | <a href="#">37110.060.001</a> | M10           | 200 | <a href="#">37110.100.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Curved spring lock washer DIN 128A



DIN 128 A  
NEN 1570



### Technical data

| For nom.size | d <sub>1</sub> (min.) | d <sub>2</sub> (max.) | s   |
|--------------|-----------------------|-----------------------|-----|
| M2           | 2,1                   | 4,4                   | 0,5 |
| M2,3 (#DIN)  | 2,4                   | 4,9                   | 0,6 |
| M2,5         | 2,6                   | 5,1                   | 0,6 |
| M2,6 (#DIN)  | 2,7                   | 5,2                   | 0,6 |
| M3           | 3,1                   | 6,2                   | 0,7 |
| M3,5         | 3,6                   | 6,7                   | 0,7 |
| M4           | 4,1                   | 7,6                   | 0,8 |
| M5           | 5,1                   | 9,2                   | 1   |
| M6           | 6,1                   | 11,8                  | 1,3 |
| 1/4 (#DIN)   | 6,5                   | 12,6                  | 1,3 |
| M7           | 7,1                   | 12,7                  | 1,3 |
| M8           | 8,1                   | 14,8                  | 1,6 |
| 3/8 (#DIN)   | 9,7                   | 17,6                  | 1,8 |
| M10          | 10,2                  | 18,1                  | 1,8 |
| M11 (#DIN)   | 11,3                  | 19,3                  | 2,1 |
| M12          | 12,2                  | 21,1                  | 2,1 |
| 1/2 (#DIN)   | 13                    | 22,8                  | 2,4 |
| M14          | 14,2                  | 24,1                  | 2,4 |
| M16          | 16,2                  | 27,4                  | 2,8 |
| M18          | 18,2                  | 29,4                  | 2,8 |
| M20          | 20,2                  | 33,6                  | 3,2 |
| M22          | 22,5                  | 35,9                  | 3,2 |
| M24          | 24,5                  | 40                    | 4   |
| 1.IN. (#DIN) | 26,5                  | 42,5                  | 4   |
| M27          | 27,5                  | 43                    | 4   |
| M30          | 30,5                  | 48,2                  | 6   |
| M33 (#DIN)   | 34                    | 54,2                  | 6   |
| M36          | 36,5                  | 58,2                  | 6   |
| M39 (#DIN)   | 39,5                  | 59,2                  | 6   |
| M42 (#DIN)   | 42,5                  | 68,2                  | 7   |
| M45 (#DIN)   | 46,7                  | 70,5                  | 7   |
| M48 (#DIN)   | 49                    | 75                    | 7   |

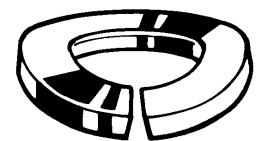
### Article groups

| Material               | Surface treatment | Packaging | Code  | Page |
|------------------------|-------------------|-----------|-------|------|
| Spring steel DIN267-26 | Mech.zipl.        | Standard  | 37080 | 7-48 |
| Spring steel DIN267-26 | Zipl yell.p.      | Standard  | 37092 | 7-49 |
| St.St. A2              |                   | Standard  | 51520 | 7-49 |
| St.St. A4              |                   | Standard  | 55520 | 7-49 |
| Phosphor bronze Cu4    |                   | Standard  | 50500 | 7-50 |

### 37080 Curved spring lock washer DIN 128A

L07D

|                          |                        |
|--------------------------|------------------------|
| <b>Material</b>          | Spring steel DIN267-26 |
| <b>Surface treatment</b> | Mechanical zinc plated |
| <b>Packaging</b>         | Standard               |



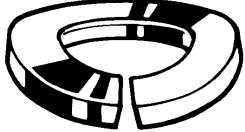
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 500 | <a href="#">37080.020.001</a> | M7            | 250 | <a href="#">37080.070.001</a> | M18           | 100 | <a href="#">37080.180.001</a> |
| M2,5          | 500 | <a href="#">37080.025.001</a> | M8            | 200 | <a href="#">37080.080.001</a> | M20           | 100 | <a href="#">37080.200.001</a> |
| M2,6          | 500 | <a href="#">37080.026.001</a> | 3/8           | 200 | <a href="#">37080.096.001</a> | M22           | 50  | <a href="#">37080.220.001</a> |
| M3            | 250 | <a href="#">37080.030.001</a> | M10           | 200 | <a href="#">37080.100.001</a> | M24           | 50  | <a href="#">37080.240.001</a> |
| M3,5          | 250 | <a href="#">37080.035.001</a> | M11           | 150 | <a href="#">37080.110.001</a> | 1.IN.         | 50  | <a href="#">37080.254.001</a> |
| M4            | 250 | <a href="#">37080.040.001</a> | M12           | 150 | <a href="#">37080.120.001</a> | M27           | 25  | <a href="#">37080.270.001</a> |
| M5            | 250 | <a href="#">37080.050.001</a> | 1/2           | 150 | <a href="#">37080.127.001</a> | M30           | 25  | <a href="#">37080.300.001</a> |
| M6            | 250 | <a href="#">37080.060.001</a> | M14           | 100 | <a href="#">37080.140.001</a> | M33           | 25  | <a href="#">37080.330.001</a> |
| 1/4           | 250 | <a href="#">37080.063.001</a> | M16           | 100 | <a href="#">37080.160.001</a> | M36           | 25  | <a href="#">37080.360.001</a> |

**37080 Curved spring lock washer DIN 128A** ←

| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|---|------------|
| M39           | 10 | <a href="#">37080.390.001</a> | M45           | 10 | <a href="#">37080.450.001</a> |               |   |            |
| M42           | 10 | <a href="#">37080.420.001</a> | M48           | 10 | <a href="#">37080.480.001</a> |               |   |            |

- Curved spring lock washers acc. to DIN 128 A are improved compared to spring lock washers acc. to DIN 127 A and due to the curved form have moreover the advantages: do not damage surfaces of the construction, nut or bolt; also to use with left hand thread; do not disform during tightening and dis-assembly, thus re-useable; do not tangle, so suitable for automatic feeding and should be used in combination with fasteners of property class < 8.8, use under dynamic load is not allowed.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers, see elsewhere in this section.


**37092 Curved spring lock washer DIN 128A** L07D

|                          |                               |   |
|--------------------------|-------------------------------|---|
| <b>Material</b>          | Spring steel DIN267-26        |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |   |
| <b>Packaging</b>         | Standard                      |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 250 | <a href="#">37092.040.001</a> | M8            | 200 | <a href="#">37092.080.001</a> | M14           | 100 | <a href="#">37092.140.001</a> |
| M5            | 250 | <a href="#">37092.050.001</a> | M10           | 200 | <a href="#">37092.100.001</a> |               |     |                               |
| M6            | 250 | <a href="#">37092.060.001</a> | M12           | 150 | <a href="#">37092.120.001</a> |               |     |                               |

- Curved spring lock washers acc. to DIN 128 A are improved compared to spring lock washers acc. to DIN 127 A and due to the curved form have moreover the advantages: do not damage surfaces of the construction, nut or bolt; also to use with left hand thread; do not disform during tightening and dis-assembly, thus re-useable; do not tangle, so suitable for automatic feeding and should be used in combination with fasteners of property class < 8.8, use under dynamic load is not allowed.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers, see elsewhere in this section.


**51520 Curved spring lock washer DIN 128A** R09A

|                  |                                     |   |
|------------------|-------------------------------------|---|
| <b>Material</b>  | Stainless steel A2                  |  |
| <b>Packaging</b> | Standard<br>DIN ≈128 A<br>NEN ≈1570 |   |
|                  |                                     |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 100 | <a href="#">51520.020.001</a> | M6            | 250 | <a href="#">51520.060.001</a> | M20           | 100 | <a href="#">51520.200.001</a> |
| M2,5          | 100 | <a href="#">51520.025.001</a> | M8            | 200 | <a href="#">51520.080.001</a> | M22           | 50  | <a href="#">51520.220.001</a> |
| M2,6          | 100 | <a href="#">51520.026.001</a> | M10           | 200 | <a href="#">51520.100.001</a> | M24           | 50  | <a href="#">51520.240.001</a> |
| M3            | 250 | <a href="#">51520.030.001</a> | M12           | 150 | <a href="#">51520.120.001</a> | M30           | 25  | <a href="#">51520.300.001</a> |
| M3,5          | 250 | <a href="#">51520.035.001</a> | M14           | 100 | <a href="#">51520.140.001</a> | M36           | 25  | <a href="#">51520.360.001</a> |
| M4            | 250 | <a href="#">51520.040.001</a> | M16           | 100 | <a href="#">51520.160.001</a> |               |     |                               |
| M5            | 250 | <a href="#">51520.050.001</a> | M18           | 100 | <a href="#">51520.180.001</a> |               |     |                               |

- The measurements deviate slightly from DIN 128 A, these spring lock washers have a deviating "reinforced" thickness resulting in considerably improved spring characteristics.
- Curved spring lock washers acc. to DIN 128 A are improved compared to spring lock washers acc. to DIN 127 A and due to the curved form have moreover the advantages: do not damage surfaces of the construction, nut or bolt; also to use with left hand thread; do not disform during tightening and dis-assembly, thus re-useable; do not tangle, so suitable for automatic feeding. Use under dynamic load is not allowed.
- For locking under dynamic load is referred to NORD-LOCK vibration proof washers and SCHNORR safety washers.
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

**55520 Curved spring lock washer DIN 128A** R49A

|                  |                                     |   |
|------------------|-------------------------------------|---|
| <b>Material</b>  | Stainless steel A4                  |  |
| <b>Packaging</b> | Standard<br>DIN ≈128 A<br>NEN ≈1570 |   |
|                  |                                     |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 250 | <a href="#">55520.030.001</a> | M8            | 200 | <a href="#">55520.080.001</a> | M20           | 100 | <a href="#">55520.200.001</a> |
| M4            | 250 | <a href="#">55520.040.001</a> | M10           | 200 | <a href="#">55520.100.001</a> | M24 *         | 100 | <a href="#">55520.240.001</a> |
| M5            | 250 | <a href="#">55520.050.001</a> | M12           | 150 | <a href="#">55520.120.001</a> |               |     |                               |
| M6            | 250 | <a href="#">55520.060.001</a> | M16           | 100 | <a href="#">55520.160.001</a> |               |     |                               |

- The measurements deviate slightly from DIN 128 A, these spring lock washers have a deviating "reinforced" thickness resulting in considerably improved spring characteristics.
- Curved spring lock washers acc. to DIN 128 A are improved compared to spring lock washers acc. to DIN 127 A and due to the curved form have moreover the advantages: do not damage surfaces of the construction, nut or bolt; also to use with left hand thread; do not disform during tightening and dis-assembly, thus re-useable; do not tangle, so suitable for automatic feeding.
- Use under dynamic load is not allowed. For locking under dynamic load is referred to NORD-LOCK vibration proof washers and SCHNORR safety washers.

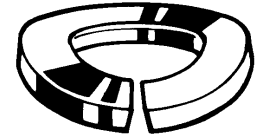
**55520 Curved spring lock washer DIN 128A** ←

| For nom. size | ✉ | Art.number | For nom. size | ✉ | Art.number | For nom. size | ✉ | Art.number |
|---------------|---|------------|---------------|---|------------|---------------|---|------------|
|---------------|---|------------|---------------|---|------------|---------------|---|------------|

- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

**50500 Curved spring lock washer DIN 128A** M11F

**Material** Phosphor bronze Cu4  
**Packaging** Standard  
**DIN** ≈128 A  
**NEN** ≈1570

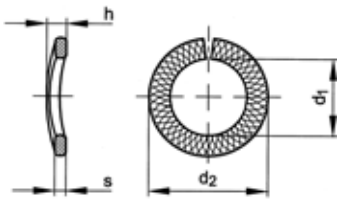


| For nom. size | ✉ | Art.number | For nom. size | ✉ | Art.number | For nom. size | ✉ | Art.number |
|---------------|---|------------|---------------|---|------------|---------------|---|------------|
|---------------|---|------------|---------------|---|------------|---------------|---|------------|

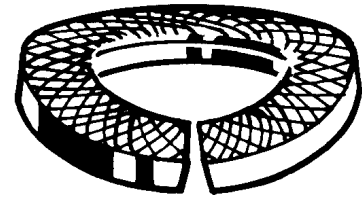
|      |     |                               |     |     |                               |     |     |                               |
|------|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M2,6 | 500 | <a href="#">50500.026.001</a> | M6  | 250 | <a href="#">50500.060.001</a> | M16 | 100 | <a href="#">50500.160.001</a> |
| M3   | 250 | <a href="#">50500.030.001</a> | M8  | 200 | <a href="#">50500.080.001</a> | M18 | 100 | <a href="#">50500.180.001</a> |
| M4   | 250 | <a href="#">50500.040.001</a> | M10 | 200 | <a href="#">50500.100.001</a> | M20 | 100 | <a href="#">50500.200.001</a> |
| M5   | 250 | <a href="#">50500.050.001</a> | M12 | 150 | <a href="#">50500.120.001</a> |     |     |                               |

- The measurements deviate slightly from DIN 128 A, these spring lock washers have a deviating "reinforced" thickness resulting in considerably improved spring characteristics.

## Locking edge washer ≈ DIN 128A



DIN ≈128 A  
NEN ≈1570

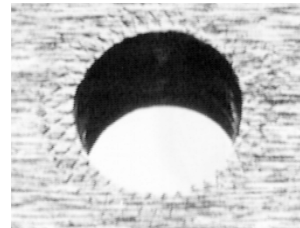
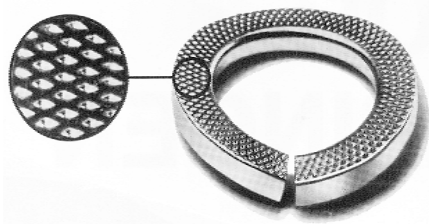


### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> (max.) | s   |
|--------------|----------------|-----------------------|-----|
| M4           | 4,1            | 7,6                   | 0,8 |
| M5           | 5,1            | 9,2                   | 1   |
| M6           | 6,1            | 11,8                  | 1,3 |
| M8           | 8,1            | 14,9                  | 1,6 |
| M10          | 10,2           | 18,1                  | 1,8 |
| M12          | 12,2           | 21,1                  | 2,1 |
| M14          | 14,2           | 24,1                  | 2,4 |
| M16          | 16,2           | 27,4                  | 2,8 |
| M18          | 18,2           | 29,4                  | 2,8 |
| M20          | 20,2           | 33,6                  | 3,2 |
| M22          | 22,5           | 35,9                  | 3,2 |
| M24          | 24,5           | 40                    | 4   |
| M27          | 27,5           | 43                    | 4   |
| M30          | 30,5           | 48,2                  | 6   |

Special features of FABORY locking edge washers:

- applicable with hexagon head bolts, hexagon nuts, etc. of property class ≤ 8.8
- the profile surface (patented) ensures good locking against loosening properties and reduces loss of assembly pre-load
- compensation against play or setting of the joint by a long spring deflection
- little damage, so also usable with softer materials and surface coatings
- re-usable
- suited for automatic installation
- insensitive for temperature from -10°C up to +300°C
- sizes and other properties according to DIN 128 A
- simple application together with current standard fasteners
- also applicable for hexagon head bolts, hexagon nuts etc. with left-hand thread



7

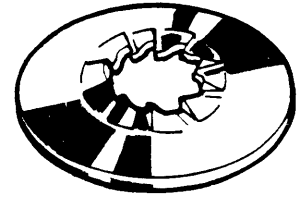
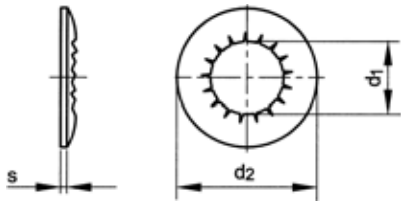
|                          |  |             |
|--------------------------|--|-------------|
| <b>37070</b>             | <b>Locking edge washer</b>               | <b>L07D</b> |
| <b>Material</b>          | Spring steel DIN267-26                   |             |
| <b>Surface treatment</b> | Mechanical zinc plated yellow passivated |             |
| <b>Packaging</b>         | Standard                                 |             |

| For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M4            | 250 | <a href="#">37070.040.001</a> | M12           | 150 | <a href="#">37070.120.001</a> | M22           | 50 | <a href="#">37070.220.001</a> |
| M5            | 250 | <a href="#">37070.050.001</a> | M14           | 100 | <a href="#">37070.140.001</a> | M24           | 50 | <a href="#">37070.240.001</a> |
| M6            | 250 | <a href="#">37070.060.001</a> | M16           | 100 | <a href="#">37070.160.001</a> | M27           | 25 | <a href="#">37070.270.001</a> |
| M8            | 200 | <a href="#">37070.080.001</a> | M18           | 100 | <a href="#">37070.180.001</a> | M30           | 25 | <a href="#">37070.300.001</a> |
| M10           | 200 | <a href="#">37070.100.001</a> | M20           | 100 | <a href="#">37070.200.001</a> |               |    |                               |



## Heavy domed internal serrated lock washer type JZC

NF E25-512



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M3           | 3,2            | 8,7            | 0,5 |
| M4           | 4,3            | 11,2           | 0,6 |
| M5           | 5,1            | 16,2           | 1   |
| M6           | 6,1            | 18,3           | 1   |
| M10          | 10,2           | 26,3           | 1,4 |
| M12          | 12,2           | 32,4           | 1,4 |
| M16          | 16,5           | 32,4           | 1,4 |
| M20          | 20,5           | 39,4           | 1,8 |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Internal teeth and extra large outside diameter d<sub>2</sub>, extra resilience because of its domed form.

### 37560 Heavy domed internal serrated lock washer type JZC

L07D

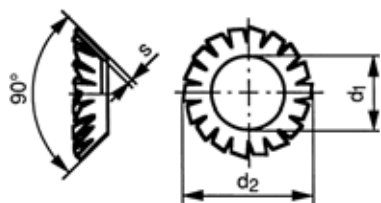
**Material** Spring steel  
**Packaging** Standard



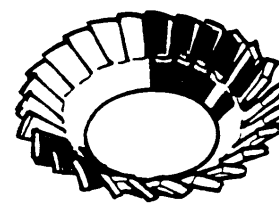
| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">37560.030.001</a> | M6            | 1000 | <a href="#">37560.060.001</a> | M16           | 100 | <a href="#">37560.160.001</a> |
| M4            | 1000 | <a href="#">37560.040.001</a> | M10           | 100  | <a href="#">37560.100.001</a> | M20           | 100 | <a href="#">37560.200.001</a> |
| M5            | 1000 | <a href="#">37560.050.001</a> | M12           | 100  | <a href="#">37560.120.001</a> |               |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Countersunk serrated lock washer external teeth



DIN 6798 V  
 NF E27-627



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> ≈ | s    |
|--------------|----------------|------------------|------|
| M3           | 3,2            | 6                | 0,2  |
| M4           | 4,3            | 8                | 0,25 |
| M5           | 5,3            | 9,8              | 0,3  |
| M6           | 6,4            | 11,8             | 0,4  |
| M8           | 8,4            | 15,3             | 0,4  |
| M10          | 10,5           | 19               | 0,5  |
| M12          | 13             | 23               | 0,5  |
| M14          | 15             | 26,2             | 0,6  |
| M16          | 17             | 30,2             | 0,6  |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Suitable for bolts and nuts with normal widths across flats.

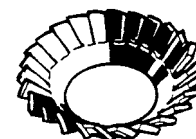
### Article groups

| Material                  | Surface treatment | Packaging | Code  | Page |
|---------------------------|-------------------|-----------|-------|------|
| Spring steel 350-425 HV10 |                   | Standard  | 37500 | 7-53 |
| Spring steel 350-425 HV10 | Zipl              | Standard  | 37520 | 7-53 |

#### 37500 Countersunk serrated lock washer external teeth

L07D

**Material** Spring steel 350-425 HV10  
**Packaging** Standard



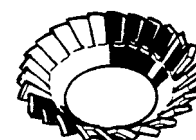
| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 1000 | <a href="#">37500.030.001</a> | M6            | 1000 | <a href="#">37500.060.001</a> | M12           | 500 | <a href="#">37500.120.001</a> |
| M4            | 1000 | <a href="#">37500.040.001</a> | M8            | 1000 | <a href="#">37500.080.001</a> | M14           | 100 | <a href="#">37500.140.001</a> |
| M5            | 1000 | <a href="#">37500.050.001</a> | M10           | 1000 | <a href="#">37500.100.001</a> | M16           | 100 | <a href="#">37500.160.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 37520 Countersunk serrated lock washer external teeth

L07D

**Material** Spring steel 350-425 HV10  
**Surface treatment** Zinc plated  
**Packaging** Standard

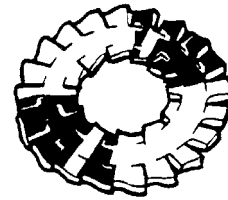
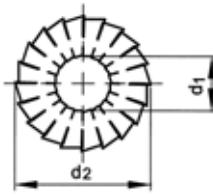


| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|------|-------------------------------|
| M4            | 1000 | <a href="#">37520.040.001</a> | M6            | 1000 | <a href="#">37520.060.001</a> | M10           | 1000 | <a href="#">37520.100.001</a> |
| M5            | 1000 | <a href="#">37520.050.001</a> | M8            | 1000 | <a href="#">37520.080.001</a> | M12           | 500  | <a href="#">37520.120.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Double serrated lock washer type DD

NF E27-626



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M4           | 4,2            | 15,6           | 0,8 |
| M5           | 5,2            | 17,9           | 0,8 |
| M6           | 6,2            | 18,2           | 0,8 |
| M8           | 8,2            | 22,3           | 1   |
| M10          | 10,3           | 26,1           | 1,1 |
| M12          | 12,3           | 30,3           | 1,2 |
| M16          | 16,5           | 36,1           | 1,4 |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Double serrated teeth and extra large outside diameter d<sub>2</sub>. Recommended for oversize and elongated holes, where a larger contact surface is required and between parts to prevent them from moving.

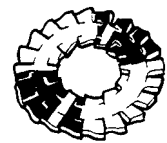
### Article groups

| Material     | Surface treatment | Packaging | Code  | Page |
|--------------|-------------------|-----------|-------|------|
| Spring steel |                   | Standard  | 37580 | 7-54 |
| Spring steel | Zipl              | Standard  | 37590 | 7-54 |

#### 37580 Double serrated lock washer type DD

L07D

Material Spring steel  
 Packaging Standard



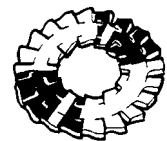
| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 1000 | <a href="#">37580.040.001</a> | M8            | 500 | <a href="#">37580.080.001</a> | M16           | 100 | <a href="#">37580.160.001</a> |
| M5            | 1000 | <a href="#">37580.050.001</a> | M10           | 500 | <a href="#">37580.100.001</a> |               |     |                               |
| M6            | 500  | <a href="#">37580.060.001</a> | M12           | 100 | <a href="#">37580.120.001</a> |               |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 37590 Double serrated lock washer type DD

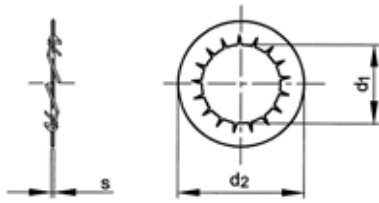
L07D

Material Spring steel  
 Surface treatment Zinc plated  
 Packaging Standard

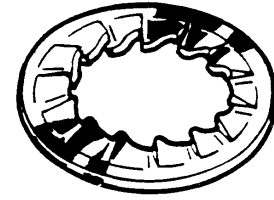


| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 1000 | <a href="#">37590.040.001</a> | M8            | 500 | <a href="#">37590.080.001</a> | M16           | 100 | <a href="#">37590.160.001</a> |
| M5            | 1000 | <a href="#">37590.050.001</a> | M10           | 500 | <a href="#">37590.100.001</a> |               |     |                               |
| M6            | 500  | <a href="#">37590.060.001</a> | M12           | 100 | <a href="#">37590.120.001</a> |               |     |                               |

## Serrated lock washer internal teeth



DIN 6798 J  
 NEN 2454  
 NF E27-625



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M2           | 2,2            | 4,5            | 0,3 |
| M2,3 (#DIN)  | 2,5            | 5              | 0,4 |
| M2,5         | 2,7            | 5,5            | 0,4 |
| M3           | 3,2            | 6              | 0,4 |
| M3,5         | 3,7            | 7              | 0,5 |
| M4           | 4,3            | 8              | 0,5 |
| M5 (#DIN)    | 5,1            | 9              | 0,5 |
| M5           | 5,3            | 10             | 0,6 |
| M6           | 6,4            | 11             | 0,7 |
| M7           | 7,4            | 12,5           | 0,8 |
| M8 (#DIN)    | 8,2            | 14             | 0,8 |
| M8           | 8,4            | 15             | 0,8 |
| M10          | 10,5           | 18             | 0,9 |
| M12          | 12,5           | 20,5           | 1   |
| M14          | 15             | 24             | 1,1 |
| M16          | 17             | 26             | 1,2 |
| M18          | 19             | 30             | 1,4 |
| M20          | 21             | 33             | 1,4 |
| M22          | 23             | 36             | 1,5 |
| M24          | 25             | 38             | 1,5 |
| 1.IN.        | 25             | 38             | 1,5 |
| M27          | 28             | 44             | 1,6 |
| M30          | 31             | 48             | 1,6 |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Suitable for bolts and nuts with normal widths across flats.

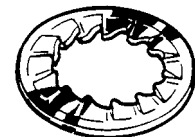
### Article groups

| Material                  | Surface treatment | Packaging | Code  | Page |
|---------------------------|-------------------|-----------|-------|------|
| Spring steel 350-425 HV10 |                   | Standard  | 37460 | 7-55 |
| Spring steel 350-425 HV10 | Zipl              | Standard  | 37480 | 7-56 |
| St.St. A2                 |                   | Standard  | 51462 | 7-56 |
| St.St. A4                 |                   | Standard  | 55462 | 7-56 |

### 37460 Serrated lock washer internal teeth

L07D

**Material** Spring steel 350-425 HV10  
**Packaging** Standard



| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M2            | 1000 | <a href="#">37460.020.001</a> | M7            | 1000 | <a href="#">37460.070.001</a> | M18           | 100 | <a href="#">37460.180.001</a> |
| M3            | 1000 | <a href="#">37460.030.001</a> | M8 (#DIN)     | 1000 | <a href="#">37460.080.001</a> | M20           | 100 | <a href="#">37460.200.001</a> |
| M3,5          | 1000 | <a href="#">37460.035.001</a> | M8            | 1000 | <a href="#">37460.080.002</a> | M22           | 100 | <a href="#">37460.220.001</a> |
| M4            | 1000 | <a href="#">37460.040.001</a> | M10           | 1000 | <a href="#">37460.100.001</a> | M24           | 100 | <a href="#">37460.240.001</a> |
| M5 (#DIN)     | 1000 | <a href="#">37460.050.001</a> | M12           | 1000 | <a href="#">37460.120.001</a> | M27           | 100 | <a href="#">37460.270.001</a> |
| M5            | 1000 | <a href="#">37460.050.002</a> | M14           | 500  | <a href="#">37460.140.001</a> | M30           | 100 | <a href="#">37460.300.001</a> |
| M6            | 1000 | <a href="#">37460.060.001</a> | M16           | 500  | <a href="#">37460.160.001</a> |               |     |                               |

| 37480 Serrated lock washer internal teeth |                           | L07D |
|---|---------------------------|------|
| <b>Material</b>                           | Spring steel 350-425 HV10 |      |
| <b>Surface treatment</b>                  | Zinc plated               |      |
| <b>Packaging</b>                          | Standard                  |      |

| For nom. size | ☒ | Art.number                         | For nom. size | ☒ | Art.number                         | For nom. size | ☒ | Art.number                        |
|---------------|---|------------------------------------|---------------|---|------------------------------------|---------------|---|-----------------------------------|
| M2            |   | 1000 <a href="#">37480.020.001</a> | M6            |   | 1000 <a href="#">37480.060.001</a> | M16           |   | 500 <a href="#">37480.160.001</a> |
| M2,5          |   | 1000 <a href="#">37480.025.001</a> | M7            |   | 1000 <a href="#">37480.070.001</a> | M18           |   | 100 <a href="#">37480.180.001</a> |
| M3            |   | 1000 <a href="#">37480.030.001</a> | M8 (≠DIN)     |   | 1000 <a href="#">37480.080.001</a> | M20           |   | 100 <a href="#">37480.200.001</a> |
| M3,5          |   | 1000 <a href="#">37480.035.001</a> | M8 (8,4MM)    |   | 1000 <a href="#">37480.080.002</a> | M22           |   | 100 <a href="#">37480.220.001</a> |
| M4            |   | 1000 <a href="#">37480.040.001</a> | M10           |   | 1000 <a href="#">37480.100.001</a> | M24           |   | 100 <a href="#">37480.240.001</a> |
| M5 (≠DIN)     |   | 1000 <a href="#">37480.050.001</a> | M12           |   | 1000 <a href="#">37480.120.001</a> |               |   |                                   |
| M5            |   | 1000 <a href="#">37480.050.002</a> | M14           |   | 500 <a href="#">37480.140.001</a>  |               |   |                                   |

| 51462 Serrated lock washer internal teeth |                    | R09A |
|---|--------------------|------|
| <b>Material</b>                           | Stainless steel A2 |      |
| <b>Packaging</b>                          | Standard           |      |
|   | DIN ≈6798 J        |      |
|   | NEN ≈2454          |      |
|   | NF ≈E27-625        |      |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M2,5          |   | 200 <a href="#">51462.025.001</a> | M10           |   | 100 <a href="#">51462.100.001</a> | M22 *         |   | 200 <a href="#">51462.220.001</a> |
| M3            |   | 200 <a href="#">51462.030.001</a> | M12           |   | 100 <a href="#">51462.120.001</a> | M24           |   | 50 <a href="#">51462.240.001</a>  |
| M4            |   | 200 <a href="#">51462.040.001</a> | M14           |   | 100 <a href="#">51462.140.001</a> | M27           |   | 50 <a href="#">51462.270.001</a>  |
| M5            |   | 200 <a href="#">51462.050.001</a> | M16           |   | 100 <a href="#">51462.160.001</a> | M30 *         |   | 100 <a href="#">51462.300.001</a> |
| M6            |   | 200 <a href="#">51462.060.001</a> | M18           |   | 100 <a href="#">51462.180.001</a> |               |   |                                   |
| M8            |   | 200 <a href="#">51462.080.001</a> | M20           |   | 100 <a href="#">51462.200.001</a> |               |   |                                   |

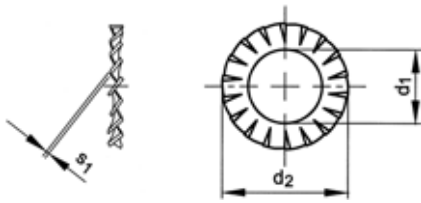
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

| 55462 Serrated lock washer internal teeth |                    | R49A |
|---|--------------------|------|
| <b>Material</b>                           | Stainless steel A4 |      |
| <b>Packaging</b>                          | Standard           |      |
|   | DIN ≈6798 J        |      |
|   | NEN ≈2454          |      |
|   | NF ≈E27-625        |      |

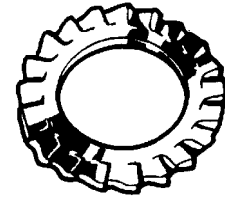
| For nom. size | ☒ | Art.number                         | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|------------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M2,3 *        |   | 1000 <a href="#">55462.023.001</a> | M8            |   | 200 <a href="#">55462.080.001</a> | M18           |   | 100 <a href="#">55462.180.001</a> |
| M3            |   | 200 <a href="#">55462.030.001</a>  | M10           |   | 100 <a href="#">55462.100.001</a> | M20           |   | 100 <a href="#">55462.200.001</a> |
| M4            |   | 200 <a href="#">55462.040.001</a>  | M12           |   | 100 <a href="#">55462.120.001</a> | M24           |   | 50 <a href="#">55462.240.001</a>  |
| M5            |   | 200 <a href="#">55462.050.001</a>  | M14           |   | 100 <a href="#">55462.140.001</a> |               |   |                                   |
| M6            |   | 200 <a href="#">55462.060.001</a>  | M16           |   | 100 <a href="#">55462.160.001</a> |               |   |                                   |

- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

## Serrated lock washer external teeth



DIN 6798 A  
 NEN 2453  
 NF E27-624



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s <sub>1</sub> |
|--------------|----------------|----------------|----------------|
| M2           | 2,2            | 4,5            | 0,3            |
| M2,5         | 2,7            | 5,5            | 0,4            |
| M2,6 (#DIN)  | 2,8            | 5,5            | 0,4            |
| M3           | 3,2            | 6              | 0,4            |
| M3,5         | 3,7            | 7              | 0,5            |
| M4           | 4,3            | 8              | 0,5            |
| M5 (#DIN)    | 5,1            | 9              | 0,5            |
| M5           | 5,3            | 10             | 0,6            |
| M6           | 6,4            | 11             | 0,7            |
| M7           | 7,4            | 12,5           | 0,8            |
| M8 (#DIN)    | 8,2            | 14             | 0,8            |
| M8           | 8,4            | 15             | 0,8            |
| M10          | 10,5           | 18             | 0,9            |
| M11 (#DIN)   | 11,5           | 19,5           | 0,9            |
| M12          | 13             | 20,5           | 1              |
| 1/2          | 13,2           | 22             | 1              |
| M14          | 15             | 24             | 1              |
| M16          | 17             | 26             | 1,2            |
| M18          | 19             | 30             | 1,4            |
| M20          | 21             | 33             | 1,4            |
| M22          | 23             | 36             | 1,5            |
| M24          | 25             | 38             | 1,5            |
| M27          | 28             | 44             | 1,6            |
| M30          | 31             | 48             | 1,6            |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Suitable for bolts and nuts with normal widths across flats.

7

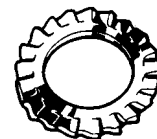
### Article groups

| Material                  | Surface treatment | Packaging | Code  | Page |
|---------------------------|-------------------|-----------|-------|------|
| Spring steel 350-425 HV10 |                   | Standard  | 37400 | 7-57 |
| Spring steel 350-425 HV10 | Zipl              | Standard  | 37420 | 7-58 |
| Spring steel 350-425 HV10 | Zipl              | Large     | 37430 | 7-58 |
| Spring steel 350-425 HV10 | Zipl yell.p.      | Standard  | 37440 | 7-58 |
| St.St. A2                 |                   | Standard  | 51460 | 7-58 |
| St.St. A4                 |                   | Standard  | 55460 | 7-58 |
| Phosphor bronze Cu4       |                   | Standard  | 50540 | 7-59 |

#### 37400 Serrated lock washer external teeth

L07D

**Material** Spring steel 350-425 HV10  
**Packaging** Standard



| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M2            | 1000 | <a href="#">37400.020.001</a> | M7            | 1000 | <a href="#">37400.070.001</a> | M18           | 100 | <a href="#">37400.180.001</a> |
| M3            | 1000 | <a href="#">37400.030.001</a> | M8 (#DIN)     | 1000 | <a href="#">37400.080.001</a> | M20           | 100 | <a href="#">37400.200.001</a> |
| M3,5          | 1000 | <a href="#">37400.035.001</a> | M8            | 1000 | <a href="#">37400.080.002</a> | M22           | 100 | <a href="#">37400.220.001</a> |
| M4            | 1000 | <a href="#">37400.040.001</a> | M10           | 1000 | <a href="#">37400.100.001</a> | M24           | 100 | <a href="#">37400.240.001</a> |
| M5 (#DIN)     | 1000 | <a href="#">37400.050.001</a> | M12           | 1000 | <a href="#">37400.120.001</a> | M27           | 100 | <a href="#">37400.270.001</a> |
| M5            | 1000 | <a href="#">37400.050.002</a> | M14           | 500  | <a href="#">37400.140.001</a> | M30           | 100 | <a href="#">37400.300.001</a> |
| M6            | 1000 | <a href="#">37400.060.001</a> | M16           | 500  | <a href="#">37400.160.001</a> |               |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|                          |  |   |
|--------------------------|--|---|
| <b>37420</b>             | <b>Serrated lock washer external teeth</b> | <b>L07D</b>   |
| <b>Material</b>          | Spring steel 350-425 HV10                  |  |
| <b>Surface treatment</b> | Zinc plated                                |   |
| <b>Packaging</b>         | Standard                                   |   |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M2            |   | 200 <a href="#">37420.020.001</a> | M7            |   | 200 <a href="#">37420.070.001</a> | M18           |   | 100 <a href="#">37420.180.001</a> |
| M2,5          |   | 200 <a href="#">37420.025.001</a> | M8 (#DIN)     |   | 200 <a href="#">37420.080.001</a> | M20           |   | 100 <a href="#">37420.200.001</a> |
| M3            |   | 200 <a href="#">37420.030.001</a> | M8            |   | 200 <a href="#">37420.080.002</a> | M22           |   | 100 <a href="#">37420.220.001</a> |
| M3,5          |   | 200 <a href="#">37420.035.001</a> | M10           |   | 100 <a href="#">37420.100.001</a> | M24           |   | 100 <a href="#">37420.240.001</a> |
| M4            |   | 200 <a href="#">37420.040.001</a> | M11           |   | 100 <a href="#">37420.110.001</a> | M27           |   | 100 <a href="#">37420.270.001</a> |
| M5 (#DIN)     |   | 200 <a href="#">37420.050.001</a> | M12           |   | 100 <a href="#">37420.120.001</a> | M30           |   | 50 <a href="#">37420.300.001</a>  |
| M5            |   | 200 <a href="#">37420.050.002</a> | M14           |   | 100 <a href="#">37420.140.001</a> |               |   |                                   |
| M6            |   | 200 <a href="#">37420.060.001</a> | M16           |   | 100 <a href="#">37420.160.001</a> |               |   |                                   |

|                          |  |   |
|--------------------------|--|---|
| <b>37430</b>             | <b>Serrated lock washer external teeth</b> | <b>L07D</b>   |
| <b>Material</b>          | Spring steel 350-425 HV10                  |  |
| <b>Surface treatment</b> | Zinc plated                                |   |
| <b>Packaging</b>         | Large                                      |   |

| For nom. size | ☒ | Art.number                          | For nom. size | ☒ | Art.number                          | For nom. size | ☒ | Art.number                         |
|---------------|---|-------------------------------------|---------------|---|-------------------------------------|---------------|---|------------------------------------|
| M2,5          |   | 10000 <a href="#">37430.025.001</a> | M5 (#DIN)     |   | 10000 <a href="#">37430.050.001</a> | M10           |   | 2000 <a href="#">37430.100.001</a> |
| M3            |   | 10000 <a href="#">37430.030.001</a> | M6            |   | 5000 <a href="#">37430.060.001</a>  | M12           |   | 2000 <a href="#">37430.120.001</a> |
| M4            |   | 10000 <a href="#">37430.040.001</a> | M8 (#DIN)     |   | 5000 <a href="#">37430.080.001</a>  |               |   |                                    |

|                          |  |   |
|--------------------------|--|---|
| <b>37440</b>             | <b>Serrated lock washer external teeth</b> | <b>L07D</b>   |
| <b>Material</b>          | Spring steel 350-425 HV10                  |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated              |   |
| <b>Packaging</b>         | Standard                                   |   |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M3            |   | 200 <a href="#">37440.030.001</a> | M8 (8,2MM)    |   | 200 <a href="#">37440.080.001</a> | M20           |   | 100 <a href="#">37440.200.001</a> |
| M4            |   | 200 <a href="#">37440.040.001</a> | M10           |   | 100 <a href="#">37440.100.001</a> | M24           |   | 100 <a href="#">37440.240.001</a> |
| M5 (5,1MM)    |   | 200 <a href="#">37440.050.001</a> | M12           |   | 100 <a href="#">37440.120.001</a> |               |   |                                   |
| M6            |   | 200 <a href="#">37440.060.001</a> | M16           |   | 100 <a href="#">37440.160.001</a> |               |   |                                   |

|                  |  |   |
|------------------|--|---|
| <b>51460</b>     | <b>Serrated lock washer external teeth</b> | <b>R09A</b>   |
| <b>Material</b>  | Stainless steel A2                         |  |
| <b>Packaging</b> | Standard                                   |   |
|                  | DIN ≈6798 A                                |   |
|                  | NEN ≈2453                                  |   |
|                  | NF ≈E27-624                                |   |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M2            |   | 200 <a href="#">51460.020.001</a> | M6            |   | 200 <a href="#">51460.060.001</a> | M16           |   | 100 <a href="#">51460.160.001</a> |
| M2,5          |   | 200 <a href="#">51460.025.001</a> | M7            |   | 200 <a href="#">51460.070.001</a> | M18           |   | 100 <a href="#">51460.180.001</a> |
| M2,6 (#DIN)   |   | 200 <a href="#">51460.026.001</a> | M8            |   | 200 <a href="#">51460.080.001</a> | M20           |   | 100 <a href="#">51460.200.001</a> |
| M3            |   | 200 <a href="#">51460.030.001</a> | M10           |   | 100 <a href="#">51460.100.001</a> | M22           |   | 50 <a href="#">51460.220.001</a>  |
| M3,5          |   | 200 <a href="#">51460.035.001</a> | M12           |   | 100 <a href="#">51460.120.001</a> | M24           |   | 50 <a href="#">51460.240.001</a>  |
| M4            |   | 200 <a href="#">51460.040.001</a> | 1/2           |   | 100 <a href="#">51460.127.001</a> | M27           |   | 50 <a href="#">51460.270.001</a>  |
| M5            |   | 200 <a href="#">51460.050.001</a> | M14           |   | 100 <a href="#">51460.140.001</a> | M30           |   | 25 <a href="#">51460.300.001</a>  |

• The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

|                  |  |   |
|------------------|--|---|
| <b>55460</b>     | <b>Serrated lock washer external teeth</b> | <b>R49A</b>   |
| <b>Material</b>  | Stainless steel A4                         |  |
| <b>Packaging</b> | Standard                                   |   |
|                  | DIN ≈6798 A                                |   |
|                  | NEN ≈2453                                  |   |
|                  | NF ≈E27-624                                |   |

| For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        | For nom. size | ☒ | Art.number                        |
|---------------|---|-----------------------------------|---------------|---|-----------------------------------|---------------|---|-----------------------------------|
| M2            |   | 200 <a href="#">55460.020.001</a> | M2,6 (#DIN)   |   | 200 <a href="#">55460.026.001</a> | M3,5          |   | 200 <a href="#">55460.035.001</a> |
| M2,5          |   | 200 <a href="#">55460.025.001</a> | M3            |   | 200 <a href="#">55460.030.001</a> | M4            |   | 200 <a href="#">55460.040.001</a> |

**55460 Serrated lock washer external teeth** ←

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 200 | <a href="#">55460.050.001</a> | M14           | 100 | <a href="#">55460.140.001</a> | M24           | 50 | <a href="#">55460.240.001</a> |
| M6            | 200 | <a href="#">55460.060.001</a> | M16           | 100 | <a href="#">55460.160.001</a> | M27           | 50 | <a href="#">55460.270.001</a> |
| M8            | 200 | <a href="#">55460.080.001</a> | M18           | 100 | <a href="#">55460.180.001</a> | M30           | 25 | <a href="#">55460.300.001</a> |
| M10           | 100 | <a href="#">55460.100.001</a> | M20           | 100 | <a href="#">55460.200.001</a> |               |    |                               |
| M12           | 100 | <a href="#">55460.120.001</a> | M22           | 50  | <a href="#">55460.220.001</a> |               |    |                               |

- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

**50540 Serrated lock washer external teeth** M11F

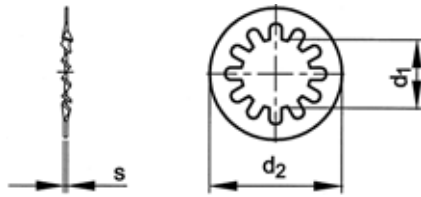
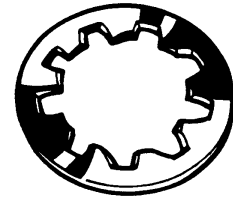
|                  |                     |  |
|------------------|---------------------|--|
| <b>Material</b>  | Phosphor bronze Cu4 |  |
| <b>Packaging</b> | Standard            |  |
|                  | DIN ≈6798 A         |  |
|                  | NEN ≈2453           |  |
|                  | NF ≈E27-624         |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2            | 200 | <a href="#">50540.020.001</a> | M4            | 200 | <a href="#">50540.040.001</a> | M10           | 100 | <a href="#">50540.100.001</a> |
| M2,5          | 200 | <a href="#">50540.025.001</a> | M5            | 200 | <a href="#">50540.050.001</a> | M12           | 100 | <a href="#">50540.120.001</a> |
| M3            | 200 | <a href="#">50540.030.001</a> | M6            | 200 | <a href="#">50540.060.001</a> |               |     |                               |
| M3,5          | 200 | <a href="#">50540.035.001</a> | M8            | 200 | <a href="#">50540.080.001</a> |               |     |                               |

- Suitable for bolts and nuts with normal widths across flats.



## Toothed lock washer internal teeth


 DIN 6797 J  
 NEN 2451


### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M2           | 2,2            | 4,5            | 0,3 |
| M2,3 (#DIN)  | 2,5            | 5              | 0,4 |
| M2,5         | 2,7            | 5,5            | 0,4 |
| M3           | 3,2            | 6              | 0,4 |
| M4           | 4,3            | 8              | 0,5 |
| M5           | 5,3            | 10             | 0,6 |
| M6           | 6,4            | 11             | 0,7 |
| M8           | 8,4            | 15             | 0,8 |
| M10          | 10,5           | 18             | 0,9 |
| M12          | 13             | 20,5           | 1   |
| M14          | 15             | 24             | 1   |
| M16          | 17             | 26             | 1,2 |
| M18          | 19             | 30             | 1,4 |
| M20          | 21             | 33             | 1,4 |
| M22          | 23             | 36             | 1,5 |
| M24          | 25             | 38             | 1,5 |
| M27          | 28             | 44             | 1,6 |
| M30          | 31             | 48             | 1,6 |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Suitable for bolts and nuts with widths across flats smaller than normal and when due to the appearance the teeth are wanted on the internal side.

### Article groups

| Material                  | Packaging | Code  | Page |
|---------------------------|-----------|-------|------|
| Spring steel 350-425 HV10 | Standard  | 37320 | 7-60 |
| St.St. A2                 | Standard  | 51458 | 7-60 |

7

| 37320 Toothed lock washer internal teeth |                           | L07D  |
|--|---------------------------|---|
| <b>Material</b>                          | Spring steel 350-425 HV10 |  |
| <b>Packaging</b>                         | Standard                  |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">37320.030.001</a> | M6            | 250 | <a href="#">37320.060.001</a> | M12           | 200 | <a href="#">37320.120.001</a> |
| M4            | 500 | <a href="#">37320.040.001</a> | M8            | 200 | <a href="#">37320.080.001</a> | M16           | 100 | <a href="#">37320.160.001</a> |
| M5            | 250 | <a href="#">37320.050.001</a> | M10           | 200 | <a href="#">37320.100.001</a> | M20           | 100 | <a href="#">37320.200.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

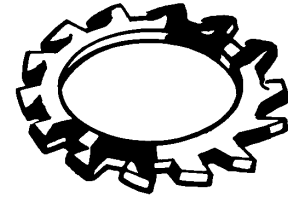
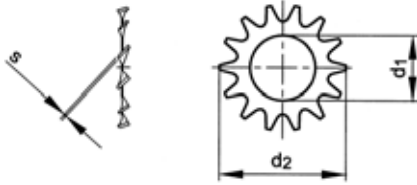
| 51458 Toothed lock washer internal teeth |                          | R09A  |
|--|--------------------------|---|
| <b>Material</b>                          | Stainless steel A2       |  |
| <b>Packaging</b>                         | Standard                 |   |
|  | DIN ≈6797 J<br>NEN ≈2451 |   |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M2 *          | 1000 | <a href="#">51458.020.001</a> | M8            | 200 | <a href="#">51458.080.001</a> | M20           | 100 | <a href="#">51458.200.001</a> |
| M2,3 *        | 1000 | <a href="#">51458.023.001</a> | M10           | 200 | <a href="#">51458.100.001</a> | M22 *         | 200 | <a href="#">51458.220.001</a> |
| M3            | 200  | <a href="#">51458.030.001</a> | M12           | 100 | <a href="#">51458.120.001</a> | M24 *         | 200 | <a href="#">51458.240.001</a> |
| M4            | 200  | <a href="#">51458.040.001</a> | M14           | 100 | <a href="#">51458.140.001</a> | M27 *         | 100 | <a href="#">51458.270.001</a> |
| M5            | 200  | <a href="#">51458.050.001</a> | M16           | 100 | <a href="#">51458.160.001</a> | M30 *         | 100 | <a href="#">51458.300.001</a> |
| M6            | 200  | <a href="#">51458.060.001</a> | M18 *         | 200 | <a href="#">51458.180.001</a> |               |     |                               |

- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11

## Toothed lock washer external teeth

DIN 6797 A  
NEN 2450



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M2           | 2,2            | 4,5            | 0,3 |
| M2,3 (#DIN)  | 2,5            | 5              | 0,4 |
| M2,5         | 2,7            | 5,5            | 0,4 |
| M3           | 3,2            | 6              | 0,4 |
| M3,5         | 3,7            | 7              | 0,5 |
| M4           | 4,3            | 8              | 0,5 |
| M5           | 5,3            | 10             | 0,6 |
| M6           | 6,4            | 11             | 0,7 |
| M7           | 7,4            | 12,5           | 0,8 |
| M8           | 8,4            | 15             | 0,8 |
| M10          | 10,5           | 18             | 0,9 |
| M12          | 13             | 20,5           | 1   |
| M14          | 15             | 24             | 1   |
| M16          | 17             | 26             | 1,2 |
| M18          | 19             | 30             | 1,4 |
| M20          | 21             | 33             | 1,4 |
| M22          | 23             | 36             | 1,5 |
| M24          | 25             | 38             | 1,5 |
| M27          | 28             | 44             | 1,6 |
| M30          | 31             | 48             | 1,6 |

- The main purpose of toothed lock washers is to permit the flow of electric current between components coated by varnish, anti-corrosive agents or similar materials, the bend ends of the washers piercing the coating when such components are joined. Where such washers are intended to keep fasteners of a low property class from working loose, their effectiveness shall be checked for the application concerned.
- Suitable for bolts and nuts with normal widths across flats.

### Article groups

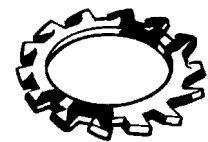
| Material                  | Surface treatment | Packaging | Code  | Page |
|---------------------------|-------------------|-----------|-------|------|
| Spring steel 350-425 HV10 |                   | Standard  | 37300 | 7-61 |
| Spring steel 350-425 HV10 | Zipl              | Standard  | 37302 | 7-61 |
| St.St. A2                 |                   | Standard  | 51456 | 7-62 |

7

#### 37300 Toothed lock washer external teeth

L07D

**Material** Spring steel 350-425 HV10  
**Packaging** Standard



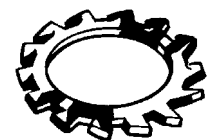
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">37300.030.001</a> | M8            | 200 | <a href="#">37300.080.001</a> | M16           | 100 | <a href="#">37300.160.001</a> |
| M4            | 500 | <a href="#">37300.040.001</a> | M10           | 200 | <a href="#">37300.100.001</a> | M20           | 100 | <a href="#">37300.200.001</a> |
| M5            | 250 | <a href="#">37300.050.001</a> | M12           | 200 | <a href="#">37300.120.001</a> | M24           | 50  | <a href="#">37300.240.001</a> |
| M6            | 250 | <a href="#">37300.060.001</a> | M14           | 100 | <a href="#">37300.140.001</a> |               |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 37302 Toothed lock washer external teeth

L07D

**Material** Spring steel 350-425 HV10  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">37302.030.001</a> | M5            | 250 | <a href="#">37302.050.001</a> | M8            | 200 | <a href="#">37302.080.001</a> |
| M4            | 500 | <a href="#">37302.040.001</a> | M6            | 250 | <a href="#">37302.060.001</a> | M10           | 200 | <a href="#">37302.100.001</a> |

**37302 Toothed lock washer external teeth**

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M12           | 200 | <a href="#">37302.120.001</a> | M16           | 200 | <a href="#">37302.160.001</a> | M24           | 50 | <a href="#">37302.240.001</a> |
| M14           | 100 | <a href="#">37302.140.001</a> | M20           | 100 | <a href="#">37302.200.001</a> |               |    |                               |

**51456 Toothed lock washer external teeth** R09A

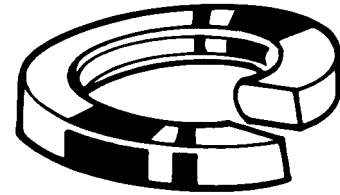
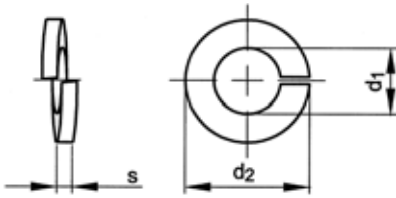
|                  |                    |   |
|------------------|--------------------|---|
| <b>Material</b>  | Stainless steel A2 |  |
| <b>Packaging</b> | Standard           |   |
|                  | DIN ≈6797A         |   |
|                  | NEN ≈2450          |   |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M2 *          | 1000 | <a href="#">51456.020.001</a> | M6            | 200  | <a href="#">51456.060.001</a> | M18 *         | 200 | <a href="#">51456.180.001</a> |
| M2.3 *        | 1000 | <a href="#">51456.023.001</a> | M7 *          | 1000 | <a href="#">51456.070.001</a> | M20           | 100 | <a href="#">51456.200.001</a> |
| NO.3 *        | 1000 | <a href="#">51456.025.001</a> | M8            | 200  | <a href="#">51456.080.001</a> | M22 *         | 200 | <a href="#">51456.220.001</a> |
| M3            | 200  | <a href="#">51456.030.001</a> | M10           | 200  | <a href="#">51456.100.001</a> | M24 *         | 200 | <a href="#">51456.240.001</a> |
| NO.6 *        | 1000 | <a href="#">51456.035.001</a> | M12           | 100  | <a href="#">51456.120.001</a> | M27 *         | 100 | <a href="#">51456.270.001</a> |
| M4            | 200  | <a href="#">51456.040.001</a> | M14 *         | 500  | <a href="#">51456.140.001</a> | M30 *         | 100 | <a href="#">51456.300.001</a> |
| M5            | 200  | <a href="#">51456.050.001</a> | M16           | 100  | <a href="#">51456.160.001</a> |               |     |                               |

- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

**Contact spring washer for switchgear plants**

DIN 43699



**Technical data**

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s   |
|--------------|----------------|----------------|-----|
| M6 (#DIN)    | 6,1            | 12,1           | 2   |
| M8           | 8,2            | 15,2           | 2,2 |
| M10          | 10,2           | 18,2           | 2,5 |
| M12          | 12,2           | 22,2           | 3,5 |
| M16          | 16,2           | 28,2           | 4   |
| M20          | 20,2           | 34,2           | 5   |

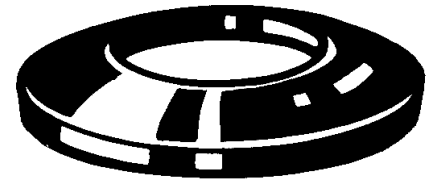
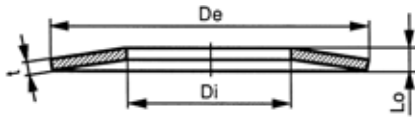
- Depending on availability these articles can be supplied zinc plated as well as mechanical plated.

| 37260 Contact spring washer for switchgear plants |              | L07D |
|---|--------------|------|
| <b>Material</b>                                   | Spring steel |      |
| <b>Surface treatment</b>                          | Zinc plated  |      |
| <b>Packaging</b>                                  | Standard     |      |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M6            | 250 | <a href="#">37260.060.001</a> | M10           | 200 | <a href="#">37260.100.001</a> | M16           | 100 | <a href="#">37260.160.001</a> |
| M8            | 200 | <a href="#">37260.080.001</a> | M12           | 150 | <a href="#">37260.120.001</a> | M20           | 100 | <a href="#">37260.200.001</a> |

## Disc spring for critical applications type B (medium)

DIN 2093 B

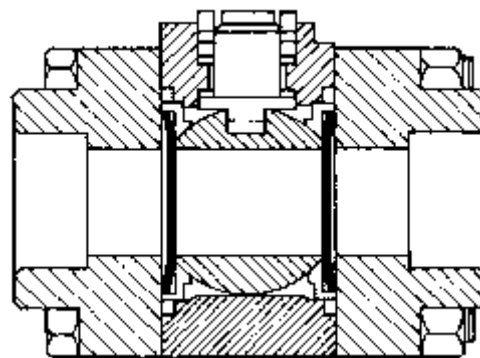


### Technical data

| De (h12) | Di (H12) | t    | Lo   | F     |
|----------|----------|------|------|-------|
| 8        | 4,2      | 0,3  | 0,55 | 119   |
| 10       | 5,2      | 0,4  | 0,7  | 213   |
| 12,5     | 6,2      | 0,5  | 0,85 | 291   |
| 14       | 7,2      | 0,5  | 0,9  | 279   |
| 16       | 8,2      | 0,6  | 1,05 | 412   |
| 18       | 9,2      | 0,7  | 1,2  | 572   |
| 20       | 10,2     | 0,8  | 1,35 | 745   |
| 22,5     | 11,2     | 0,8  | 1,45 | 710   |
| 25       | 12,2     | 0,9  | 1,6  | 868   |
| 28       | 14,2     | 1    | 1,8  | 1110  |
| 31,5     | 16,3     | 1,25 | 2,15 | 1920  |
| 35,5     | 18,3     | 1,25 | 2,25 | 1700  |
| 40       | 20,4     | 1,5  | 2,65 | 2620  |
| 45       | 22,4     | 1,75 | 3,05 | 3660  |
| 50       | 25,4     | 2    | 3,4  | 4760  |
| 56       | 28,5     | 2    | 3,6  | 4440  |
| 63       | 31       | 2,5  | 4,25 | 7180  |
| 71       | 36       | 2,5  | 4,5  | 6730  |
| 80       | 41       | 3    | 5,3  | 10500 |
| 90       | 46       | 3,5  | 6    | 14200 |
| 100      | 51       | 3,5  | 6,3  | 13100 |
| 112      | 57       | 4    | 7,2  | 17800 |

- Disc springs acc. to DIN 2093 are mostly used in critical applications with safety first. Similar applications can be found in for example safety torque limiter clutches, hinge stiffeners and applications of constant roll pressure. Because of the right combination c.q. stacking of the disc springs the elasticity and/or deflection can be dosed accurately. The technical specifications of the disc springs above meet the highest expectations with reference to the static and dynamic load. They exceed the requirements of DIN 2093.
- Material group 1:  $t < 1,25$  from steel Ck 75.
- Material group 2:  $1,25 \leq t \leq 6,0$  from steel 50 Cr V4 (fatigue fractures can be largely prevented because these disc springs have machined edges).
- $F$  = spring force in Newton at a deflection  $s \approx 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- Nominal thickness. For the calculation of disc springs, see DIN 2092.
- Extensive technical data available on request.

### Example of application



Ball valve

**36302 Disc spring for critical applications type B (medium)**
**L07C**

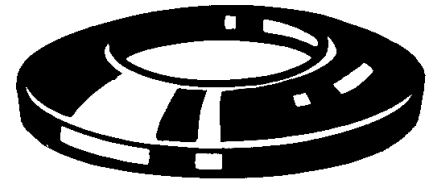
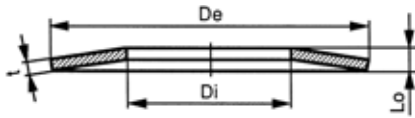
**Material** Steel Ck 75 Werkstoffnr. 1.1248  
**Surface treatment** Phosphated  
**Packaging** Standard



| De x Di x t     | ☒   | Art.number                    | De x Di x t      | ☒  | Art.number                    | De x Di x t  | ☒ | Art.number                    |
|-----------------|-----|-------------------------------|------------------|----|-------------------------------|--------------|---|-------------------------------|
| 8X4,2X0,3MM     | 100 | <a href="#">36302.084.003</a> | 25X12,2X0,9MM    | 50 | <a href="#">36302.262.009</a> | 63X31X2,5MM  | 5 | <a href="#">36302.661.025</a> |
| 10X5,2X0,4MM    | 100 | <a href="#">36302.105.004</a> | 28X14,2X1MM      | 50 | <a href="#">36302.294.010</a> | 71X36X2,5MM  | 5 | <a href="#">36302.746.025</a> |
| 12,5X6,2X0,5MM  | 100 | <a href="#">36302.131.005</a> | 31,5X16,3X1,25MM | 50 | <a href="#">36302.331.012</a> | 80X41X3MM    | 1 | <a href="#">36302.841.030</a> |
| 14X7,2X0,5MM    | 100 | <a href="#">36302.147.005</a> | 35,5X18,3X1,25MM | 25 | <a href="#">36302.373.012</a> | 90X46X3,5MM  | 1 | <a href="#">36302.946.035</a> |
| 16X8,2X0,6MM    | 100 | <a href="#">36302.168.006</a> | 40X20,4X1,5MM    | 25 | <a href="#">36302.420.015</a> | 100X51X3,5MM | 1 | <a href="#">36302.960.035</a> |
| 18X9,2X0,7MM    | 100 | <a href="#">36302.189.007</a> | 45X22,4X1,75MM   | 10 | <a href="#">36302.472.017</a> | 112X57X4MM   | 1 | <a href="#">36302.968.040</a> |
| 20X10,2X0,8MM   | 50  | <a href="#">36302.210.008</a> | 50X25,4X2MM      | 10 | <a href="#">36302.525.020</a> |              |   |                               |
| 22,5X11,2X0,8MM | 50  | <a href="#">36302.236.008</a> | 56X28,5X2MM      | 10 | <a href="#">36302.588.020</a> |              |   |                               |

## Disc spring for critical applications type C (light)

DIN 2093 C

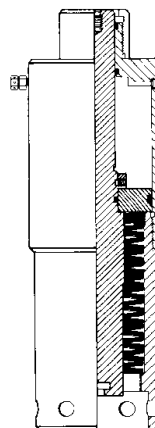


### Technical data

| De (h12) | Di (H12) | t    | Lo   | F     |
|----------|----------|------|------|-------|
| 8        | 4,2      | 0,2  | 0,45 | 39    |
| 10       | 5,2      | 0,25 | 0,55 | 58    |
| 12,5     | 6,2      | 0,35 | 0,8  | 152   |
| 14       | 7,2      | 0,35 | 0,8  | 123   |
| 16       | 8,2      | 0,4  | 0,9  | 155   |
| 18       | 9,2      | 0,45 | 1,05 | 214   |
| 20       | 10,2     | 0,5  | 1,15 | 254   |
| 22,5     | 11,2     | 0,6  | 1,4  | 425   |
| 25       | 12,2     | 0,7  | 1,6  | 601   |
| 28       | 14,2     | 0,8  | 1,8  | 801   |
| 31,5     | 16,3     | 0,8  | 1,85 | 687   |
| 35,5     | 18,3     | 0,9  | 2,05 | 831   |
| 40       | 20,4     | 1    | 2,3  | 1020  |
| 45       | 22,4     | 1,25 | 2,85 | 1890  |
| 50       | 25,4     | 1,25 | 2,85 | 1550  |
| 56       | 28,5     | 1,5  | 3,45 | 2620  |
| 63       | 31       | 1,8  | 4,15 | 4240  |
| 71       | 36       | 2    | 4,6  | 5140  |
| 80       | 41       | 2,25 | 5,2  | 6610  |
| 90       | 46       | 2,5  | 5,7  | 7680  |
| 100      | 51       | 2,7  | 6,2  | 8610  |
| 112      | 57       | 3    | 6,9  | 10500 |
| 125      | 64       | 3,5  | 8    | 15400 |

- Disc springs acc. to DIN 2093 are mostly used in critical applications with safety first. Similar applications can be found in for example safety torque limiter clutches, hinge stiffeners and applications of constant roll pressure. Because of the right combination c.q. stacking of the disc springs the elasticity and/or deflection can be dosed accurately. The technical specifications of the disc springs above meet the highest expectations with reference to the static and dynamic load. They exceed the requirements of DIN 2093.
- Material group 1:  $t < 1,25$  from steel Ck 75.
- Material group 2:  $1,25 \leq t \leq 6,0$  from steel 50 Cr V4 (fatigue fractures can be largely prevented because these disc springs have machined edges).
- $F$  = spring force in Newton at a deflection  $s \approx 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- For the calculation of disc springs, see DIN 2092.
- Extensive technical data available on request.

### Example of application



**36303 Disc spring for critical applications type C (light)**
**L07C**

**Material** Steel Ck 75 Werkstoffnr. 1.1248  
**Surface treatment** Phosphated  
**Packaging** Standard

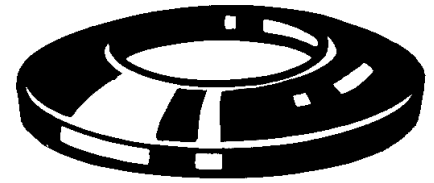
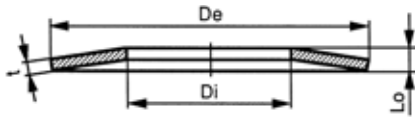


| De x Di x t     | ☒   | Art.number                    | De x Di x t     | ☒  | Art.number                    | De x Di x t  | ☒ | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|----|-------------------------------|--------------|---|-------------------------------|
| 8X4,2X0,2MM     | 100 | <a href="#">36303.084.002</a> | 25X12,2X0,7MM   | 50 | <a href="#">36303.262.007</a> | 63X31X1,8MM  | 5 | <a href="#">36303.661.018</a> |
| 10X5,2X0,25MM   | 100 | <a href="#">36303.105.002</a> | 28X14,2X0,8MM   | 50 | <a href="#">36303.294.008</a> | 71X36X2MM    | 5 | <a href="#">36303.746.020</a> |
| 12,5X6,2X0,35MM | 100 | <a href="#">36303.131.003</a> | 31,5X16,3X0,8MM | 50 | <a href="#">36303.331.008</a> | 80X41X2,25MM | 1 | <a href="#">36303.841.022</a> |
| 14X7,2X0,35MM   | 100 | <a href="#">36303.147.003</a> | 35,5X18,3X0,9MM | 25 | <a href="#">36303.373.009</a> | 90X46X2,5MM  | 1 | <a href="#">36303.946.025</a> |
| 16X8,2X0,4MM    | 100 | <a href="#">36303.168.004</a> | 40X20,4X1MM     | 25 | <a href="#">36303.420.010</a> | 100X51X2,7MM | 1 | <a href="#">36303.960.027</a> |
| 18X9,2X0,45MM   | 100 | <a href="#">36303.189.004</a> | 45X22,4X1,25MM  | 10 | <a href="#">36303.472.012</a> | 112X57X3MM   | 1 | <a href="#">36303.968.030</a> |
| 20X10,2X0,5MM   | 50  | <a href="#">36303.210.005</a> | 50X25,4X1,25MM  | 10 | <a href="#">36303.525.012</a> | 125X64X3,5MM | 1 | <a href="#">36303.970.035</a> |
| 22,5X11,2X0,6MM | 50  | <a href="#">36303.236.006</a> | 56X28,5X1,5MM   | 10 | <a href="#">36303.588.015</a> |              |   |                               |



## Disc spring

DIN 2093  
NF E25-104



### Technical data

| De (h12) | Di (H12) | t    | Lo   | F    | Type |
|----------|----------|------|------|------|------|
| 6        | 3,2      | 0,3  | 0,45 | 119  | -    |
| 8        | 3,2      | 0,2  | 0,4  | 26   | -    |
| 8        | 3,2      | 0,3  | 0,55 | 104  | -    |
| 8        | 3,2      | 0,4  | 0,6  | 185  | -    |
| 8        | 3,2      | 0,5  | 0,7  | 357  | -    |
| 8        | 4,2      | 0,2  | 0,45 | 39   | C    |
| 8        | 4,2      | 0,3  | 0,55 | 118  | B    |
| 8        | 4,2      | 0,4  | 0,6  | 209  | A    |
| 10       | 3,2      | 0,3  | 0,65 | 98   | -    |
| 10       | 3,2      | 0,4  | 0,7  | 179  | -    |
| 10       | 3,2      | 0,5  | 0,75 | 278  | -    |
| 10       | 4,2      | 0,4  | 0,7  | 189  | -    |
| 10       | 4,2      | 0,5  | 0,75 | 294  | -    |
| 10       | 5,2      | 0,25 | 0,55 | 58   | C    |
| 10       | 5,2      | 0,4  | 0,7  | 209  | B    |
| 10       | 5,2      | 0,5  | 0,75 | 325  | A    |
| 12       | 4,2      | 0,4  | 0,8  | 178  | -    |
| 12       | 4,2      | 0,5  | 0,85 | 284  | -    |
| 12       | 5,2      | 0,5  | 0,9  | 349  | -    |
| 12       | 5,2      | 0,6  | 0,95 | 506  | -    |
| 12       | 6,2      | 0,5  | 0,85 | 326  | -    |
| 12       | 6,2      | 0,6  | 0,95 | 551  | -    |
| 12,5     | 5,2      | 0,5  | 0,85 | 272  | -    |
| 12,5     | 6,2      | 0,35 | 0,8  | 151  | C    |
| 12,5     | 6,2      | 0,5  | 0,85 | 293  | B    |
| 12,5     | 6,2      | 0,7  | 1    | 659  | A    |
| 14       | 7,2      | 0,35 | 0,8  | 123  | C    |
| 14       | 7,2      | 0,5  | 0,9  | 279  | B    |
| 14       | 7,2      | 0,8  | 1,1  | 796  | A    |
| 15       | 5,2      | 0,5  | 1    | 278  | -    |
| 15       | 5,2      | 0,6  | 1,05 | 407  | -    |
| 15       | 5,2      | 0,7  | 1,1  | 555  | -    |
| 15       | 6,2      | 0,5  | 1    | 289  | -    |
| 15       | 6,2      | 0,6  | 1,05 | 423  | -    |
| 15       | 6,2      | 0,7  | 1,1  | 577  | -    |
| 15       | 8,2      | 0,7  | 1,1  | 665  | -    |
| 15       | 8,2      | 0,8  | 1,2  | 982  | -    |
| 16       | 8,2      | 0,4  | 0,9  | 154  | C    |
| 16       | 8,2      | 0,6  | 1,05 | 410  | B    |
| 16       | 8,2      | 0,9  | 1,25 | 1012 | A    |
| 18       | 6,2      | 0,4  | 1    | 139  | -    |
| 18       | 6,2      | 0,5  | 1,1  | 245  | -    |
| 18       | 6,2      | 0,6  | 1,2  | 400  | -    |
| 18       | 6,2      | 0,7  | 1,25 | 552  | -    |
| 18       | 6,2      | 0,8  | 1,3  | 725  | -    |
| 18       | 8,2      | 0,5  | 1,1  | 265  | -    |
| 18       | 8,2      | 0,7  | 1,25 | 596  | -    |
| 18       | 8,2      | 0,8  | 1,3  | 782  | -    |
| 18       | 8,2      | 1    | 1,5  | 1501 | -    |
| 18       | 9,2      | 0,45 | 1,05 | 214  | C    |
| 18       | 9,2      | 0,7  | 1,2  | 566  | B    |
| 18       | 9,2      | 1    | 1,4  | 1253 | A    |
| 20       | 8,2      | 0,6  | 1,3  | 412  | -    |
| 20       | 8,2      | 0,7  | 1,35 | 568  | -    |
| 20       | 8,2      | 0,8  | 1,4  | 751  | -    |
| 20       | 8,2      | 0,9  | 1,45 | 953  | -    |
| 20       | 8,2      | 1    | 1,55 | 1294 | -    |
| 20       | 10,2     | 0,5  | 1,15 | 254  | C    |
| 20       | 10,2     | 0,8  | 1,35 | 748  | B    |

| De (h12) | D <sub>i</sub> (H12) | t    | Lo   | F     | Type |
|----------|----------------------|------|------|-------|------|
| 20       | 10,2                 | 0,9  | 1,45 | 1049  | -    |
| 20       | 10,2                 | 1    | 1,55 | 1424  | -    |
| 20       | 10,2                 | 1,1  | 1,55 | 1520  | A    |
| 20       | 10,2                 | 1,25 | 1,75 | 2475  | -    |
| 20-      | 10,2                 | 1,5  | 2    | 4255  | -    |
| 22,5     | 11,2                 | 0,6  | 1,4  | 425   | C    |
| 22,5     | 11,2                 | 0,8  | 1,45 | 707   | B    |
| 22,5     | 11,2                 | 1,25 | 1,75 | 1928  | A    |
| 23       | 8,2                  | 0,7  | 1,5  | 543   | -    |
| 23       | 8,2                  | 0,8  | 1,55 | 718   | -    |
| 23       | 8,2                  | 0,9  | 1,6  | 918   | -    |
| 23       | 8,2                  | 1    | 1,7  | 1239  | -    |
| 23       | 10,2                 | 0,9  | 1,65 | 1057  | -    |
| 23       | 10,2                 | 1    | 1,7  | 1315  | -    |
| 23       | 12,2                 | 1,25 | 1,85 | 2330  | -    |
| 23       | 12,2                 | 1,5  | 2    | 3295  | -    |
| 25       | 12,2                 | 0,7  | 1,6  | 569   | C    |
| 25       | 12,2                 | 0,9  | 1,6  | 862   | B    |
| 25       | 12,2                 | 1    | 1,8  | 1358  | -    |
| 25       | 12,2                 | 1,25 | 1,95 | 2213  | -    |
| 25       | 12,2                 | 1,5  | 2,05 | 2924  | A    |
| 28       | 10,2                 | 0,8  | 1,75 | 661   | -    |
| 28       | 10,2                 | 1    | 1,9  | 1129  | -    |
| 28       | 10,2                 | 1,25 | 2,05 | 1852  | -    |
| 28       | 10,2                 | 1,5  | 2,2  | 2721  | -    |
| 28       | 12,2                 | 1    | 1,95 | 1267  | -    |
| 28       | 12,2                 | 1,25 | 2,1  | 2081  | -    |
| 28       | 12,2                 | 1,5  | 2,25 | 3075  | -    |
| 28       | 14,2                 | 0,8  | 1,8  | 801   | C    |
| 28       | 14,2                 | 1    | 1,8  | 1107  | B    |
| 28       | 14,2                 | 1,25 | 2,1  | 2238  | -    |
| 28       | 14,2                 | 1,5  | 2,15 | 2839  | A    |
| 31,5     | 12,2                 | 1    | 2,1  | 1170  | -    |
| 31,5     | 12,2                 | 1,25 | 2,2  | 1805  | -    |
| 31,5     | 12,2                 | 1,5  | 2,35 | 2690  | -    |
| 31,5     | 16,3                 | 0,8  | 1,85 | 687   | C    |
| 31,5     | 16,3                 | 1,25 | 2,15 | 1912  | B    |
| 31,5     | 16,3                 | 1,5  | 2,4  | 3228  | -    |
| 31,5     | 16,3                 | 1,75 | 2,45 | 3859  | A    |
| 31,5     | 16,3                 | 2    | 2,75 | 6170  | -    |
| 34       | 12,2                 | 1    | 2,25 | 1172  | -    |
| 34       | 12,2                 | 1,25 | 2,35 | 1814  | -    |
| 34       | 12,2                 | 1,5  | 2,5  | 2719  | -    |
| 34       | 14,2                 | 1,25 | 2,4  | 1988  | -    |
| 34       | 14,2                 | 1,5  | 2,55 | 2982  | -    |
| 34       | 16,3                 | 1,5  | 2,55 | 3153  | -    |
| 34       | 16,3                 | 2    | 2,85 | 5779  | -    |
| 35,5     | 18,3                 | 0,9  | 2,05 | 832   | C    |
| 35,5     | 18,3                 | 1,25 | 2,5  | 1698  | B    |
| 35,5-2   | 18,3                 | 2    | 2,8  | 5184  | A    |
| 40       | 14,2                 | 1,25 | 2,65 | 1779  | -    |
| 40       | 14,3                 | 1,5  | 2,75 | 2544  | -    |
| 40       | 14,2                 | 2    | 3,05 | 4766  | -    |
| 40       | 16,3                 | 1,5  | 2,8  | 2748  | -    |
| 40       | 16,3                 | 2    | 3,1  | 5166  | -    |
| 40       | 20,4                 | 1    | 2,3  | 1016  | C    |
| 40       | 20,4                 | 1,5  | 2,65 | 2620  | B    |
| 40       | 20,4                 | 2    | 3,1  | 5698  | -    |
| 40       | 20,4                 | 2,25 | 3,15 | 6497  | A    |
| 40       | 20,4                 | 2,5  | 3,45 | 9384  | -    |
| 45       | 22,4                 | 1,25 | 2,85 | 1890  | C    |
| 45       | 22,4                 | 1,75 | 3,05 | 3644  | B    |
| 45       | 22,4                 | 2,5  | 3,5  | 7712  | A    |
| 50       | 18,4                 | 2    | 3,5  | 4564  | -    |
| 50       | 20,4                 | 2    | 3,5  | 4685  | -    |
| 50       | 22,4                 | 2    | 3,6  | 5219  | -    |
| 50-3     | 22,4                 | 2,5  | 3,9  | 8505  | -    |
| 50       | 25,4                 | 1,25 | 2,85 | 1549  | C    |
| 50       | 25,4                 | 2    | 3,4  | 4760  | B    |
| 50       | 25,4                 | 2,5  | 3,9  | 9058  | -    |
| 50       | 25,4                 | 3    | 4,1  | 11970 | A    |
| 56       | 28,5                 | 1,5  | 3,45 | 2621  | C    |

| De (h12) | D <sub>i</sub> (H12) | t    | Lo   | F     | Type |
|----------|----------------------|------|------|-------|------|
| 56       | 28,5                 | 2    | 3,6  | 4436  | B    |
| 56       | 28,5                 | 3    | 4,3  | 11382 | A    |
| 60       | 20,4                 | 2,5  | 4,3  | 7293  | -    |
| 60       | 20,4                 | 3    | 4,7  | 11569 | -    |
| 60       | 25,4                 | 2,5  | 4,4  | 8159  | -    |
| 60       | 25,4                 | 3    | 4,65 | 11762 | -    |
| 60       | 30,5                 | 2,5  | 4,5  | 9430  | -    |
| 60       | 30,5                 | 3    | 4,7  | 13219 | -    |
| 60       | 30,5                 | 3,5  | 5    | 18143 | -    |
| 63       | 31                   | 1,8  | 4,15 | 4236  | C    |
| 63       | 31                   | 2,5  | 4,25 | 7185  | B    |
| 63       | 31                   | 3,5  | 4,9  | 15017 | A    |
| 70       | 25,5                 | 2    | 4,5  | 4435  | -    |
| 70       | 30,5                 | 3    | 5,1  | 11420 | -    |
| 70       | 35,5                 | 3    | 5,1  | 12281 | -    |
| 70       | 35,5                 | 4    | 5,8  | 23923 | -    |
| 70       | 40,5                 | 4    | 5,6  | 23338 | -    |
| 70       | 40,5                 | 5    | 6,2  | 33653 | -    |
| 71       | 36                   | 2    | 4,6  | 5141  | C    |
| 71       | 36                   | 2,5  | 4,5  | 6722  | B    |
| 71       | 36                   | 4    | 5,6  | 20524 | A    |
| 80       | 31                   | 3    | 5,5  | 10346 | -    |
| 80       | 36                   | 3    | 5,7  | 11912 | -    |
| 80       | 36                   | 4    | 6,2  | 21388 | -    |
| 80       | 41                   | 2,25 | 5,2  | 6609  | C    |
| 80       | 41                   | 3    | 5,3  | 10512 | B    |
| 80       | 41                   | 4    | 6,2  | 22861 | -    |
| 80       | 41                   | 5    | 6,7  | 33541 | A    |
| 90       | 46                   | 2,5  | 5,7  | 7680  | C    |
| 90       | 46                   | 3,5  | 6    | 14153 | B    |
| 90       | 46                   | 5    | 7    | 31337 | A    |
| 100      | 41                   | 4    | 7,2  | 20240 | -    |
| 100      | 51                   | 2,7  | 6,2  | 8604  | C    |
| 100      | 51                   | 3,5  | 6,3  | 13063 | B    |
| 100      | 51                   | 5    | 7,8  | 36319 | -    |
| 100      | 51                   | 6    | 8,2  | 47995 | A    |
| 112      | 57                   | 4    | 7,2  | 17743 | B    |
| 112      | 57                   | 6    | 8,5  | 43683 | A    |

- The disc springs mentioned above acc. to ≈ DIN 2093 are suitable for general use. For more critical applications it is advised to choose disc springs from the article groups 36300, 36302, 36303 and 36450.
- Group 1:  $t < 1,25$  from steel CS70 acc. to BS 1449-1.
- Group 2:  $1,25 \leq t \leq 6,0$  from steel 50 Cr V4 (edges of these disc springs are not machined).
- F = spring force in Newton at a deflection  $s \approx 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- Type A: execution heavy ( $D_e/t \approx 18$ ).
- Type B: execution medium ( $D_e/t \approx 28$ ).
- Type C: execution light ( $D_e/t \approx 40$ ).
- If the type is not mentioned, the concerning dimension is not DIN standardised.
- For the calculation of disc springs, see DIN 2092.

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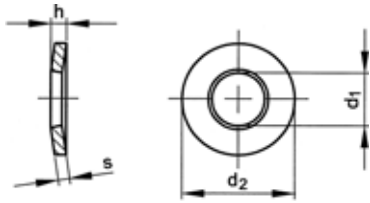
| 36307 Disc spring        |                            | L07C  |
|--------------------------|----------------------------|---|
| <b>Material</b>          | Steel CS 70 acc. BS 1449-1 |  |
| <b>Surface treatment</b> | Phosphated                 |   |
| <b>Packaging</b>         | Standard                   |   |

| De x Di x t   | ☒   | Art.number                    | De x Di x t     | ☒   | Art.number                    | De x Di x t  | ☒   | Art.number                    |
|---------------|-----|-------------------------------|-----------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 6x3,2x0,3MM   | 100 | <a href="#">36307.063.003</a> | 12x4,2x0,4MM    | 100 | <a href="#">36307.124.004</a> | 14x7,2x0,8MM | 100 | <a href="#">36307.147.008</a> |
| 8x3,2x0,2MM   | 100 | <a href="#">36307.083.002</a> | 12x4,2x0,5MM    | 100 | <a href="#">36307.124.005</a> | 15x5,2x0,5MM | 100 | <a href="#">36307.155.005</a> |
| 8x3,2x0,3MM   | 100 | <a href="#">36307.083.003</a> | 12x5,2x0,5MM    | 100 | <a href="#">36307.125.005</a> | 15x5,2x0,6MM | 100 | <a href="#">36307.155.006</a> |
| 8x3,2x0,4MM   | 100 | <a href="#">36307.083.004</a> | 12x5,2x0,6MM    | 100 | <a href="#">36307.125.006</a> | 15x5,2x0,7MM | 100 | <a href="#">36307.155.007</a> |
| 8x3,2x0,5MM   | 100 | <a href="#">36307.083.005</a> | 12x6,2x0,5MM    | 100 | <a href="#">36307.126.005</a> | 15x6,2x0,5MM | 100 | <a href="#">36307.156.005</a> |
| 8x4,2x0,2MM   | 100 | <a href="#">36307.084.002</a> | 12x6,2x0,6MM    | 100 | <a href="#">36307.126.006</a> | 15x6,2x0,6MM | 100 | <a href="#">36307.156.006</a> |
| 8x4,2x0,3MM   | 100 | <a href="#">36307.084.003</a> |                 |     |                               | 15x6,2x0,7MM | 100 | <a href="#">36307.156.007</a> |
| 8x4,2x0,4MM   | 100 | <a href="#">36307.084.004</a> |                 |     |                               | 15x8,2x0,7MM | 100 | <a href="#">36307.158.007</a> |
|               |     |                               | 12,5X5,2X0,5    | 100 | <a href="#">36307.130.005</a> | 15x8,2x0,8MM | 100 | <a href="#">36307.158.008</a> |
| 10x3,2x0,4MM  | 100 | <a href="#">36307.103.004</a> | 12,5x6,2x0,35MM | 100 | <a href="#">36307.131.003</a> |              |     |                               |
| 10x3,2x0,5MM  | 100 | <a href="#">36307.103.005</a> | 12,5x6,2x0,5MM  | 100 | <a href="#">36307.131.005</a> |              |     |                               |
| 10x4,2x0,4MM  | 100 | <a href="#">36307.104.004</a> | 12,5x6,2x0,7MM  | 100 | <a href="#">36307.131.007</a> | 16x8,2x0,4MM | 100 | <a href="#">36307.168.004</a> |
| 10x4,2x0,5MM  | 100 | <a href="#">36307.104.005</a> |                 |     |                               | 16x8,2x0,6MM | 100 | <a href="#">36307.168.006</a> |
| 10x5,2x0,25MM | 100 | <a href="#">36307.105.002</a> | 14X7,2x0,35MM   | 100 | <a href="#">36307.147.003</a> | 16x8,2x0,9MM | 100 | <a href="#">36307.168.009</a> |
| 10x5,2x0,4MM  | 100 | <a href="#">36307.105.004</a> | 14x7,2x0,5MM    | 100 | <a href="#">36307.147.005</a> |              |     |                               |
| 10x5,2x0,5MM  | 100 | <a href="#">36307.105.005</a> |                 |     |                               |              |     |                               |

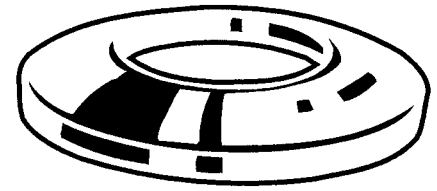
**36307 Disc spring**

| De x Di x t      | ☒   | Art.number                    | De x Di x t      | ☒  | Art.number                    | De x Di x t   | ☒  | Art.number                    |
|------------------|-----|-------------------------------|------------------|----|-------------------------------|---------------|----|-------------------------------|
| 18x6,2x0,4MM     | 100 | <a href="#">36307.186.004</a> | 28x12,2x1,5MM    | 50 | <a href="#">36307.292.015</a> | 50x25,4x3MM   | 10 | <a href="#">36307.525.030</a> |
| 18x6,2x0,5MM     | 100 | <a href="#">36307.186.005</a> | 28x14,2x0,8MM    | 50 | <a href="#">36307.294.008</a> |               |    |                               |
| 18x6,2x0,6MM     | 100 | <a href="#">36307.186.006</a> | 28x14,2x1MM      | 50 | <a href="#">36307.294.010</a> | 56x28,5x1,5MM | 10 | <a href="#">36307.588.015</a> |
| 18x6,2x0,7MM     | 100 | <a href="#">36307.186.007</a> | 28x14,2x1,25MM   | 50 | <a href="#">36307.294.012</a> | 56x28,5x2MM   | 10 | <a href="#">36307.588.020</a> |
| 18x6,2x0,8MM     | 100 | <a href="#">36307.186.008</a> | 28x14,2x1,5MM    | 50 | <a href="#">36307.294.015</a> | 56x28,5x3MM   | 10 | <a href="#">36307.588.030</a> |
| 18x8,2x0,5MM     | 100 | <a href="#">36307.188.005</a> |                  |    |                               |               |    |                               |
| 18x8,2x0,7MM     | 100 | <a href="#">36307.188.007</a> | 31,5x12,2x1MM    | 50 | <a href="#">36307.327.010</a> | 60X20,5X2,5   | 5  | <a href="#">36307.620.025</a> |
| 18x8,2x0,8MM     | 100 | <a href="#">36307.188.008</a> | 31,5x12,2x1,25MM | 50 | <a href="#">36307.327.012</a> | 60x25,4x2,5MM | 5  | <a href="#">36307.625.025</a> |
| 18x8,2x1MM       | 100 | <a href="#">36307.188.010</a> | 31,5x12,2x1,5MM  | 50 | <a href="#">36307.327.015</a> | 60x25,4x3MM   | 5  | <a href="#">36307.625.030</a> |
| 18x9,2x0,45MM    | 100 | <a href="#">36307.189.004</a> | 31,5x16,3x0,8MM  | 50 | <a href="#">36307.331.008</a> | 60x30,5x2,5MM | 5  | <a href="#">36307.630.025</a> |
| 18x9,2x0,7MM     | 100 | <a href="#">36307.189.007</a> | 31,5x16,3x1,25MM | 50 | <a href="#">36307.331.012</a> | 60x30,5x3MM   | 5  | <a href="#">36307.630.030</a> |
| 18x9,2x1MM       | 100 | <a href="#">36307.189.010</a> | 31,5x16,3x1,5MM  | 50 | <a href="#">36307.331.015</a> | 60x30,5x3,5MM | 5  | <a href="#">36307.630.035</a> |
|                  |     |                               | 31,5x16,3x1,75MM | 50 | <a href="#">36307.331.017</a> |               |    |                               |
| 20x8,2x0,6MM     | 50  | <a href="#">36307.208.006</a> | 31,5x16,3x2MM    | 50 | <a href="#">36307.331.020</a> | 63x31x1,8MM   | 5  | <a href="#">36307.661.018</a> |
| 20x8,2x0,7MM     | 50  | <a href="#">36307.208.007</a> |                  |    |                               | 63x31x2,5MM   | 5  | <a href="#">36307.661.025</a> |
| 20x8,2x0,8MM     | 50  | <a href="#">36307.208.008</a> | 34x12,2x1MM      | 25 | <a href="#">36307.352.010</a> | 63x31x3,5MM   | 5  | <a href="#">36307.661.035</a> |
| 20x8,2x0,9MM     | 50  | <a href="#">36307.208.009</a> | 34x12,2x1,25MM   | 25 | <a href="#">36307.352.012</a> |               |    |                               |
| 20x8,2x1MM       | 50  | <a href="#">36307.208.010</a> | 34x12,2x1,5MM    | 25 | <a href="#">36307.352.015</a> |               |    |                               |
| 20x10,2x0,5MM    | 50  | <a href="#">36307.210.005</a> | 34x12,2x1,5MM    | 25 | <a href="#">36307.354.012</a> | 70x25,5x2MM   | 5  | <a href="#">36307.725.020</a> |
| 20x10,2x0,8MM    | 50  | <a href="#">36307.210.008</a> | 34x1x,2x1,25MM   | 25 | <a href="#">36307.354.015</a> | 70x30,5x3MM   | 5  | <a href="#">36307.730.030</a> |
| 20x10,2x0,9MM    | 50  | <a href="#">36307.210.009</a> | 34x14,2x1,5MM    | 25 | <a href="#">36307.354.015</a> | 70x35,5x3MM   | 5  | <a href="#">36307.735.030</a> |
| 20x10,2x1MM      | 50  | <a href="#">36307.210.010</a> | 34x16,3x1,5MM    | 25 | <a href="#">36307.356.015</a> | 70x35,5x4MM   | 5  | <a href="#">36307.735.040</a> |
| 20x10,2x1,1MM    | 50  | <a href="#">36307.210.011</a> | 34x16,3x2MM      | 25 | <a href="#">36307.356.020</a> | 70x40,5x4MM   | 5  | <a href="#">36307.740.040</a> |
| 20x10,2x1,25MM   | 50  | <a href="#">36307.210.012</a> |                  |    |                               | 70x40,5x5MM   | 5  | <a href="#">36307.740.050</a> |
| 20x10,2x1,5MM    | 50  | <a href="#">36307.210.015</a> | 35,5x18,3x0,9M   | 25 | <a href="#">36307.373.009</a> |               |    |                               |
|                  |     |                               | 35,5x18,3x1,25MM | 25 | <a href="#">36307.373.012</a> | 71x36x2MM     | 5  | <a href="#">36307.746.020</a> |
|                  |     |                               | 35,5x18,3x2MM    | 25 | <a href="#">36307.373.020</a> | 71x36x2,5MM   | 5  | <a href="#">36307.746.025</a> |
| 22,5x11,2x0,6MM  | 50  | <a href="#">36307.236.006</a> |                  |    |                               | 71x36x4MM     | 5  | <a href="#">36307.746.040</a> |
| 22,5x11,2x0,8MM  | 50  | <a href="#">36307.236.008</a> | 40x14,2x1,25MM   | 25 | <a href="#">36307.414.012</a> |               |    |                               |
| 22,5x11,2x1,25MM | 50  | <a href="#">36307.236.012</a> | 40x14,3x1,5MM    | 25 | <a href="#">36307.414.015</a> | 80x31x3MM     | 1  | <a href="#">36307.831.030</a> |
|                  |     |                               | 40x14,3x2MM      | 25 | <a href="#">36307.414.020</a> | 80x36x3MM     | 1  | <a href="#">36307.836.030</a> |
| 23x8,2x0,7MM     | 50  | <a href="#">36307.238.007</a> | 40x16,3x1,5MM    | 25 | <a href="#">36307.416.015</a> | 80x36x4MM     | 1  | <a href="#">36307.836.040</a> |
| 23x8,2x0,8MM     | 50  | <a href="#">36307.238.008</a> | 40x16,3x2MM      | 25 | <a href="#">36307.416.020</a> | 80x41x2,25MM  | 1  | <a href="#">36307.841.022</a> |
| 23x8,2x0,9MM     | 50  | <a href="#">36307.238.009</a> | 40x20,4x1MM      | 25 | <a href="#">36307.420.010</a> | 80x41x3MM     | 1  | <a href="#">36307.841.030</a> |
| 23x8,2x1MM       | 50  | <a href="#">36307.238.010</a> | 40x20,4x1,5MM    | 25 | <a href="#">36307.420.015</a> | 80x41x4MM     | 1  | <a href="#">36307.841.040</a> |
| 23x10,2x0,9MM    | 50  | <a href="#">36307.240.009</a> | 40x20,4x2MM      | 25 | <a href="#">36307.420.020</a> | 80x41x5MM     | 1  | <a href="#">36307.841.050</a> |
| 23x10,2x1MM      | 50  | <a href="#">36307.240.010</a> | 40x20,4x2,25MM   | 25 | <a href="#">36307.420.022</a> |               |    |                               |
| 23x12,2x1,25MM   | 50  | <a href="#">36307.242.012</a> | 40x20,4x2,5MM    | 25 | <a href="#">36307.420.025</a> | 90x46x2,5MM   | 1  | <a href="#">36307.946.025</a> |
| 23x12,2x1,5MM    | 50  | <a href="#">36307.242.015</a> |                  |    |                               | 90x46x3,5MM   | 1  | <a href="#">36307.946.035</a> |
|                  |     |                               | 45x22,4x1,25MM   | 10 | <a href="#">36307.472.012</a> | 90x46x5MM     | 1  | <a href="#">36307.946.050</a> |
| 25x12,2x0,7MM    | 50  | <a href="#">36307.262.007</a> | 45x22,4x1,75MM   | 10 | <a href="#">36307.472.017</a> |               |    |                               |
| 25x12,2x0,9MM    | 50  | <a href="#">36307.262.009</a> | 45x22,4x2,5MM    | 10 | <a href="#">36307.472.025</a> | 100x41x4MM    | 1  | <a href="#">36307.960.004</a> |
| 25x12,2x1,25MM   | 50  | <a href="#">36307.262.012</a> |                  |    |                               | 100x51x2,7MM  | 1  | <a href="#">36307.960.027</a> |
| 25x12,2x1,5MM    | 50  | <a href="#">36307.262.015</a> | 50x18,4x2MM      | 10 | <a href="#">36307.518.020</a> | 100x51x3,5MM  | 1  | <a href="#">36307.960.035</a> |
|                  |     |                               | 50x20,4x2MM      | 10 | <a href="#">36307.520.020</a> | 100x51x5MM    | 1  | <a href="#">36307.960.050</a> |
| 28x10,2x0,8MM    | 50  | <a href="#">36307.290.008</a> | 50x22,4x2MM      | 10 | <a href="#">36307.522.020</a> | 100x51x6MM    | 1  | <a href="#">36307.960.060</a> |
| 28x10,2x1MM      | 50  | <a href="#">36307.290.010</a> | 50x22,4x2,5MM    | 10 | <a href="#">36307.522.025</a> |               |    |                               |
| 28x10,2x1,25MM   | 50  | <a href="#">36307.290.012</a> | 50x25,4x1,25MM   | 10 | <a href="#">36307.525.012</a> | 112x57x4MM    | 1  | <a href="#">36307.968.040</a> |
| 28x10,2x1,5MM    | 50  | <a href="#">36307.290.015</a> | 50x25,4x2MM      | 10 | <a href="#">36307.525.020</a> | 112x57x6MM    | 1  | <a href="#">36307.968.060</a> |
| 28x12,2x1MM      | 50  | <a href="#">36307.292.010</a> | 50x25,4x2,5MM    | 10 | <a href="#">36307.525.025</a> |               |    |                               |
| 28x12,2x1,25MM   | 50  | <a href="#">36307.292.012</a> |                  |    |                               |               |    |                               |

## Conical spring washer for bolted connections



DIN 6796



### Technical data

| For nom.size | d <sub>1</sub> (H14) | d <sub>2</sub> (h14) | s   | h (max.) |
|--------------|----------------------|----------------------|-----|----------|
| M3           | 3,2                  | 7                    | 0,6 | 0,85     |
| M4           | 4,3                  | 9                    | 1   | 1,3      |
| M5           | 5,3                  | 11                   | 1,2 | 1,55     |
| M6           | 6,4                  | 14                   | 1,5 | 2        |
| M8           | 8,4                  | 18                   | 2   | 2,6      |
| M10          | 10,5                 | 23                   | 2,5 | 3,2      |
| M12          | 13                   | 29                   | 3   | 3,95     |
| M14          | 15                   | 35                   | 3,5 | 4,65     |
| M16          | 17                   | 39                   | 4   | 5,25     |
| M20          | 21                   | 45                   | 5   | 6,4      |
| M22          | 23                   | 49                   | 5,5 | 7,05     |
| M24          | 25                   | 56                   | 6   | 7,75     |

- Conical spring washers acc. to DIN 6796 should be used in combination with fasteners of property class 8.8 and 10.9, use under dynamic load is not allowed.
- For locking under dynamic load is referred to locking edge washers, SCHNORR safety washers and NORD-LOCK vibration proof washers.

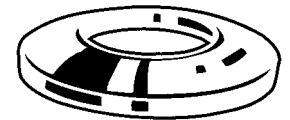
### Article groups

| Material               | Surface treatment  | Packaging | Code  | Page |
|------------------------|--------------------|-----------|-------|------|
| Spring steel DIN267-26 |                    | Standard  | 36270 | 7-72 |
| Spring steel DIN267-26 | Mech.zipl. yell.p. | Standard  | 36273 | 7-72 |

#### 36270 Conical spring washer for bolted connections

L07C

**Material** Spring steel DIN267-26  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M4            | 100 | <a href="#">36270.040.001</a> | M10           | 100 | <a href="#">36270.100.001</a> | M20           | 50 | <a href="#">36270.200.001</a> |
| M5            | 100 | <a href="#">36270.050.001</a> | M12           | 100 | <a href="#">36270.120.001</a> | M22           | 25 | <a href="#">36270.220.001</a> |
| M6            | 100 | <a href="#">36270.060.001</a> | M14           | 50  | <a href="#">36270.140.001</a> | M24           | 25 | <a href="#">36270.240.001</a> |
| M8            | 100 | <a href="#">36270.080.001</a> | M16           | 50  | <a href="#">36270.160.001</a> |               |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 36273 Conical spring washer for bolted connections

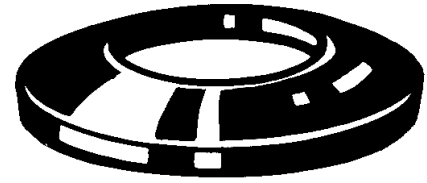
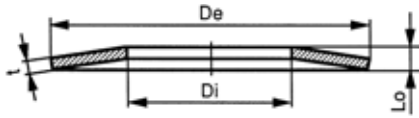
L07C

**Material** Spring steel DIN267-26  
**Surface treatment** Mechanical zinc plated yellow passivated  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 100 | <a href="#">36273.030.001</a> | M8            | 100 | <a href="#">36273.080.001</a> | M16           | 50 | <a href="#">36273.160.001</a> |
| M4            | 100 | <a href="#">36273.040.001</a> | M10           | 100 | <a href="#">36273.100.001</a> | M20           | 50 | <a href="#">36273.200.001</a> |
| M5            | 100 | <a href="#">36273.050.001</a> | M12           | 100 | <a href="#">36273.120.001</a> | M24           | 25 | <a href="#">36273.240.001</a> |
| M6            | 100 | <a href="#">36273.060.001</a> | M14           | 50  | <a href="#">36273.140.001</a> |               |    |                               |

## Disc spring for critical applications




### Technical data

| De (h12) | Di (H12) | t    | Lo   | F    |
|----------|----------|------|------|------|
| 8        | 3,2      | 0,3  | 0,55 | 104  |
| 8        | 3,2      | 0,4  | 0,6  | 186  |
| 8        | 3,2      | 0,5  | 0,7  | 357  |
| 10       | 3,2      | 0,3  | 0,65 | 98   |
| 10       | 3,2      | 0,4  | 0,7  | 179  |
| 10       | 3,2      | 0,5  | 0,75 | 279  |
| 10       | 4,2      | 0,4  | 0,7  | 189  |
| 10       | 4,2      | 0,5  | 0,75 | 294  |
| 12       | 4,2      | 0,4  | 0,8  | 178  |
| 12       | 4,2      | 0,5  | 0,85 | 284  |
| 12       | 5,2      | 0,5  | 0,9  | 350  |
| 12       | 5,2      | 0,6  | 0,95 | 506  |
| 12       | 6,2      | 0,5  | 0,85 | 326  |
| 12       | 6,2      | 0,6  | 0,95 | 552  |
| 12       | 5,2      | 0,5  | 0,85 | 272  |
| 15       | 5,2      | 0,4  | 0,95 | 176  |
| 15       | 5,2      | 0,5  | 1    | 278  |
| 15       | 5,2      | 0,6  | 1,05 | 407  |
| 15       | 5,2      | 0,7  | 1,1  | 555  |
| 15       | 6,2      | 0,5  | 1    | 289  |
| 15       | 6,2      | 0,6  | 1,05 | 424  |
| 15       | 6,2      | 0,7  | 1,1  | 578  |
| 15       | 8,2      | 0,7  | 1,1  | 666  |
| 15       | 8,2      | 0,8  | 1,2  | 982  |
| 18       | 6,2      | 0,4  | 1    | 139  |
| 18       | 6,2      | 0,5  | 1,1  | 245  |
| 18       | 6,2      | 0,6  | 1,2  | 400  |
| 18       | 6,2      | 0,7  | 1,25 | 553  |
| 18       | 6,2      | 0,8  | 1,3  | 726  |
| 18       | 8,2      | 0,5  | 1,1  | 265  |
| 18       | 8,2      | 0,7  | 1,25 | 596  |
| 18       | 8,2      | 0,8  | 1,3  | 783  |
| 18       | 8,2      | 1    | 1,4  | 1181 |
| 20       | 8,2      | 0,6  | 1,3  | 412  |
| 20       | 8,2      | 0,7  | 1,35 | 569  |
| 20       | 8,2      | 0,8  | 1,4  | 751  |
| 20       | 8,2      | 0,9  | 1,45 | 954  |
| 20       | 8,2      | 1    | 1,55 | 1294 |
| 20       | 10,2     | 0,9  | 1,45 | 1050 |
| 20       | 10,2     | 1    | 1,55 | 1425 |
| 20       | 10,2     | 1,25 | 1,75 | 2477 |
| 20       | 10,2     | 1,5  | 1,8  | 2521 |
| 23       | 8,2      | 0,7  | 1,5  | 544  |
| 23       | 8,2      | 0,8  | 1,55 | 719  |
| 23       | 8,2      | 0,9  | 1,6  | 919  |
| 23       | 10,2     | 0,9  | 1,65 | 1058 |
| 23       | 10,2     | 1    | 1,7  | 1315 |
| 23       | 12,2     | 1,25 | 1,85 | 2331 |
| 23       | 12,2     | 1,5  | 2    | 3297 |
| 25       | 12,2     | 1,25 | 1,95 | 2214 |
| 28       | 10,2     | 0,8  | 1,75 | 662  |
| 28       | 10,2     | 1    | 1,9  | 1130 |
| 28       | 10,2     | 1,25 | 2,05 | 1853 |
| 28       | 10,2     | 1,5  | 2,2  | 2723 |
| 28       | 12,2     | 1,5  | 2,25 | 3077 |
| 28       | 14,2     | 1,25 | 2,1  | 2240 |
| 31,5     | 12,2     | 1    | 2,1  | 1170 |
| 31,5     | 12,2     | 1,25 | 2,2  | 1800 |
| 31,5     | 12,2     | 1,5  | 2,35 | 2697 |

| De (h12) | D <sub>i</sub> (H12) | t    | L <sub>o</sub> | F      |
|----------|----------------------|------|----------------|--------|
| 31,5     | 16,3                 | 1,5  | 2,4            | 3230   |
| 31,5     | 16,3                 | 2    | 2,75           | 6173   |
| 34       | 12,2                 | 1    | 2,25           | 1172   |
| 34       | 12,2                 | 1,25 | 2,35           | 1815   |
| 34       | 12,2                 | 1,5  | 2,5            | 2721   |
| 34       | 14,2                 | 1,25 | 2,4            | 1989   |
| 34       | 14,2                 | 1,5  | 2,55           | 2984   |
| 34       | 16,3                 | 2    | 2,85           | 5783   |
| 40       | 14,2                 | 1,25 | 2,65           | 1778   |
| 40       | 14,2                 | 1,5  | 2,75           | 2542   |
| 40       | 14,2                 | 2    | 3,05           | 4763   |
| 40       | 16,3                 | 1,5  | 2,8            | 2749   |
| 40       | 16,3                 | 2    | 3,1            | 5169   |
| 40       | 18,3                 | 2    | 3,15           | 5956   |
| 40       | 20,4                 | 2    | 3,1            | 5701   |
| 40       | 20,4                 | 2,5  | 3,45           | 9390   |
| 50       | 18,4                 | 1,5  | 3,5            | 2603   |
| 50       | 18,3                 | 2    | 3,5            | 4567   |
| 50       | 20,4                 | 2    | 3,5            | 4687   |
| 50       | 22,4                 | 2    | 3,6            | 5222   |
| 50       | 22,4                 | 2,5  | 3,85           | 7919   |
| 50       | 25,4                 | 1,5  | 3,1            | 2512   |
| 50       | 25,4                 | 2,5  | 3,9            | 9063   |
| 60       | 20,4                 | 2,5  | 4,3            | 7297   |
| 60       | 25,4                 | 2,5  | 4,4            | 8164   |
| 60       | 25,4                 | 3    | 4,65           | 11768  |
| 60       | 30,5                 | 2,5  | 4,5            | 9430   |
| 60       | 30,5                 | 3    | 4,7            | 13226  |
| 60       | 30,5                 | 3,5  | 5              | 18153  |
| 70       | 25,5                 | 2    | 4,5            | 4437   |
| 70       | 30,5                 | 3    | 5,1            | 11426  |
| 70       | 35,5                 | 3    | 5,1            | 12287  |
| 70       | 40,5                 | 4    | 5,6            | 23351  |
| 70       | 40,5                 | 5    | 6,2            | 33672  |
| 80       | 31                   | 3    | 5,5            | 10352  |
| 80       | 36                   | 3    | 5,7            | 11919  |
| 80       | 36                   | 4    | 6,2            | 21400  |
| 80       | 41                   | 4    | 6,2            | 22874  |
| 100      | 41                   | 4    | 7,2            | 20251  |
| 100      | 51                   | 5    | 7,8            | 36339  |
| 125      | 51                   | 6    | 9,4            | 44307  |
| 125      | 61                   | 6    | 9,6            | 50722  |
| 150      | 61                   | 6    | 10,8           | 45456  |
| 150      | 81                   | 8    | 11,7           | 89532  |
| 200      | 92                   | 10   | 15,6           | 137688 |
| 200      | 112                  | 12   | 16,2           | 195830 |
| 250      | 127                  | 16   | 21,8           | 383017 |

7

- Disc springs are mostly used in critical applications with safety first. Similar applications can be found in for example safety torque limiter clutches, hinge stiffeners and applications of constant roll pressure. Because of the right combination c.q. stacking of the disc springs the elasticity and/or deflection can be dosed accurately. The technical specifications of these disc springs meet the highest expectations with reference to the static and dynamic load. They exceed the requirements of DIN 2093.
- Material group 1:  $t < 1,25$  from steel Ck 67.
- Material group 2:  $1,25 \leq t \leq 6,0$  from steel 50 Cr V4.
- Material group 3:  $6,0 > t \leq 14,0$  from steel 50 Cr V4.
- Fatigue fractures can be largely prevented because the disc springs of material group 2 and 3 have machined edges.
- $F$  = spring force in Newton at a deflection  $s \approx 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- For the calculation of disc springs, see DIN 2092.
- Extensive technical data available on request.

| 36450 Disc spring for critical applications |                                 | L07C  |
|---|---------------------------------|---|
| <b>Material</b>                             | Steel Ck 67 Werkstoffnr. 1.1231 |  |
| <b>Surface treatment</b>                    | Phosphated                      |   |
| <b>Packaging</b>                            | Standard                        |   |

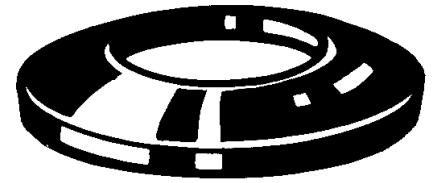
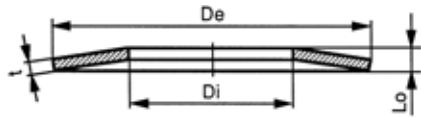
| De x Di x t | ☒   | Art.number                    | De x Di x t  | ☒   | Art.number                    | De x Di x t  | ☒   | Art.number                    |
|-------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 8X3,2X0,3MM | 100 | <a href="#">36450.083.003</a> | 10X3,2X0,3MM | 100 | <a href="#">36450.103.003</a> | 10X3,2X0,5MM | 100 | <a href="#">36450.103.005</a> |
| 8X3,2X0,4MM | 100 | <a href="#">36450.083.004</a> | 10X3,2X0,4MM | 100 | <a href="#">36450.103.004</a> | 10X4,2X0,4MM | 100 | <a href="#">36450.104.004</a> |
| 8X3,2X0,5MM | 100 | <a href="#">36450.083.005</a> |              |     |                               | 10X4,2X0,5MM | 100 | <a href="#">36450.104.005</a> |

**36450 Disc spring for critical applications**

| De x Di x t    | ✉   | Art.number                    | De x Di x t      | ✉  | Art.number                    | De x Di x t      | ✉  | Art.number                    |
|----------------|-----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| 12X4,2X0,4MM   | 100 | <a href="#">36450.124.004</a> | 23X8,2X0,7MM     | 50 | <a href="#">36450.238.007</a> | 50X18,3X2,0MM    | 10 | <a href="#">36450.518.020</a> |
| 12X4,2X0,5MM   | 100 | <a href="#">36450.124.005</a> | 23x8,2x0,8MM     | 50 | <a href="#">36450.238.008</a> | 50X20,4X2,0MM    | 10 | <a href="#">36450.520.020</a> |
| 12X5,2X0,5MM   | 100 | <a href="#">36450.125.005</a> | 23X8,2X0,9MM     | 50 | <a href="#">36450.238.009</a> | 50X22,4X2,0MM    | 10 | <a href="#">36450.522.020</a> |
| 12X5,2X0,6MM   | 100 | <a href="#">36450.125.006</a> | 23X10,2X0,9MM    | 50 | <a href="#">36450.240.009</a> | 50X22,4X2,5MM    | 10 | <a href="#">36450.522.025</a> |
| 12X6,2X0,5MM   | 100 | <a href="#">36450.126.005</a> | 23X10,2X1,0MM    | 50 | <a href="#">36450.240.010</a> | 50X25,4X1,5MM    | 10 | <a href="#">36450.525.015</a> |
| 12X6,2X0,6MM   | 100 | <a href="#">36450.126.006</a> | 23X12,2X1,25MM   | 50 | <a href="#">36450.242.012</a> | 50X25,4X2,5MM    | 10 | <a href="#">36450.525.025</a> |
|                |     |                               | 23X12,2X1,5MM    | 50 | <a href="#">36450.242.015</a> |                  |    |                               |
| 12,5X5,2X0,5MM | 100 | <a href="#">36450.130.005</a> | 25X12,2X1,25MM   | 50 | <a href="#">36450.262.012</a> | 60X20,4X2,5MM    | 5  | <a href="#">36450.620.025</a> |
| 15X5,2X0,4MM   | 100 | <a href="#">36450.155.004</a> | 28X10,2X0,8MM    | 50 | <a href="#">36450.290.008</a> | 60X25,4X2,5MM    | 5  | <a href="#">36450.625.025</a> |
| 15X5,2X0,5MM   | 100 | <a href="#">36450.155.005</a> | 28X10,2X1,0MM    | 50 | <a href="#">36450.290.010</a> | 60X25,4X3,0MM    | 5  | <a href="#">36450.625.030</a> |
| 15X5,2X0,6MM   | 100 | <a href="#">36450.155.006</a> | 28X10,2X1,25MM   | 50 | <a href="#">36450.290.012</a> | 60X30,5X2,5MM    | 5  | <a href="#">36450.630.025</a> |
| 15X5,2X0,7MM   | 100 | <a href="#">36450.155.007</a> | 28X10,2X1,5MM    | 50 | <a href="#">36450.290.015</a> | 60X30,5X3,0MM    | 5  | <a href="#">36450.630.030</a> |
| 15X6,2X0,5MM   | 100 | <a href="#">36450.156.005</a> | 28X12,2X1,5MM    | 50 | <a href="#">36450.292.015</a> | 60X30,5X3,5MM    | 5  | <a href="#">36450.630.035</a> |
| 15X6,2X0,6MM   | 100 | <a href="#">36450.156.006</a> | 28X14,2X1,25MM   | 50 | <a href="#">36450.294.012</a> |                  |    |                               |
| 15X6,2X0,7MM   | 100 | <a href="#">36450.156.007</a> |                  |    |                               | 70X25,5X2,0MM    | 5  | <a href="#">36450.725.020</a> |
| 15X8,2X0,7MM   | 100 | <a href="#">36450.158.007</a> | 31,5X12,2X1,0MM  | 50 | <a href="#">36450.327.010</a> | 70X30,5X3,0MM    | 5  | <a href="#">36450.730.030</a> |
| 15X8,2X0,8MM   | 100 | <a href="#">36450.158.008</a> | 31,5X12,2X1,25MM | 50 | <a href="#">36450.327.012</a> | 70X35,5X3,0MM    | 5  | <a href="#">36450.735.030</a> |
|                |     |                               | 31,5X12,2X1,5MM  | 50 | <a href="#">36450.327.015</a> | 70X40,5X4,0MM    | 5  | <a href="#">36450.740.040</a> |
| 18X6,2X0,4MM   | 100 | <a href="#">36450.186.004</a> | 31,5X16,3X1,5MM  | 50 | <a href="#">36450.331.015</a> | 70X40,5X5,0MM    | 5  | <a href="#">36450.740.050</a> |
| 18X6,2X0,5MM   | 100 | <a href="#">36450.186.005</a> | 31,5X16,3X2,0MM  | 50 | <a href="#">36450.331.020</a> |                  |    |                               |
| 18X6,2X0,6MM   | 100 | <a href="#">36450.186.006</a> |                  |    |                               | 80X31,0X3,0MM    | 1  | <a href="#">36450.831.030</a> |
| 18X6,2X0,7MM   | 100 | <a href="#">36450.186.007</a> | 34X12,2X1,0MM    | 25 | <a href="#">36450.352.010</a> | 80X36,0X3,0MM    | 1  | <a href="#">36450.836.030</a> |
| 18X6,2X0,8MM   | 100 | <a href="#">36450.186.008</a> | 34X12,2X1,25MM   | 25 | <a href="#">36450.352.012</a> | 80x36x4MM        | 1  | <a href="#">36450.836.040</a> |
| 18X8,2X0,5MM   | 100 | <a href="#">36450.188.005</a> | 34X12,2X1,5MM    | 25 | <a href="#">36450.352.015</a> | 80X41,0X4,0MM    | 1  | <a href="#">36450.841.040</a> |
| 18X8,2X0,7MM   | 100 | <a href="#">36450.188.007</a> | 34X14,2X1,25MM   | 25 | <a href="#">36450.354.012</a> |                  |    |                               |
| 18X8,2X0,8MM   | 100 | <a href="#">36450.188.008</a> | 34X14,2X1,5MM    | 25 | <a href="#">36450.354.015</a> | 100X41,0X4,0MM   | 1  | <a href="#">36450.960.040</a> |
| 18X8,2X1,0MM   | 100 | <a href="#">36450.188.010</a> | 34X16,3X2,0MM    | 25 | <a href="#">36450.356.020</a> | 100X51,0X5,0MM   | 1  | <a href="#">36450.982.050</a> |
|                |     |                               |                  |    |                               |                  |    |                               |
| 20X8,2X0,6MM   | 50  | <a href="#">36450.208.006</a> | 40X14,2X1,25MM   | 25 | <a href="#">36450.414.012</a> | 125X51,0X6,0MM   | 1  | <a href="#">36450.987.060</a> |
| 20X8,2X0,7MM   | 50  | <a href="#">36450.208.007</a> | 40X14,2X1,5MM    | 25 | <a href="#">36450.414.015</a> | 125X61,0X6,0MM   | 1  | <a href="#">36450.987.065</a> |
| 20X8,2X0,8MM   | 50  | <a href="#">36450.208.008</a> | 40x14,2x2MM      | 25 | <a href="#">36450.414.020</a> |                  |    |                               |
| 20X8,2X0,9MM   | 50  | <a href="#">36450.208.009</a> | 40X16,3X1,5MM    | 25 | <a href="#">36450.416.015</a> | 150X61,0X6,0MM   | 1  | <a href="#">36450.992.060</a> |
| 20X8,2X1,0MM   | 50  | <a href="#">36450.208.010</a> | 40X16,3X2,0MM    | 25 | <a href="#">36450.416.020</a> | 150X81,0X8,0MM   | 1  | <a href="#">36450.992.080</a> |
| 20X10,2X0,9MM  | 50  | <a href="#">36450.210.009</a> | 40X18,3X2,0MM    | 25 | <a href="#">36450.418.020</a> |                  |    |                               |
| 20X10,2X1,0MM  | 50  | <a href="#">36450.210.010</a> | 40X20,4X2,0MM    | 25 | <a href="#">36450.420.020</a> | 200X92,0X10,0MM  | 1  | <a href="#">36450.997.100</a> |
| 20X10,2X1,25MM | 50  | <a href="#">36450.210.012</a> | 40X20,4X2,5MM    | 25 | <a href="#">36450.420.025</a> | 200X112,0X12,0MM | 1  | <a href="#">36450.997.120</a> |
| 20X10,2X1,5MM  | 50  | <a href="#">36450.210.015</a> |                  |    |                               |                  |    |                               |
|                |     |                               | 50X18,4X1,5MM    | 25 | <a href="#">36450.518.015</a> | 250X127,0X16,0MM | 1  | <a href="#">36450.999.160</a> |



## Ball bearing location disc spring

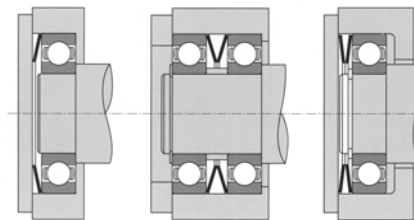


### Technical data

| De (h12) | Di (H12) | t    | Lo   | F   |
|----------|----------|------|------|-----|
| 9,8      | 6,2      | 0,2  | 0,4  | 23  |
| 12,8     | 7,2      | 0,25 | 0,5  | 29  |
| 15,8     | 8,2      | 0,25 | 0,55 | 23  |
| 18,8     | 10,2     | 0,35 | 0,7  | 51  |
| 21,8     | 12,3     | 0,35 | 0,75 | 46  |
| 23,7     | 14,3     | 0,4  | 0,9  | 81  |
| 25,7     | 14,3     | 0,4  | 0,9  | 63  |
| 27,7     | 17,3     | 0,4  | 1    | 80  |
| 29,7     | 17,3     | 0,4  | 1,1  | 83  |
| 31,7     | 20,4     | 0,4  | 1,1  | 81  |
| 34,6     | 22,4     | 0,5  | 1,2  | 118 |
| 36,6     | 20,4     | 0,5  | 1,3  | 110 |
| 39,6     | 25,5     | 0,5  | 1,3  | 110 |
| 41,6     | 25,5     | 0,5  | 1,4  | 113 |
| 46,5     | 30,5     | 0,6  | 1,4  | 153 |
| 51,5     | 35,5     | 0,6  | 1,5  | 135 |
| 54,5     | 40,5     | 0,6  | 1,5  | 141 |
| 61,5     | 40,5     | 0,7  | 1,8  | 176 |

- F = spring force in Newton at a deflection  $s \approx 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- Extensive technical data available on request.

### Example of application



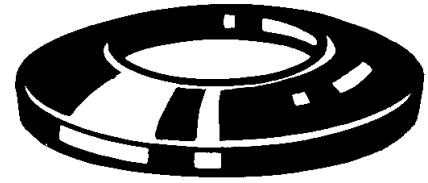
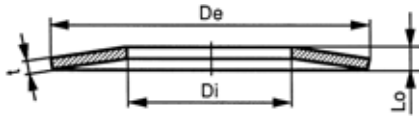
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| 36460 Ball bearing location disc spring |            | L07C  |
|---|------------|---|
| <b>Material</b>                         | Steel      |  |
| <b>Surface treatment</b>                | Phosphated |   |
| <b>Packaging</b>                        | Standard   |   |

| De x Di x t      | ☒   | Art.number                    | De x Di x t     | ☒  | Art.number                    | De x Di x t     | ☒  | Art.number                    |
|------------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| 9,8X6,2X0,2MM    | 100 | <a href="#">36460.104.002</a> | 25,7X14,3X0,4MM | 50 | <a href="#">36460.271.004</a> | 39,6X25,5X0,5MM | 25 | <a href="#">36460.421.005</a> |
| 12,8X7,2X0,25MM  | 100 | <a href="#">36460.135.002</a> | 27,7X17,3X0,4MM | 50 | <a href="#">36460.294.004</a> | 41,6X25,5X0,5MM | 25 | <a href="#">36460.441.005</a> |
| 15,8X8,2X0,25MM  | 100 | <a href="#">36460.166.002</a> | 29,7X17,3X0,4MM | 50 | <a href="#">36460.314.004</a> | 46,5X30,5X0,6MM | 25 | <a href="#">36460.495.006</a> |
| 18,8X10,2X0,35MM | 50  | <a href="#">36460.198.003</a> | 31,7X20,4X0,4MM | 25 | <a href="#">36460.337.004</a> | 51,5X35,5X0,6MM | 10 | <a href="#">36460.550.006</a> |
| 21,8X12,3X0,35MM | 50  | <a href="#">36460.230.003</a> | 34,6X22,4X0,5MM | 25 | <a href="#">36460.368.005</a> | 54,5X40,5X0,6MM | 10 | <a href="#">36460.585.006</a> |
| 23,7X14,3X0,4MM  | 50  | <a href="#">36460.251.004</a> | 36,6X20,4X0,5MM | 25 | <a href="#">36460.386.005</a> | 61,5X40,5X0,7MM | 10 | <a href="#">36460.655.007</a> |

## Disc springs for critical applications type A (heavy)

DIN 2093 A



### Technical data

| De (h12) | Di (H12) | t    | Lo   | F     |
|----------|----------|------|------|-------|
| 8        | 4,2      | 0,4  | 0,6  | 210   |
| 10       | 5,2      | 0,5  | 0,75 | 329   |
| 12,5     | 6,2      | 0,7  | 1    | 673   |
| 14       | 7,2      | 0,8  | 1,1  | 813   |
| 16       | 8,2      | 0,9  | 1,25 | 1000  |
| 18       | 9,2      | 1    | 1,4  | 1250  |
| 20       | 10,2     | 1,1  | 1,55 | 1530  |
| 22,5     | 11,2     | 1,25 | 1,75 | 1950  |
| 25       | 12,2     | 1,5  | 2,05 | 2910  |
| 28       | 14,2     | 1,5  | 2,15 | 2850  |
| 31,5     | 16,3     | 1,75 | 2,45 | 3900  |
| 35,5     | 18,3     | 2    | 2,8  | 5190  |
| 40       | 20,4     | 2,25 | 3,15 | 6450  |
| 45       | 22,4     | 2,5  | 3,5  | 7720  |
| 50       | 25,4     | 3    | 4,1  | 12000 |
| 56       | 28,5     | 3    | 4,3  | 11400 |
| 63       | 31       | 3,5  | 4,9  | 15000 |
| 71       | 36       | 4    | 5,6  | 20500 |
| 80       | 41       | 5    | 6,7  | 33700 |
| 90       | 46       | 5    | 7    | 31400 |
| 100      | 51       | 6    | 8,2  | 48000 |
| 112      | 57       | 6    | 8,5  | 43800 |

- Disc springs acc. to DIN 2093 are mostly used in critical applications with safety first. Similar applications can be found in for example safety torque limiter clutches, hinge stiffeners and applications of constant roll pressure. Because of the right combination c.q. stacking of the disc springs the elasticity and/or deflection can be dosed accurately. The technical specifications of the disc springs above meet the highest expectations with reference to the static and dynamic load. They exceed the requirements of DIN 2093.
- Material group 1:  $t < 1,25$  from steel Ck 75.
- Material group 2:  $1,25 \leq t \leq 6,0$  from steel 50 Cr V4 (fatigue fractures can be largely prevented because these disc springs have machined edges).
- $F$  = spring force in Newton at a deflection  $s \approx 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- For the calculation of disc springs, see DIN 2092.
- Extensive technical data available on request.

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### 36300 Disc springs for critical applications type A (heavy)

L07C

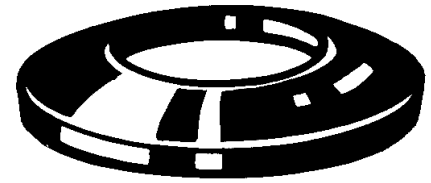
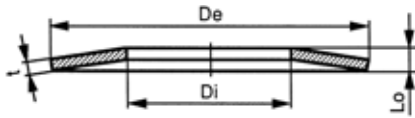
**Material** Steel Ck 75 Werkstoffnr. 1.1248  
**Surface treatment** Phosphated  
**Packaging** Standard



| De x Di x t      | ☒   | Art.number                    | De x Di x t      | ☒  | Art.number                    | De x Di x t | ☒ | Art.number                    |
|------------------|-----|-------------------------------|------------------|----|-------------------------------|-------------|---|-------------------------------|
| 8X4,2X0,4MM      | 100 | <a href="#">36300.084.004</a> | 25X12,2X1,5MM    | 50 | <a href="#">36300.262.015</a> | 63X31X3,5MM | 5 | <a href="#">36300.661.035</a> |
| 10X5,2X0,5MM     | 100 | <a href="#">36300.105.005</a> | 28X14,2X1,5MM    | 50 | <a href="#">36300.294.015</a> | 71X36X4MM   | 5 | <a href="#">36300.746.040</a> |
| 12,5X6,2X0,7MM   | 100 | <a href="#">36300.131.007</a> | 31,5X16,3X1,75MM | 50 | <a href="#">36300.331.017</a> | 80X41X5MM   | 1 | <a href="#">36300.841.050</a> |
| 14X7,2X0,8MM     | 100 | <a href="#">36300.147.008</a> | 35,5X18,3X2MM    | 25 | <a href="#">36300.373.020</a> | 90X46X5MM   | 1 | <a href="#">36300.946.050</a> |
| 16X8,2X0,9MM     | 100 | <a href="#">36300.168.009</a> | 40X20,4X2,25MM   | 25 | <a href="#">36300.420.022</a> | 100X51X6MM  | 1 | <a href="#">36300.960.060</a> |
| 18X9,2X1MM       | 100 | <a href="#">36300.189.010</a> | 45X22,4X2,5MM    | 10 | <a href="#">36300.472.025</a> | 112X57X6MM  | 1 | <a href="#">36300.968.060</a> |
| 20X10,2X1,1MM    | 50  | <a href="#">36300.210.011</a> | 50X25,4X3MM      | 10 | <a href="#">36300.525.030</a> |             |   |                               |
| 22,5X11,2X1,25MM | 50  | <a href="#">36300.236.012</a> | 56X28,5X3MM      | 10 | <a href="#">36300.588.030</a> |             |   |                               |

## Disc spring type A (heavy)

DIN ≈2093 A/C

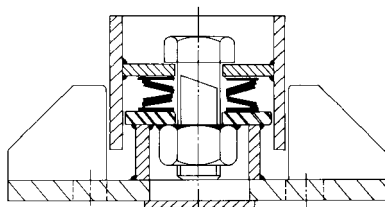


### Technical data

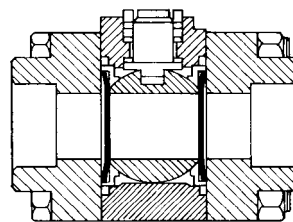
| De (h12) | Di (H12) | t    | Lo   | F     |
|----------|----------|------|------|-------|
| 8        | 4,2      | 0,4  | 0,6  | 192   |
| 10       | 5,2      | 0,5  | 0,75 | 298   |
| 12       | 5,2      | 0,5  | 0,9  | 350   |
| 12-1     | 6,2      | 0,6  | 0,95 | 547   |
| 12,5     | 6,2      | 0,7  | 0,95 | 499   |
| 14       | 7,2      | 0,8  | 1,1  | 730   |
| 16       | 8,2      | 0,9  | 1,25 | 928   |
| 18       | 9,2      | 1    | 1,4  | 1149  |
| 20       | 10,2     | 1,1  | 1,55 | 1394  |
| 22,5     | 11,2     | 1,25 | 1,75 | 1402  |
| 25       | 12,2     | 1,5  | 1,9  | 1931  |
| 28       | 14,2     | 1,5  | 2,15 | 2004  |
| 31,5     | 16,3     | 1,75 | 2,3  | 2745  |
| 35,5     | 18,3     | 2    | 2,65 | 4200  |
| 40       | 20,4     | 1    | 2,3  | 932   |
| 40       | 20,4     | 2,25 | 2,95 | 4630  |
| 45       | 22,4     | 2,5  | 3,3  | 5719  |
| 50       | 25,4     | 3    | 3,85 | 9212  |
| 56       | 28,5     | 3    | 4,05 | 9134  |
| 71       | 36       | 4    | 5,6  | 16626 |
| 80       | 41       | 5    | 6,7  | 25845 |
| 100      | 51       | 6    | 8,2  | 37336 |

- Disc springs acc. to » DIN 2093 A are mostly used in critical applications with safety first. Similar applications can be found in for example safety torque limiter clutches, hinge stiffeners and applications of constant roll pressure. Because of the right combination c.q. stacking of the disc springs the elasticity and/or deflection can be dosed accurately. The technical specifications of the disc springs above meet the highest expectations with reference to the static and dynamic load. Heat treatment gives a copper-bronze colour to this disc springs.
- $D_e$  (h12) 8-10-12,5-14-16-18-20-22,5-25-28-31,5-40 X 12 CrNi 17 7 (Werkstoffnr. 1.4310).
- $D_e$  (h12) 35,5-50-56-71 X 35 CrMo 17 (Werkstoffno. 1.4122).
- $D_e$  (h12) 45 X 7 CrNiAl 17 7 (Werkstoffno. 1.4568).
- $D_e$  (h12) 80-100 X 22 CrMoV 12 1 (Werkstoffno. 1.4923).
- $F$  = spring force in Newton at a deflection  $s = 0,75 h_0$  ( $h_0 = L_0 - t$ ).
- $D_e$  (h12)=40,  $t=1$  ATTENTION: acc. to ≈ DIN 2993 C standardised: execution "light".
- For the calculation of disc springs, see DIN 2092.
- Extensive technical data available on request.

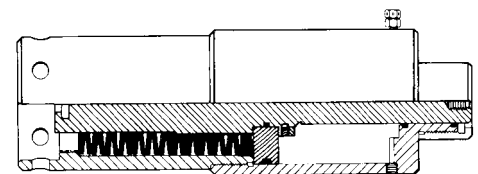
### Examples of application



Shock absorption



Ball valve

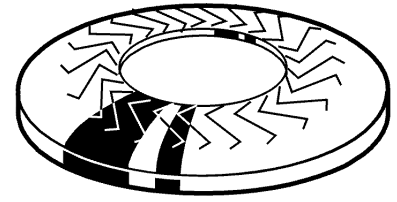
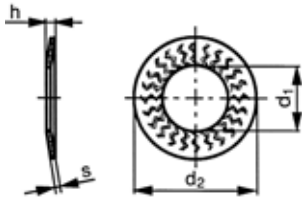


Power switch

|   |                 |   |
|---|-----------------|---|
| <b>51448 Disc spring type A (heavy)</b> |                 | <b>R09A</b>   |
| <b>Material</b>                         | Stainless steel |  |
| <b>Packaging</b>                        | Standard        |   |

| De x Di x t    | ☒  | Art.number                    | De x Di x t      | ☒  | Art.number                    | De x Di x t    | ☒  | Art.number                    |
|----------------|----|-------------------------------|------------------|----|-------------------------------|----------------|----|-------------------------------|
| 8X4,2X0,4MM    | 50 | <a href="#">51448.084.004</a> | 20X10,2X1,1MM    | 25 | <a href="#">51448.210.011</a> | 40X20,4X2,25MM | 10 | <a href="#">51448.420.022</a> |
| 10X5,2X0,5MM   | 50 | <a href="#">51448.105.005</a> | 22,5X11,2X1,25MM | 25 | <a href="#">51448.236.012</a> |                |    |                               |
| 12X5,2X0,5MM   | 50 | <a href="#">51448.125.005</a> | 25X12,2X1,5MM    | 25 | <a href="#">51448.262.015</a> | 45X22,4X2,5MM  | 5  | <a href="#">51448.472.025</a> |
| 12,5X6,2X0,7MM | 50 | <a href="#">51448.131.007</a> | 28X14,2X1,5MM    | 25 | <a href="#">51448.294.015</a> | 50X25,4X3MM    | 5  | <a href="#">51448.520.030</a> |
| 14X7,2X0,8MM   | 50 | <a href="#">51448.147.008</a> | 31,5X16,3X1,75MM | 25 | <a href="#">51448.331.017</a> | 56X28,5X3MM    | 5  | <a href="#">51448.588.030</a> |
| 16X8,2X0,9MM   | 50 | <a href="#">51448.168.009</a> | 35,5X18,3X2MM    | 10 | <a href="#">51448.373.020</a> | 71X36X4MM      | 1  | <a href="#">51448.746.040</a> |
| 18X9,2X1MM     | 50 | <a href="#">51448.189.010</a> | 40X20,4X1,0MM    | 10 | <a href="#">51448.420.010</a> |                |    |                               |

## Locking disc spring type M



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | h    | s   |
|--------------|----------------|----------------|------|-----|
| M4           | 4,1            | 10,2           | 1,5  | 1   |
| M5           | 5,1            | 12,2           | 1,8  | 1,2 |
| M6           | 6,1            | 14,2           | 2,2  | 1,4 |
| M8           | 8,2            | 18,2           | 2,4  | 1,4 |
| M10          | 10,2           | 22,25          | 2,75 | 1,6 |
| M12          | 12,4           | 27,25          | 3,05 | 1,8 |
| M14          | 14,4           | 30,25          | 3,5  | 2,4 |
| M16          | 16,4           | 32,5           | 3,95 | 2,5 |

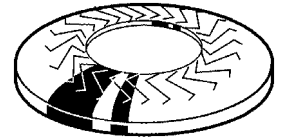
### Article groups

| Material                  | Surface treatment | Packaging | Code  | Page |
|---------------------------|-------------------|-----------|-------|------|
| Spring steel 420-510 HV10 | FLZNNC-NC6        | Standard  | 36325 | 7-80 |
| St.St. A4                 |                   | Standard  | 55443 | 7-80 |

#### 36325 SK Locking disc spring type M

**L07C**

|                          |   |
|--------------------------|---|
| <b>Material</b>          | Spring steel 420-510 HV10               |
| <b>Surface treatment</b> | Zinc flake Cr6+ free - ISO 10683 flZnnc |
| <b>Packaging</b>         | Standard                                |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M5            | 250 | <a href="#">36325.050.001</a> | M10           | 200 | <a href="#">36325.100.001</a> | M16           | 100 | <a href="#">36325.160.001</a> |
| M6            | 250 | <a href="#">36325.060.001</a> | M12           | 150 | <a href="#">36325.120.001</a> |               |     |                               |
| M8            | 200 | <a href="#">36325.080.001</a> | M14           | 100 | <a href="#">36325.140.001</a> |               |     |                               |

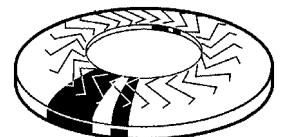
**7**

- A ISO 10683 Zinc Flake surface coating eliminates the possibilities of damage which can arise due to hydrogen embrittlement.
- SK-locking disc springs, type M, can be used with fasteners class ≤ 10.9.

#### 55443 SK Locking disc spring type M

**R49A**

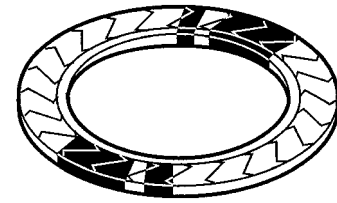
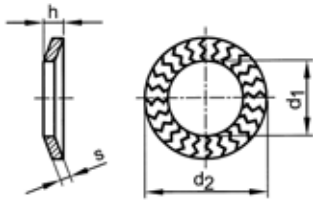
|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 250 | <a href="#">55443.040.001</a> | M8            | 200 | <a href="#">55443.080.001</a> | M16           | 100 | <a href="#">55443.160.001</a> |
| M5            | 250 | <a href="#">55443.050.001</a> | M10           | 200 | <a href="#">55443.100.001</a> |               |     |                               |
| M6            | 250 | <a href="#">55443.060.001</a> | M12           | 100 | <a href="#">55443.120.001</a> |               |     |                               |

- SK-locking disc springs, type M, can be used with stainless steel A2/A4 fasteners, up to and including class 80.

## Locking disc spring type Z



### Technical data

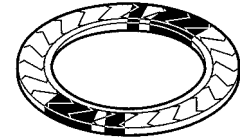
| For nom.size | d <sub>1</sub> | d <sub>2</sub> | h   | s   |
|--------------|----------------|----------------|-----|-----|
| M6           | 6,1            | 9,9            | 1,6 | 1,4 |
| M8           | 8,2            | 12,7           | 1,7 | 1,4 |
| M10          | 10,2           | 16,1           | 2   | 1,6 |
| M12          | 12,4           | 18,3           | 2,2 | 1,8 |
| M16          | 16,4           | 24,6           | 3,1 | 2,5 |

- SK locking disc springs, type Z, can be used with hexagon socket head cap screws or cheese head screws, class ≤ 10.9.

### 36326 SK Locking disc spring type Z

L07C

**Material** Spring steel 420-510 HV10  
**Surface treatment** Zinc flake Cr6+ free - ISO 10683 flZnnc  
**Packaging** Standard



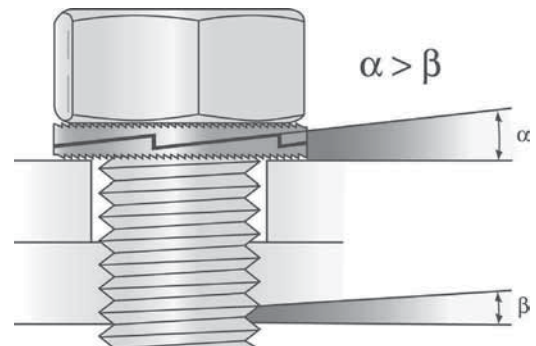
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M6            | 250 | <a href="#">36326.060.001</a> | M10           | 200 | <a href="#">36326.100.001</a> | M16           | 100 | <a href="#">36326.160.001</a> |
| M8            | 200 | <a href="#">36326.080.001</a> | M12           | 150 | <a href="#">36326.120.001</a> |               |     |                               |

- A ISO 10683 Zinc Flake surface coating eliminates the possibilities of damage which can arise due to hydrogen embrittlement.

# NORD-LOCK®

**NORD-LOCK is a superior bolt securing system that provides safe locking for bolted joints even when exposed to severe vibration and dynamic load.**

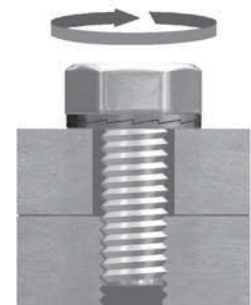
- Makes the bolt self-locking
- Facilitates maintenance work
- Controllable preload
- No special tools required
- Reusable



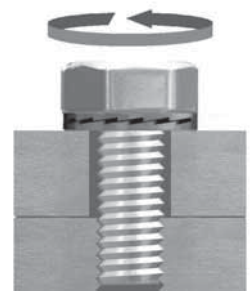
NORD-LOCK consists of a pair of washers with a wedge-locking action meeting DIN 25201 which is a unique method using tension instead of friction. The rise of the cams between the NORD-LOCK washers is greater than the pitch of the bolt. In addition, there are radial teeth on the opposite side. The washers are installed in pairs, cam face to cam face.

7

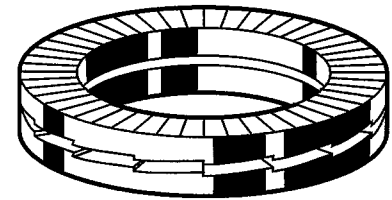
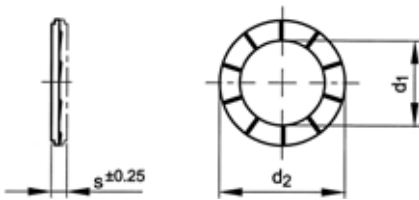
When the bolt and/or nut is tightened the teeth grip and seat the mating surfaces. The NORD-LOCK washer is locked in place, allowing movement only across the face of the cams. Any attempt from the bolt/nut to rotate loose is blocked by the wedge effect of the cams.



Here you see what happens when a bolt is untightened with a wrench. The pair of washers expand more than the corresponding pitch of the thread allows the bolt/nut to rise.



## Vibration proof washer



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s (Set) |
|--------------|----------------|----------------|---------|
| M3           | 3,4            | 7              | 1,8     |
| M4           | 4,4            | 7,6            | 1,8     |
| M5           | 5,4            | 9              | 1,8     |
| M6           | 6,5            | 10,8           | 1,8     |
| M8           | 8,7            | 13,5           | 2,5     |
| M10          | 10,7           | 16,6           | 2,5     |
| M12          | 13             | 19,5           | 2,5     |
| M14          | 15,2           | 23             | 3,4     |
| M16          | 17             | 25,4           | 3,4     |
| M18          | 19,5           | 29             | 3,4     |
| M20          | 21,4           | 30,7           | 3,4     |
| M22          | 23,4           | 34,5           | 3,4     |
| M24          | 25,3           | 39             | 3,4     |
| M27          | 28,4           | 42             | 6,6     |
| M30          | 31,4           | 47             | 6,6     |
| M33          | 34,4           | 48,5           | 6,6     |
| M36          | 37,4           | 55             | 6,6     |
| M42          | 43,2           | 63             | 6,6     |

- For general information concerning NORD-LOCK vibration proof fasteners, see INFO-page.

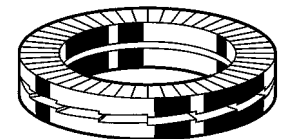
### Article groups

| Material | Surface treatment | Packaging    | Code  | Page |
|----------|-------------------|--------------|-------|------|
| St       | Del pro           | Standard     | 37980 | 7-83 |
| St       | Del pro           | Self service | 37985 | 7-83 |

#### 37980 NORD-LOCK Vibration proof washer 2 pieces

L07A

|                   |              |
|-------------------|--------------|
| Material          | Steel        |
| Surface treatment | Deltaprotekt |
| Packaging         | Standard     |



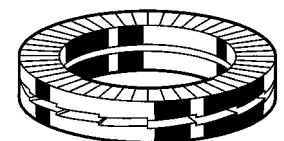
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 200 | <a href="#">37980.030.001</a> | M12           | 200 | <a href="#">37980.120.001</a> | M24           | 100 | <a href="#">37980.240.001</a> |
| M4            | 200 | <a href="#">37980.040.001</a> | M14           | 100 | <a href="#">37980.140.001</a> | M27           | 50  | <a href="#">37980.270.001</a> |
| M5            | 200 | <a href="#">37980.050.001</a> | M16           | 100 | <a href="#">37980.160.001</a> | M30           | 50  | <a href="#">37980.300.001</a> |
| M6            | 200 | <a href="#">37980.060.001</a> | M18           | 100 | <a href="#">37980.180.001</a> | M33           | 25  | <a href="#">37980.330.001</a> |
| M8            | 200 | <a href="#">37980.080.001</a> | M20           | 100 | <a href="#">37980.200.001</a> | M36           | 25  | <a href="#">37980.360.001</a> |
| M10           | 200 | <a href="#">37980.100.001</a> | M22           | 100 | <a href="#">37980.220.001</a> | M42           | 25  | <a href="#">37980.420.001</a> |

- Technical brochure available on request.

#### 37985 NORD-LOCK Vibration proof washer 2 pieces

Y09A

|                   |              |
|-------------------|--------------|
| Material          | Steel        |
| Surface treatment | Deltaprotekt |
| Packaging         | Self service |

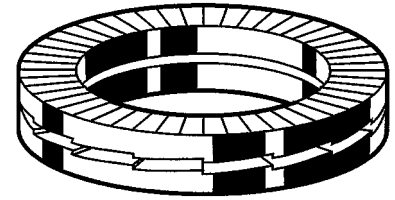
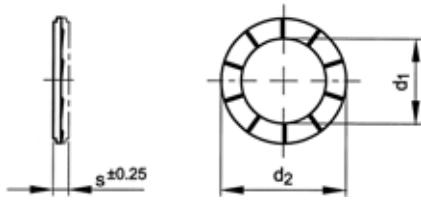


| For nom. size | ☒ | Art.number                    | For nom. size | ☒ | Art.number                    | For nom. size | ☒ | Art.number                    |
|---------------|---|-------------------------------|---------------|---|-------------------------------|---------------|---|-------------------------------|
| M6(25PC)      | 1 | <a href="#">37985.060.001</a> | M10(25PC)     | 1 | <a href="#">37985.100.001</a> | M16(10PC)     | 1 | <a href="#">37985.160.001</a> |
| M8(25PC)      | 1 | <a href="#">37985.080.001</a> | M12(10PC)     | 1 | <a href="#">37985.120.001</a> | M20(10PC)     | 1 | <a href="#">37985.200.001</a> |

- Technical brochure available on request.



## Vibration proof washer St.st.



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s (Set) |
|--------------|----------------|----------------|---------|
| M3           | 3,4            | 7              | 2,2     |
| M4           | 4,4            | 7,6            | 2,2     |
| M5           | 5,4            | 9              | 2,2     |
| M6           | 6,5            | 10,8           | 2,2     |
| M8           | 8,7            | 13,5           | 2,2     |
| M10          | 10,7           | 16,6           | 2,2     |
| M12          | 13             | 19,5           | 2,2     |
| M16          | 17             | 25,4           | 3,2     |
| M18          | 19,5           | 29             | 3,2     |
| M20          | 21,4           | 30,7           | 3,2     |
| M22          | 23,4           | 34,5           | 3,2     |
| M24          | 25,3           | 39             | 3,2     |
| M27          | 28,4           | 42             | 6,8     |
| M30          | 31,4           | 47             | 6,8     |
| M33          | 34,4           | 48,5           | 6,8     |
| M36          | 37,4           | 55             | 6,8     |
| M39          | 40,4           | 58,5           | 6,8     |
| M42          | 43,2           | 63             | 6,8     |

- For general information concerning NORD-LOCK vibration proof fasteners, see INFO-page.
- Technical brochure available on request.

### Article groups

| Material  | Packaging    | Code  | Page |
|-----------|--------------|-------|------|
| St.St. A4 | Standard     | 55437 | 7-84 |
| St.St. A4 | Self service | 55436 | 7-84 |

7

**55437 NORD-LOCK Vibration proof washer** R47A


**Material** Stainless steel A4  
**Packaging** Standard




| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M3            | 200 | <a href="#">55437.030.001</a> | M12           | 200 | <a href="#">55437.120.001</a> | M27           | 50 | <a href="#">55437.270.001</a> |
| M4            | 200 | <a href="#">55437.040.001</a> | M16           | 100 | <a href="#">55437.160.001</a> | M30           | 50 | <a href="#">55437.300.001</a> |
| M5            | 200 | <a href="#">55437.050.001</a> | M18           | 100 | <a href="#">55437.180.001</a> | M33           | 25 | <a href="#">55437.330.001</a> |
| M6            | 200 | <a href="#">55437.060.001</a> | M20           | 100 | <a href="#">55437.200.001</a> | M36           | 25 | <a href="#">55437.360.001</a> |
| M8            | 200 | <a href="#">55437.080.001</a> | M22           | 100 | <a href="#">55437.220.001</a> | M39           | 25 | <a href="#">55437.390.001</a> |
| M10           | 200 | <a href="#">55437.100.001</a> | M24           | 100 | <a href="#">55437.240.001</a> | M42           | 25 | <a href="#">55437.420.001</a> |

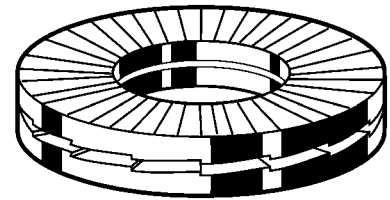
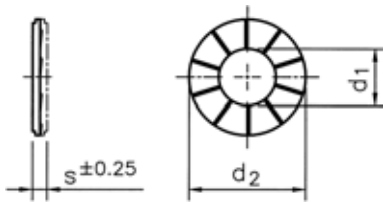
**55436 NORD-LOCK Vibration proof washer** Y09A

**Material** Stainless steel A4  
**Packaging** Self service




| For nom. size | ☒ | Art.number                    | For nom. size | ☒ | Art.number                    | For nom. size | ☒ | Art.number                    |
|---------------|---|-------------------------------|---------------|---|-------------------------------|---------------|---|-------------------------------|
| M6(10PC)      | 1 | <a href="#">55436.060.001</a> | M10(10PC)     | 1 | <a href="#">55436.100.001</a> | M16(5PC)      | 1 | <a href="#">55436.160.001</a> |
| M8(10PC)      | 1 | <a href="#">55436.080.001</a> | M12(5PC)      | 1 | <a href="#">55436.120.001</a> | M20(5PC)      | 1 | <a href="#">55436.200.001</a> |

## Vibration proof washer large outside diameter



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s (Set) |
|--------------|----------------|----------------|---------|
| M4           | 4,4            | 9              | 1,8     |
| M5           | 5,4            | 10,8           | 1,8     |
| M6           | 6,5            | 13,5           | 2,5     |
| M8           | 8,7            | 16,6           | 2,5     |
| M10          | 10,7           | 21             | 2,5     |
| M12          | 13             | 25,4           | 3,4     |
| M14          | 15,2           | 30,7           | 3,4     |
| M16          | 17             | 30,7           | 3,4     |
| M18          | 19,5           | 34,5           | 3,4     |
| M20          | 21,4           | 39             | 3,4     |
| M22          | 23,4           | 42             | 4,6     |
| M24          | 25,3           | 48,5           | 4,6     |
| M27          | 28,4           | 48,5           | 6,6     |
| M30          | 31,4           | 58,5           | 6,6     |
| M33          | 34,4           | 58,5           | 6,6     |
| M36          | 37,4           | 63             | 6,6     |

- For general information concerning NORD-LOCK vibration proof fasteners, see INFO-page.
- Vibration proof washers with large outside diameter are recommended for oversize and elongated holes, where a larger contact surface is required.
- Technical brochure available on request.

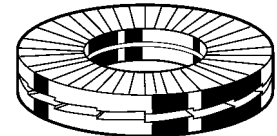
### Article groups

| Material | Surface treatment | Packaging    | Code  | Page |
|----------|-------------------|--------------|-------|------|
| St       | Del pro           | Standard     | 37982 | 7-85 |
| St       | Del pro           | Self service | 37986 | 7-85 |

#### 37982 NORD-LOCK Vibration proof washers large outside diameter

**L07A**

Material: Steel  
 Surface treatment: Deltaprotekt  
 Packaging: Standard



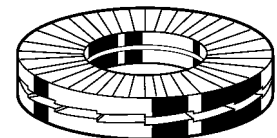
| For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒  | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|----|-------------------------------|
| M4X9               | 200 | <a href="#">37982.040.009</a> | M14X30,7           | 100 | <a href="#">37982.140.030</a> | M27X48,5           | 25 | <a href="#">37982.270.048</a> |
| M5X10,8            | 200 | <a href="#">37982.050.010</a> | M16X30,7           | 100 | <a href="#">37982.160.030</a> | M30X58,5           | 25 | <a href="#">37982.300.058</a> |
| M6X13,5            | 200 | <a href="#">37982.060.013</a> | M18X34,5           | 100 | <a href="#">37982.180.034</a> | M33X58,5           | 25 | <a href="#">37982.330.058</a> |
| M8X16,6            | 200 | <a href="#">37982.080.016</a> | M20X39             | 100 | <a href="#">37982.200.039</a> | M36X63             | 25 | <a href="#">37982.360.630</a> |
| M10X21             | 200 | <a href="#">37982.100.021</a> | M22X42             | 50  | <a href="#">37982.220.042</a> |                    |    |                               |
| M12X25,4           | 100 | <a href="#">37982.120.025</a> | M24X48,5           | 50  | <a href="#">37982.240.048</a> |                    |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

#### 37986 NORD-LOCK Vibration proof washers large outside diameter

**Y09A**

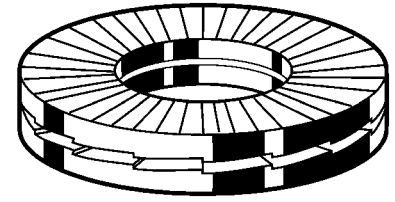
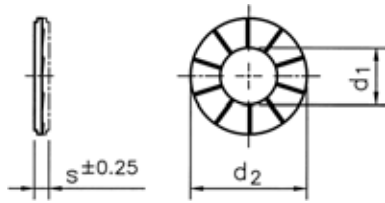
Material: Steel  
 Surface treatment: Deltaprotekt  
 Packaging: Self service



| Z             | ☒ | Art.number                    | Z              | ☒ | Art.number                    | Z              | ☒ | Art.number                    |
|---------------|---|-------------------------------|----------------|---|-------------------------------|----------------|---|-------------------------------|
| M6X13,5(25PC) | 1 | <a href="#">37986.060.001</a> | M10X21(25PC)   | 1 | <a href="#">37986.100.001</a> | M16X30,7(10PC) | 1 | <a href="#">37986.160.001</a> |
| M8X16,6(25PC) | 1 | <a href="#">37986.080.001</a> | M12X25,4(10PC) | 1 | <a href="#">37986.120.001</a> | M20X39(10PC)   | 1 | <a href="#">37986.200.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Vibration proof washer large outside diameter Stainless steel



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s (Set) |
|--------------|----------------|----------------|---------|
| M4           | 4,4            | 9              | 2,2     |
| M5           | 5,4            | 10,8           | 2,2     |
| M6           | 6,5            | 13,5           | 2,2     |
| M8           | 8,7            | 16,6           | 2,2     |
| M10          | 10,7           | 21             | 2,2     |
| M12          | 13             | 25,4           | 3,2     |
| M14          | 15,4           | 30,7           | 3,2     |
| M16          | 17             | 30,7           | 3,2     |
| M18          | 19,5           | 34,5           | 3,2     |
| M20          | 21,4           | 39             | 3,2     |
| M22          | 23,4           | 42             | 3,2     |
| M24          | 25,3           | 48,5           | 3,2     |
| M27          | 28,4           | 48,5           | 6,8     |
| M30          | 31,4           | 58,5           | 6,8     |

- For general information concerning NORD-LOCK vibration proof fasteners, see INFO-page.
- Technical brochure available on request.

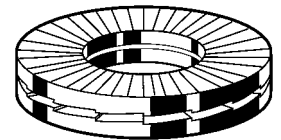
### Article groups

| Material  | Packaging    | Code  | Page |
|-----------|--------------|-------|------|
| St.St. A4 | Standard     | 55453 | 7-86 |
| St.St. A4 | Self service | 55456 | 7-86 |

#### 55453 NORD-LOCK Vibration proof washer large outside diameter

R47A

**Material** Stainless steel A4  
**Packaging** Standard

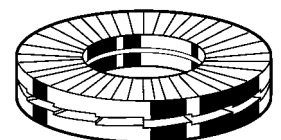


| For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒   | Art.number                    | For nom. size x d2 | ☒  | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|----|-------------------------------|
| M4X9               | 200 | <a href="#">55453.040.009</a> | M12X25,4           | 100 | <a href="#">55453.120.025</a> | M22X42             | 50 | <a href="#">55453.220.042</a> |
| M5X10,8            | 200 | <a href="#">55453.050.010</a> | M14X30,7           | 100 | <a href="#">55453.140.030</a> | M24X48,5           | 50 | <a href="#">55453.240.048</a> |
| M6X13,5            | 200 | <a href="#">55453.060.013</a> | M16X30,7           | 100 | <a href="#">55453.160.030</a> | M27X48,5           | 25 | <a href="#">55453.270.048</a> |
| M8X16,6            | 200 | <a href="#">55453.080.016</a> | M18X34,5           | 100 | <a href="#">55453.180.034</a> | M30X58,5           | 25 | <a href="#">55453.300.058</a> |
| M10X21,0           | 200 | <a href="#">55453.100.021</a> | M20X39             | 100 | <a href="#">55453.200.039</a> |                    |    |                               |

#### 55456 NORD-LOCK Vibration proof washer large outside diameter

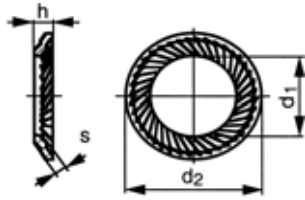
Y09A

**Material** Stainless steel A4  
**Packaging** Self service



| For nom. size x d2 | ☒ | Art.number                    | For nom. size x d2 | ☒ | Art.number                    | For nom. size x d2 | ☒ | Art.number                    |
|--------------------|---|-------------------------------|--------------------|---|-------------------------------|--------------------|---|-------------------------------|
| M6X13,5(10PC)      | 1 | <a href="#">55456.060.001</a> | M10X21(10PC)       | 1 | <a href="#">55456.100.001</a> | M16X30,7(5PC)      | 1 | <a href="#">55456.160.001</a> |
| M8X16,6(10PC)      | 1 | <a href="#">55456.080.001</a> | M12X25,4(5PC)      | 1 | <a href="#">55456.120.001</a> | M20X39(5PC)        | 1 | <a href="#">55456.200.001</a> |

## Locking disc spring type S

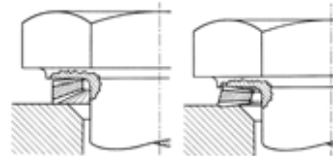


### Technical data

| For nom.size | d <sub>1</sub> (H14) | d <sub>2</sub> (h14) | h (max.) | s          |
|--------------|----------------------|----------------------|----------|------------|
| M2,5         | 2,7                  | 4,8                  | 0,9      | 0,45       |
| M3           | 3,2                  | 5,5                  | 0,9      | 0,4 (0,45) |
| M4           | 4,3                  | 7                    | 1        | 0,5        |
| M5           | 5,3                  | 8,5 (9)              | 1,1      | 0,6        |
| M6           | 6,4                  | 10                   | 1,2      | 0,7        |
| M8           | 8,4                  | 13                   | 1,4      | 0,8        |
| M10          | 10,5                 | 16                   | 1,6      | 1          |
| M12          | 13                   | 18                   | 1,7      | 1 (1,1)    |
| M14          | 15                   | 21 (22)              | 2        | 1,2        |
| M16          | 17                   | 24                   | 2,1      | 1,2 (1,3)  |
| M18          | 19                   | 27                   | 2,3      | 1,5        |
| M20          | 21                   | 30                   | 2,5      | 1,5        |
| M22          | 23                   | 33                   | 2,7      | 1,5        |
| M24          | 25,6                 | 36                   | 2,9      | 1,8        |
| M27          | 28,6                 | 39                   | 3,1      | 2          |
| M30          | 31,6                 | 45                   | 3,6      | 2          |

Special features of SCHNORR safety washers:

- contact first on the outside diameter, resulting in maximum leverage
- high vibration security due to the rib contact
- can be used with screws of property class ≤ 8,8 and ≤ 8,0



### Article groups

| Material              | Surface treatment | Packaging | Code  | Page |
|-----------------------|-------------------|-----------|-------|------|
| Spring steel DIN17222 |                   | Standard  | 36390 | 7-87 |
| Spring steel DIN17222 |                   | Standard  | 36395 | 7-88 |
| Spring steel DIN17222 |                   | Large     | 36396 | 7-88 |
| Spring steel DIN17222 | ZNTHP-NC6         | Standard  | 36397 | 7-88 |
| Spring steel DIN17222 | ZNTHP-NC6         | Standard  | 36411 | 7-88 |
| St.St. A2             |                   | Standard  | 51468 | 7-88 |

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|                  |                                     |             |
|------------------|-------------------------------------|-------------|
| <b>36390</b>     | <b>SCHNORR Safety washer type S</b> | <b>L07A</b> |
| <b>Material</b>  | Spring steel DIN17222               |             |
| <b>Packaging</b> | Standard                            |             |
|                  |                                     |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M18           | 100 | <a href="#">36390.180.001</a> | M22           | 50 | <a href="#">36390.220.001</a> | M27           | 50 | <a href="#">36390.270.001</a> |
| M20           | 100 | <a href="#">36390.200.001</a> | M24           | 50 | <a href="#">36390.240.001</a> | M30           | 50 | <a href="#">36390.300.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|                  |                                   |             |
|------------------|-----------------------------------|-------------|
| <b>36395</b>     | <b>Locking disc spring type S</b> | <b>L07A</b> |
| <b>Material</b>  | Spring steel DIN17222             |             |
| <b>Packaging</b> | Standard                          |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">36395.030.001</a> | M6            | 500 | <a href="#">36395.060.001</a> | M12           | 250 | <a href="#">36395.120.001</a> |
| M4            | 500 | <a href="#">36395.040.001</a> | M8            | 250 | <a href="#">36395.080.001</a> | M14           | 100 | <a href="#">36395.140.001</a> |
| M5            | 500 | <a href="#">36395.050.001</a> | M10           | 250 | <a href="#">36395.100.001</a> | M16           | 100 | <a href="#">36395.160.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|                  |                                   |             |
|------------------|-----------------------------------|-------------|
| <b>36396</b>     | <b>Locking disc spring type S</b> | <b>L07A</b> |
| <b>Material</b>  | Spring steel DIN17222             |             |
| <b>Packaging</b> | Large                             |             |

| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M3            | 2000 | <a href="#">36396.030.001</a> | M6            | 1000 | <a href="#">36396.060.001</a> | M12           | 500 | <a href="#">36396.120.001</a> |
| M4            | 1000 | <a href="#">36396.040.001</a> | M8            | 1000 | <a href="#">36396.080.001</a> | M14           | 500 | <a href="#">36396.140.001</a> |
| M5            | 1000 | <a href="#">36396.050.001</a> | M10           | 1000 | <a href="#">36396.100.001</a> | M16           | 500 | <a href="#">36396.160.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|                          |                                   |             |
|--------------------------|-----------------------------------|-------------|
| <b>36397</b>             | <b>Locking disc spring type S</b> | <b>L07A</b> |
| <b>Material</b>          | Spring steel DIN17222             |             |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated  |             |
| <b>Packaging</b>         | Standard                          |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 500 | <a href="#">36397.030.001</a> | M6            | 500 | <a href="#">36397.060.001</a> | M12           | 250 | <a href="#">36397.120.001</a> |
| M4            | 500 | <a href="#">36397.040.001</a> | M8            | 250 | <a href="#">36397.080.001</a> | M14           | 100 | <a href="#">36397.140.001</a> |
| M5            | 500 | <a href="#">36397.050.001</a> | M10           | 250 | <a href="#">36397.100.001</a> | M16           | 100 | <a href="#">36397.160.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

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|                          |                                     |             |
|--------------------------|-------------------------------------|-------------|
| <b>36411</b>             | <b>SCHNORR Safety washer type S</b> | <b>L07A</b> |
| <b>Material</b>          | Spring steel DIN17222               |             |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated    |             |
| <b>Packaging</b>         | Standard                            |             |
|                          |                                     |             |

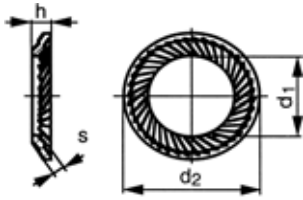
| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M18           | 100 | <a href="#">36411.180.001</a> | M22           | 50 | <a href="#">36411.220.001</a> | M27           | 50 | <a href="#">36411.270.001</a> |
| M20           | 100 | <a href="#">36411.200.001</a> | M24           | 50 | <a href="#">36411.240.001</a> | M30           | 50 | <a href="#">36411.300.001</a> |

- Technical brochure available on request.

|                  |                                     |             |
|------------------|-------------------------------------|-------------|
| <b>51468</b>     | <b>SCHNORR Safety washer type S</b> | <b>R09A</b> |
| <b>Material</b>  | Stainless steel A2                  |             |
| <b>Packaging</b> | Standard                            |             |
|                  |                                     |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M2,5          | 500 | <a href="#">51468.025.001</a> | M8            | 250 | <a href="#">51468.080.001</a> | M20           | 50 | <a href="#">51468.200.001</a> |
| M3            | 500 | <a href="#">51468.030.001</a> | M10           | 250 | <a href="#">51468.100.001</a> | M24           | 50 | <a href="#">51468.240.001</a> |
| M4            | 500 | <a href="#">51468.040.001</a> | M12           | 250 | <a href="#">51468.120.001</a> | M30           | 50 | <a href="#">51468.300.001</a> |
| M5            | 500 | <a href="#">51468.050.001</a> | M14           | 100 | <a href="#">51468.140.001</a> |               |    |                               |
| M6            | 500 | <a href="#">51468.060.001</a> | M16           | 100 | <a href="#">51468.160.001</a> |               |    |                               |

## Locking disc spring type VS

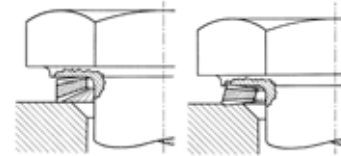


### Technical data

| For nom.size | d <sub>1</sub> (H14) | d <sub>2</sub> (h14) | h (max.) | s   |
|--------------|----------------------|----------------------|----------|-----|
| M5           | 5,3                  | 9                    | 1,3      | 1   |
| M6           | 6,4                  | 10                   | 1,4      | 1   |
| M8           | 8,4                  | 13                   | 1,7      | 1,2 |
| M10          | 10,5                 | 16                   | 2        | 1,5 |
| M12          | 13                   | 18                   | 2,1      | 1,5 |
| M14          | 15                   | 22                   | 2,2      | 1,5 |
| M16          | 17                   | 24                   | 2,6      | 2   |
| M20          | 21                   | 30                   | 2,8      | 2   |
| M24          | 25,6                 | 36                   | 3,4      | 2,5 |
| M30          | 31,6                 | 45                   | 3,8      | 2,5 |

Special features of SCHNORR safety washers type VS:

- reinforced execution (increased metal thickness) resulting in considerably improved spring characteristics
- contact first on the outside diameter, resulting in maximum leverage
- high vibration security due to the rib contact
- can be used with screws of property class  $\leq 10,9$  and on hardened surface



### Article groups

| Material              | Surface treatment | Packaging | Code  | Page |
|-----------------------|-------------------|-----------|-------|------|
| Spring steel DIN17222 |                   | Standard  | 36420 | 7-89 |
| Spring steel DIN17222 | ZNTHP-NC6         | Standard  | 36425 | 7-89 |

#### 36420 SCHNORR Safety washer type VS

L07A

**Material** Spring steel DIN17222  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 500 | <a href="#">36420.050.001</a> | M12           | 250 | <a href="#">36420.120.001</a> | M24           | 50 | <a href="#">36420.240.001</a> |
| M6            | 500 | <a href="#">36420.060.001</a> | M14           | 100 | <a href="#">36420.140.001</a> | M30           | 50 | <a href="#">36420.300.001</a> |
| M8            | 250 | <a href="#">36420.080.001</a> | M16           | 100 | <a href="#">36420.160.001</a> |               |    |                               |
| M10           | 250 | <a href="#">36420.100.001</a> | M20           | 100 | <a href="#">36420.200.001</a> |               |    |                               |

#### 36425 SCHNORR Safety washer type VS

L07A

**Material** Spring steel DIN17222  
**Surface treatment** Galvanized thick Cr3+ passivated  
**Packaging** Standard

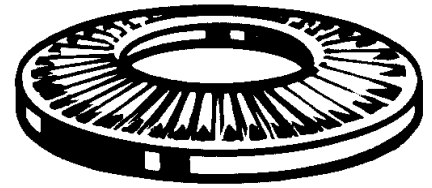
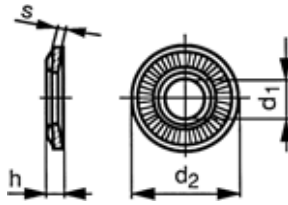


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5            | 500 | <a href="#">36425.050.001</a> | M12           | 250 | <a href="#">36425.120.001</a> | M24           | 50 | <a href="#">36425.240.001</a> |
| M6            | 500 | <a href="#">36425.060.001</a> | M14           | 100 | <a href="#">36425.140.001</a> | M30           | 50 | <a href="#">36425.300.001</a> |
| M8            | 250 | <a href="#">36425.080.001</a> | M16           | 100 | <a href="#">36425.160.001</a> |               |    |                               |
| M10           | 250 | <a href="#">36425.100.001</a> | M20           | 100 | <a href="#">36425.200.001</a> |               |    |                               |

- Technical brochure available on request.

## Contact-lock washer

NF E25-511

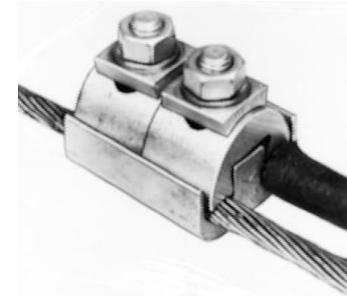


### Technical data

| For nom.size | d <sub>1</sub> (H14) | d <sub>2</sub> (js 15) | s   | h (max.) |
|--------------|----------------------|------------------------|-----|----------|
| M3           | 3,1                  | 8                      | 0,6 | 1        |
| M4           | 4,1                  | 10                     | 0,9 | 1,4      |
| M5           | 5,1                  | 12                     | 1,1 | 1,8      |
| M6           | 6,1                  | 14                     | 1,3 | 2,1      |
| M7 (#NF)     | 7,2                  | 18                     | 1,4 | 2,4      |
| M8           | 8,2                  | 18                     | 1,4 | 2,35     |
| M10          | 10,2                 | 22                     | 1,6 | 2,75     |
| M12          | 12,4                 | 27                     | 1,8 | 3,1      |
| M16          | 16,4                 | 32                     | 2,8 | 4,1      |
| M20          | 20,5                 | 40                     | 3,2 | 4,9      |

Special features *FABORY* contact-lock washers type medium:

- suitable for use simultaneously as lock washer and plain washer with oversize or elongated holes
- no damage to surface, exceptional locking action and high elasticity to compensate play or setting
- excellent contact in electrical appliances avoiding overheating
- applicable for bolts with a property class  $\leq 10.9$



### 37282 Contact-lock washer type medium

L07D

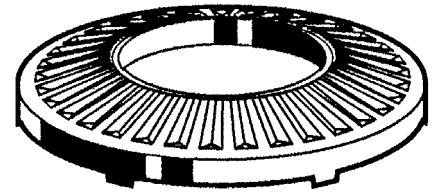
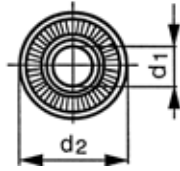
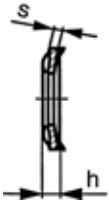
|                          |                                  |
|--------------------------|----------------------------------|
| <b>Material</b>          | Spring steel DIN267-26           |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated |
| <b>Packaging</b>         | Standard                         |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 200 | <a href="#">37282.030.001</a> | M6            | 100 | <a href="#">37282.060.001</a> | M12           | 100 | <a href="#">37282.120.001</a> |
| M4            | 200 | <a href="#">37282.040.001</a> | M8            | 100 | <a href="#">37282.080.001</a> | M16           | 100 | <a href="#">37282.160.001</a> |
| M5            | 100 | <a href="#">37282.050.001</a> | M10           | 100 | <a href="#">37282.100.001</a> | M20           | 100 | <a href="#">37282.200.001</a> |

- Technical brochure available on request.

## Contact-lock washer



### Technical data

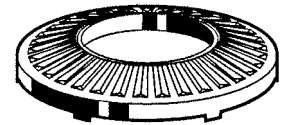
| For nom.size | d <sub>1</sub> (H14) | d <sub>2</sub> (js 15) | s   | h (max.) |
|--------------|----------------------|------------------------|-----|----------|
| M4           | 4,1                  | 8                      | 0,8 | 1,15     |
| M5           | 5,1                  | 10                     | 1   | 1,5      |
| M6           | 6,1                  | 12                     | 1,2 | 1,8      |
| M8           | 8,2                  | 16                     | 1,4 | 2,4      |
| M10          | 10,2                 | 20                     | 1,6 | 2,6      |
| M12          | 12,4                 | 24                     | 1,6 | 2,6      |

- Special features of contact-lock washers type P:
- Suitable for use simultaneously as lock washer and plain washer with oversize or elongated holes
- No damage to surface, exceptional locking action and high elasticity to compensate play or setting
- Excellent contact in electrical appliances avoiding overheating
- Provided with six sharp points (height 0,3 mm), they penetrate the possible coat of laquer and will provide an excellent earthing
- Applicable for bolts with a property class ≤ 10.9

#### 37265 Contact-lock washer type P

L07D

|                          |                                  |
|--------------------------|----------------------------------|
| <b>Material</b>          | Spring steel                     |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated |
| <b>Packaging</b>         | Standard                         |



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M4            | 200 | <a href="#">37265.040.001</a> | M6            | 100 | <a href="#">37265.060.001</a> | M10           | 100 | <a href="#">37265.100.001</a> |
| M5            | 100 | <a href="#">37265.050.001</a> | M8            | 100 | <a href="#">37265.080.001</a> | M12           | 100 | <a href="#">37265.120.001</a> |

- Technical brochure available on request.



## Retaining ring for hexagon bolt and nut



### Technical data

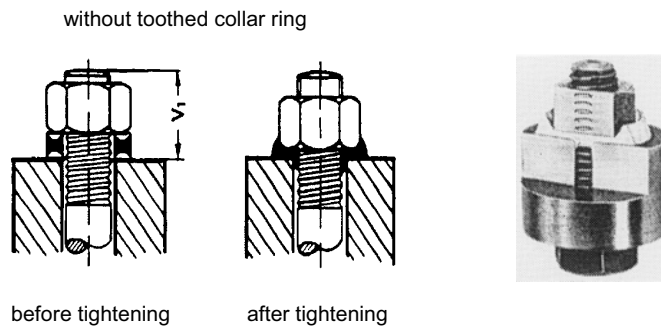
| For nom.size | Type no. | d    | D    | H   | V1 (min.) |
|--------------|----------|------|------|-----|-----------|
| M3           | 98/198   | 3,2  | 8    | 2,2 | 5         |
| M4           | 99/199   | 4,15 | 9,5  | 2,6 | 6         |
| M5           | 100/200  | 5,15 | 10,6 | 3   | 7         |
| M6           | 101/201  | 6,2  | 12,7 | 3,5 | 8,5       |
| M7           | 202      | 7,1  | 14,5 | 3,8 | 9         |
| M8           | 102/203  | 8,1  | 16,2 | 4   | 10,5      |
| 3/8          | 103      | 9,7  | 19,6 | 4,5 | 12,5      |
| M10          | 205      | 10,2 | 19,6 | 4,5 | 12,5      |
| M12          | 207      | 12,2 | 23,6 | 5   | 14,5      |
| 1/2          | 105      | 12,8 | 25,4 | 5   | 16        |
| M14          | 208      | 14,2 | 25,4 | 5,5 | 16,5      |
| 5/8          | 107      | 16   | 31,2 | 6   | 19        |
| M16          | 211      | 16,2 | 29,4 | 6   | 19        |
| M18          | 213      | 18,2 | 35,1 | 6,5 | 21,5      |
| 3/4          | 109      | 19,2 | 36,9 | 7   | 23        |
| M20          | 215      | 20,3 | 35,7 | 7   | 23        |
| M22          | 111/217  | 22,5 | 41,6 | 7,5 | 24,5      |
| M24          | 219      | 24,3 | 41,6 | 8   | 26        |
| 1.IN.        | 113      | 25,6 | 47,3 | 8   | 28        |
| M27          | 114/222  | 27,3 | 47,3 | 8,5 | 28,5      |
| M30          | 115/225  | 30,2 | 53,1 | 8,5 | 30,5      |
| M33          | 117/228  | 33,2 | 57,7 | 9   | 34        |
| M36          | 119/231  | 36,2 | 63,5 | 10  | 38        |
| M39          | 121/234  | 39,2 | 69,3 | 11  | 41        |
| M45          | 125/240  | 45,2 | 80,8 | 16  | 51        |

7

Special features DUBO retaining rings:

- locks, because the retaining ring forms itself around the hexagon
- seals, because the ring is pressed into the thread and bolt hole
- reduces noise, because the plastic-elastic behaviour absorbs vibrations
- insulates against electrolytic contact corrosion by connection of different metals
- temperature resistant from -60°C to +120°C with static load and from -60°C to +80°C with dynamic load
- hexagon nuts and bolts from class 8.8 resp. 8 and above, DUBO retaining rings have to be used together with a steel DUBO toothed collar ring

Assembly date / Example of application

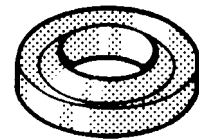


### Article groups

| Material   | Class | Colour | Packaging | Code  | Page |
|------------|-------|--------|-----------|-------|------|
| Plastic PA | 6     | White  | Standard  | 37900 | 7-93 |
| Plastic PA | 6     | White  | Large     | 37910 | 7-93 |

**37900 DUBO Retaining ring for hexagon bolt and nut W05C**

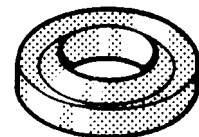
**Material** Plastic Polyamide (nylon)  
**Class** 6  
**Colour** White  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M3            | 100 | <a href="#">37900.030.001</a> | 1/2           | 50 | <a href="#">37900.127.001</a> | 1.IN.         | 10 | <a href="#">37900.254.001</a> |
| M4            | 100 | <a href="#">37900.040.001</a> | M14           | 50 | <a href="#">37900.140.001</a> | M27           | 10 | <a href="#">37900.270.001</a> |
| M5            | 100 | <a href="#">37900.050.001</a> | 5/8           | 50 | <a href="#">37900.158.001</a> | M30           | 5  | <a href="#">37900.300.001</a> |
| M6            | 100 | <a href="#">37900.060.001</a> | M16           | 50 | <a href="#">37900.160.001</a> | M33           | 5  | <a href="#">37900.330.001</a> |
| M7            | 100 | <a href="#">37900.070.001</a> | M18           | 25 | <a href="#">37900.180.001</a> | M36           | 5  | <a href="#">37900.360.001</a> |
| M8            | 100 | <a href="#">37900.080.001</a> | 3/4           | 25 | <a href="#">37900.191.001</a> | M39           | 5  | <a href="#">37900.390.001</a> |
| 3/8           | 100 | <a href="#">37900.096.001</a> | M20           | 25 | <a href="#">37900.200.001</a> | M45           | 5  | <a href="#">37900.450.001</a> |
| M10           | 100 | <a href="#">37900.100.001</a> | M22           | 10 | <a href="#">37900.220.001</a> |               |    |                               |
| M12           | 50  | <a href="#">37900.120.001</a> | M24           | 10 | <a href="#">37900.240.001</a> |               |    |                               |

**37910 DUBO Retaining ring for hexagon bolt and nut W05C**

**Material** Plastic Polyamide (nylon)  
**Class** 6  
**Colour** White  
**Packaging** Large



| For nom. size | ☒    | Art.number                    | For nom. size | ☒    | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|------|-------------------------------|---------------|------|-------------------------------|---------------|-----|-------------------------------|
| M4            | 1000 | <a href="#">37910.040.001</a> | M8            | 1000 | <a href="#">37910.080.001</a> | M16           | 250 | <a href="#">37910.160.001</a> |
| M5            | 1000 | <a href="#">37910.050.001</a> | M10           | 1000 | <a href="#">37910.100.001</a> |               |     |                               |
| M6            | 1000 | <a href="#">37910.060.001</a> | M12           | 500  | <a href="#">37910.120.001</a> |               |     |                               |

## Retaining ring for hexagon socket head cap screw



### Technical data

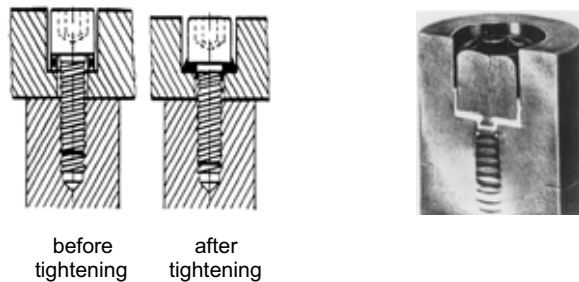
| For nom.size | Type no. | d    | D    | H   |
|--------------|----------|------|------|-----|
| M4           | -        | 4,1  | 7,7  | 2   |
| M5           | -        | 5,15 | 9,8  | 3   |
| M6           | 301      | 6,5  | 10,5 | 2,5 |
| M8           | 303      | 8,1  | 14   | 3,3 |
| M10          | 305      | 10,2 | 17   | 3,8 |
| M12          | 307      | 12,2 | 19   | 4,4 |
| M14          | 309      | 14,2 | 23   | 5,2 |
| M16          | 311      | 16,2 | 25   | 5,6 |
| M20          | 315      | 20,2 | 31,5 | 6,5 |

#### Special features DUBO retaining rings:

- locks, because the retaining ring forms itself around the socket head
- seals, because the ring is pressed into the thread and bolt hole
- reduces noise, because the plastic-elastic behaviour absorbs vibrations
- insulates against electrolytic contactcorrosion by connection of different metals
- temperature resistant from -60°C to +120°C with static load and from -60°C to +80°C with dynamic load
- **overhead** hexagon socket head cap screws from class 8.8 and above, DUBO retaining rings have to be used together with a steel DUBO toothed collar ring

#### Assembly date / Example of application

without toothed collar ring

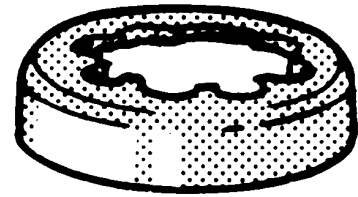
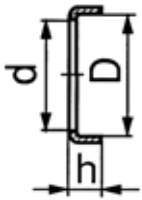


7

|                  |  |             |
|------------------|--|-------------|
| <b>37901</b>     | <b>DUBO Retaining ring for hexagon socket head cap screw</b> | <b>W05C</b> |
| <b>Material</b>  | Plastic Polyamide (nylon)                                    |             |
| <b>Class</b>     | 6  |             |
| <b>Packaging</b> | Standard   |             |
|                  |  |             |

| For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M4            | 100 | <a href="#">37901.040.001</a> | M8            | 100 | <a href="#">37901.080.001</a> | M14           | 50 | <a href="#">37901.140.001</a> |
| M5            | 100 | <a href="#">37901.050.001</a> | M10           | 100 | <a href="#">37901.100.001</a> | M16           | 50 | <a href="#">37901.160.001</a> |
| M6            | 100 | <a href="#">37901.060.001</a> | M12           | 50  | <a href="#">37901.120.001</a> | M20           | 25 | <a href="#">37901.200.001</a> |

## Toothed collar ring



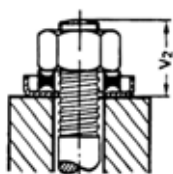
### Technical data

| For nom.size         | M4-M5 | M6   | M8   | M10  | M12  | M16   | M18-M20     | 3/4   | M22-M24 | M27  | M30 | M33  | M36   |
|----------------------|-------|------|------|------|------|-------|-------------|-------|---------|------|-----|------|-------|
| Type no.             | 404   | 406  | 408  | 410  | 412  | 416   | 418         | 419   | 422     | 427  | 430 | 433  | 436   |
| d                    | 6,8   | 9    | 12   | 13,5 | 15,5 | 21    | 26          | 27    | 30,5    | 35   | 40  | 45   | 50    |
| D                    | 11,2  | 13,2 | 17,2 | 21,3 | 24,5 | 31,25 | 37,5        | 39,5  | 44      | 50,5 | 56  | 61   | 67    |
| h                    | 3,15  | 4,15 | 4,8  | 5,7  | 6    | 6,75  | 7,25        | 7,25  | 8       | 9    | 10  | 10,5 | 11,05 |
| <b>Assembly data</b> |       |      |      |      |      |       |             |       |         |      |     |      |       |
| V2                   | 3,15  | 9,25 | 11,5 | 13,5 | 16   | 20,75 | 23,25-24,75 | 24,75 | 26,5-28 | 30,5 | -   | -    | -     |

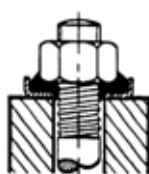
### Assembly data

Hexagon bolts, - nuts and overhead hexagon socket head cap screws from class 8.8 resp. 8 and above, DUBO retaining rings have to be used together with a steel DUBO internal toothed collar ring.

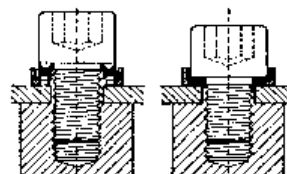
| Article number | Application with         |                 |   |            |
|----------------|--------------------------|-----------------|---|------------|
|                | Hexagon bolts and - nuts |                 | Overhead hexagon socket head cap screws |            |
|                | Metric                   | Non metric      | Metric                                  | Non metric |
| 37920.040.001  | M4 - M5                  | 5/32 - 3/16     | M6                                      | 1/4        |
| 37920.060.001  | M6                       | 1/4             | -                                       | -          |
| 37920.080.001  | M8                       | 5/16            | M10                                     | 3/8        |
| 37920.100.001  | M10                      | 3/8             | M12                                     | 1/2        |
| 37920.120.001  | M12                      | 7/16            | M14                                     | -          |
| 37920.160.001  | M16                      | -               | M18                                     | -          |
| 37920.180.001  | M18 - M20                | -               | M22                                     | 7/8        |
| 37920.191.001  | -                        | 3/4             | M24                                     | -          |
| 37920.220.001  | M22 - M24                | 7/8             | -                                       | -          |
| 37920.270.001  | M27                      | 1. IN. - 1.1/16 | -                                       | -          |
| 37920.300.001  | M30                      | 1.1/8           | -                                       | -          |
| 37920.330.001  | M33                      | 1.1/4           | -                                       | -          |
| 37920.360.001  | M36                      | 1.1/2           | -                                       | -          |



before tightening



after tightening



before tightening after tightening

### 37920 DUBO Toothed collar ring

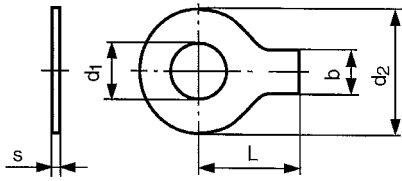
W05C

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard

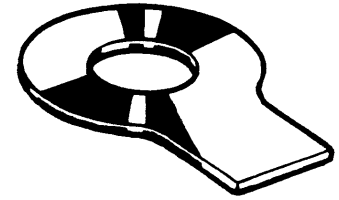


| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|---|-------------------------------|
| M4/5          | 100 | <a href="#">37920.040.001</a> | M16           | 50 | <a href="#">37920.160.001</a> | M30           | 5 | <a href="#">37920.300.001</a> |
| M6            | 100 | <a href="#">37920.060.001</a> | M18/20        | 25 | <a href="#">37920.180.001</a> | M33           | 5 | <a href="#">37920.330.001</a> |
| M8            | 100 | <a href="#">37920.080.001</a> | 3/4           | 25 | <a href="#">37920.191.001</a> | M36           | 5 | <a href="#">37920.360.001</a> |
| M10           | 100 | <a href="#">37920.100.001</a> | M22/24        | 25 | <a href="#">37920.220.001</a> |               |   |                               |
| M12           | 50  | <a href="#">37920.120.001</a> | M27           | 10 | <a href="#">37920.270.001</a> |               |   |                               |

## Tab washer with long tab



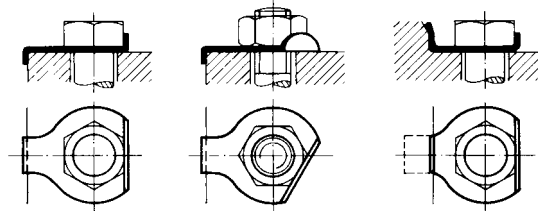
DIN 93  
NEN 2277



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s    | b  | L  |
|--------------|----------------|----------------|------|----|----|
| M4           | 4,3            | 14             | 0,38 | 5  | 14 |
| M5           | 5,3            | 17             | 0,5  | 6  | 16 |
| M6           | 6,4            | 19             | 0,5  | 7  | 18 |
| M8           | 8,4            | 22             | 0,75 | 8  | 20 |
| M10          | 10,5           | 26             | 0,75 | 10 | 22 |
| M12          | 13             | 30             | 1    | 12 | 28 |
| M14          | 15             | 33             | 1    | 12 | 28 |
| M16          | 17             | 36             | 1    | 15 | 32 |
| M18          | 19             | 40             | 1    | 18 | 36 |
| M20          | 21             | 42             | 1    | 18 | 36 |
| M22          | 23             | 50             | 1    | 20 | 42 |
| M24          | 25             | 50             | 1    | 20 | 42 |
| M27          | 28             | 58             | 1,6  | 23 | 48 |
| M30          | 31             | 63             | 1,6  | 26 | 52 |
| M33          | 34             | 68             | 1,6  | 28 | 56 |
| M36          | 37             | 75             | 1,6  | 30 | 60 |
| M39          | 40             | 82             | 1,6  | 32 | 64 |
| M42          | 43             | 88             | 1,6  | 35 | 70 |
| M45          | 46             | 95             | 1,6  | 38 | 75 |
| M48          | 50             | 100            | 1,6  | 40 | 80 |
| M52          | 54             | 108            | 1,6  | 44 | 85 |

### Example of application



7

### Article groups

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St        | Standard  | 38650 | 7-96 |
| St.St. A2 | Standard  | 51540 | 7-97 |
| St.St. A4 | Standard  | 55540 | 7-97 |

### 38650 Tab washer with long tab

L07J

Material Steel  
Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 100 | <a href="#">38650.060.001</a> | M20           | 50 | <a href="#">38650.200.001</a> | M39           | 10 | <a href="#">38650.390.001</a> |
| M8            | 100 | <a href="#">38650.080.001</a> | M22           | 50 | <a href="#">38650.220.001</a> | M42           | 10 | <a href="#">38650.420.001</a> |
| M10           | 100 | <a href="#">38650.100.001</a> | M24           | 25 | <a href="#">38650.240.001</a> | M45           | 10 | <a href="#">38650.450.001</a> |
| M12           | 100 | <a href="#">38650.120.001</a> | M27           | 25 | <a href="#">38650.270.001</a> | M48           | 10 | <a href="#">38650.480.001</a> |
| M14           | 100 | <a href="#">38650.140.001</a> | M30           | 10 | <a href="#">38650.300.001</a> | M52           | 10 | <a href="#">38650.520.001</a> |
| M16           | 100 | <a href="#">38650.160.001</a> | M33           | 10 | <a href="#">38650.330.001</a> |               |    |                               |
| M18           | 50  | <a href="#">38650.180.001</a> | M36           | 10 | <a href="#">38650.360.001</a> |               |    |                               |

|                  |                                 |   |
|------------------|---------------------------------|---|
| <b>51540</b>     | <b>Tab washer with long tab</b> | <b>R09A</b>   |
| <b>Material</b>  | Stainless steel A2              |  |
| <b>Packaging</b> | Standard                        |   |

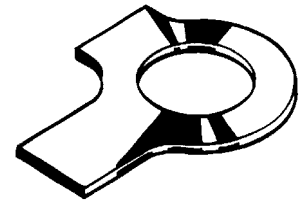
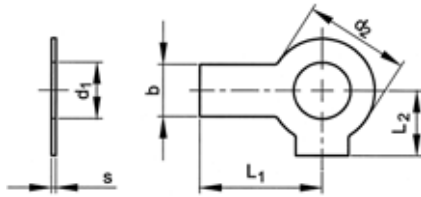
| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M5 *          | 500 | <a href="#">51540.050.001</a> | M14           | 100 | <a href="#">51540.140.001</a> | M24           | 25 | <a href="#">51540.240.001</a> |
| M6            | 100 | <a href="#">51540.060.001</a> | M16           | 100 | <a href="#">51540.160.001</a> | M27           | 25 | <a href="#">51540.270.001</a> |
| M8            | 100 | <a href="#">51540.080.001</a> | M18 *         | 200 | <a href="#">51540.180.001</a> | M30           | 10 | <a href="#">51540.300.001</a> |
| M10           | 100 | <a href="#">51540.100.001</a> | M20           | 50  | <a href="#">51540.200.001</a> | M36 *         | 50 | <a href="#">51540.360.001</a> |
| M12           | 100 | <a href="#">51540.120.001</a> | M22 *         | 100 | <a href="#">51540.220.001</a> | M39 *         | 25 | <a href="#">51540.390.001</a> |

|                  |                                 |   |
|------------------|---------------------------------|---|
| <b>55540</b>     | <b>Tab washer with long tab</b> | <b>R49A</b>   |
| <b>Material</b>  | Stainless steel A4              |  |
| <b>Packaging</b> | Standard                        |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M4 *          | 500 | <a href="#">55540.040.001</a> | M14           | 100 | <a href="#">55540.140.001</a> | M27           | 25 | <a href="#">55540.270.001</a> |
| M6            | 100 | <a href="#">55540.060.001</a> | M16           | 100 | <a href="#">55540.160.001</a> | M30           | 10 | <a href="#">55540.300.001</a> |
| M8            | 100 | <a href="#">55540.080.001</a> | M20           | 50  | <a href="#">55540.200.001</a> | M33           | 10 | <a href="#">55540.330.001</a> |
| M10           | 100 | <a href="#">55540.100.001</a> | M22           | 25  | <a href="#">55540.220.001</a> |               |    |                               |
| M12           | 100 | <a href="#">55540.120.001</a> | M24           | 25  | <a href="#">55540.240.001</a> |               |    |                               |

**Tab washer with long tab and wing**

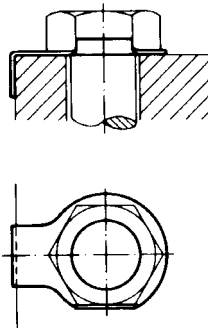
DIN 463  
NEN 2278



**Technical data**

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | s    | b  | L <sub>1</sub> | L <sub>2</sub> |
|--------------|----------------|----------------|------|----|----------------|----------------|
| M4           | 4,3            | 9              | 0,38 | 5  | 14             | 6,5            |
| M5           | 5,3            | 10             | 0,5  | 6  | 16             | 8              |
| M6           | 6,4            | 12,5           | 0,5  | 7  | 18             | 9              |
| M8           | 8,4            | 17             | 0,75 | 8  | 20             | 11             |
| M10          | 10,5           | 21             | 0,75 | 10 | 22             | 13             |
| M12          | 13             | 24             | 1    | 12 | 28             | 15             |
| M14          | 15             | 28             | 1    | 12 | 28             | 16             |
| M16          | 17             | 30             | 1    | 15 | 32             | 18             |
| M18          | 19             | 34             | 1    | 18 | 36             | 20             |
| M20          | 21             | 37             | 1    | 18 | 36             | 21             |
| M22          | 23             | 39             | 1    | 20 | 42             | 23             |
| M24          | 25             | 44             | 1    | 20 | 42             | 25             |
| M27          | 28             | 50             | 1,6  | 23 | 48             | 29             |
| M30          | 31             | 56             | 1,6  | 26 | 52             | 32             |
| M33          | 34             | 60             | 1,6  | 28 | 56             | 34             |
| M36          | 37             | 66             | 1,6  | 30 | 60             | 38             |
| M39          | 40             | 72             | 1,6  | 32 | 64             | 41             |
| M42          | 43             | 78             | 1,6  | 35 | 70             | 44             |

**Example of application**



7

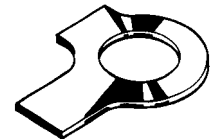
**Article groups**

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St        | Standard  | 38690 | 7-98 |
| St.St. A2 | Standard  | 51910 | 7-99 |
| St.St. A4 | Standard  | 55910 | 7-99 |

**38690 Tab washer with long tab and wing**

L07J

**Material** Steel  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 100 | <a href="#">38690.060.001</a> | M18           | 50 | <a href="#">38690.180.001</a> | M33           | 10 | <a href="#">38690.330.001</a> |
| M8            | 100 | <a href="#">38690.080.001</a> | M20           | 50 | <a href="#">38690.200.001</a> | M36           | 10 | <a href="#">38690.360.001</a> |
| M10           | 100 | <a href="#">38690.100.001</a> | M22           | 25 | <a href="#">38690.220.001</a> | M39           | 10 | <a href="#">38690.390.001</a> |
| M12           | 100 | <a href="#">38690.120.001</a> | M24           | 25 | <a href="#">38690.240.001</a> | M42           | 10 | <a href="#">38690.420.001</a> |
| M14           | 100 | <a href="#">38690.140.001</a> | M27           | 25 | <a href="#">38690.270.001</a> |               |    |                               |
| M16           | 100 | <a href="#">38690.160.001</a> | M30           | 10 | <a href="#">38690.300.001</a> |               |    |                               |

|  |                    |   |
|--|--------------------|---|
| <b>51910 Tab washer with long tab and wing</b> |                    | <b>R09A</b>   |
| <b>Material</b>                                | Stainless steel A2 |   |
| <b>Packaging</b>                               | Standard           |   |
|  |                    |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 100 | <a href="#">51910.060.001</a> | M16           | 50 | <a href="#">51910.160.001</a> | M27           | 25 | <a href="#">51910.270.001</a> |
| M8            | 50  | <a href="#">51910.080.001</a> | M18 *         | 50 | <a href="#">51910.180.001</a> | M30           | 10 | <a href="#">51910.300.001</a> |
| M10           | 50  | <a href="#">51910.100.001</a> | M20           | 50 | <a href="#">51910.200.001</a> | M33           | 10 | <a href="#">51910.330.001</a> |
| M12           | 50  | <a href="#">51910.120.001</a> | M22 *         | 25 | <a href="#">51910.220.001</a> | M36 *         | 10 | <a href="#">51910.360.001</a> |
| M14           | 50  | <a href="#">51910.140.001</a> | M24           | 25 | <a href="#">51910.240.001</a> | M39 *         | 10 | <a href="#">51910.390.001</a> |

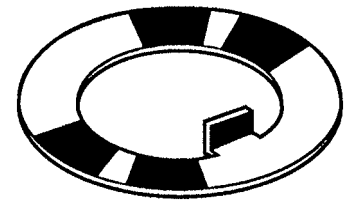
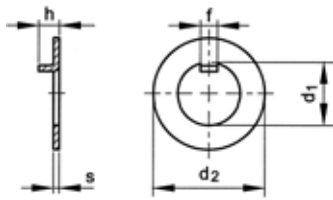
|  |                    |   |
|--|--------------------|---|
| <b>55910 Tab washer with long tab and wing</b> |                    | <b>R49A</b>   |
| <b>Material</b>                                | Stainless steel A4 |   |
| <b>Packaging</b>                               | Standard           |   |
|  |                    |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M4 *          | 100 | <a href="#">55910.040.001</a> | M14           | 50 | <a href="#">55910.140.001</a> | M30           | 10 | <a href="#">55910.300.001</a> |
| M5 *          | 100 | <a href="#">55910.050.001</a> | M16           | 50 | <a href="#">55910.160.001</a> | M33           | 10 | <a href="#">55910.330.001</a> |
| M6            | 100 | <a href="#">55910.060.001</a> | M18 *         | 50 | <a href="#">55910.180.001</a> | M36 *         | 10 | <a href="#">55910.360.001</a> |
| M8            | 50  | <a href="#">55910.080.001</a> | M20           | 50 | <a href="#">55910.200.001</a> | M39 *         | 10 | <a href="#">55910.390.001</a> |
| M10           | 50  | <a href="#">55910.100.001</a> | M24           | 25 | <a href="#">55910.240.001</a> |               |    |                               |
| M12           | 50  | <a href="#">55910.120.001</a> | M27           | 25 | <a href="#">55910.270.001</a> |               |    |                               |



**Internal tab washer**

DIN 462



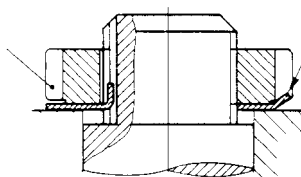
**Technical data**

| d1 (H11) | d2 (h11) | s   | f (C11) | h | n (H11) | t (max.) |
|----------|----------|-----|---------|---|---------|----------|
| 10       | 25       | 0,8 | 4       | 3 | 4       | 7,3      |
| 12       | 28       | 0,8 | 5       | 3 | 5       | 9,2      |
| 14       | 30       | 0,8 | 5       | 3 | 5       | 11,3     |
| 16       | 32       | 1   | 5       | 3 | 5       | 13,4     |
| 18       | 34       | 1   | 6       | 4 | 6       | 15,3     |
| 20       | 36       | 1   | 6       | 4 | 6       | 17,4     |
| 22       | 40       | 1   | 6       | 4 | 6       | 19,4     |
| 24       | 42       | 1   | 6       | 4 | 6       | 21,5     |
| 26       | 45       | 1   | 7       | 5 | 7       | 23,4     |
| 28       | 50       | 1   | 7       | 5 | 7       | 25,4     |
| 30       | 50       | 1,2 | 7       | 5 | 7       | 27,4     |
| 32       | 52       | 1,2 | 7       | 5 | 7       | 29,5     |
| 35       | 55       | 1,2 | 7       | 5 | 7       | 32,5     |
| 38       | 58       | 1,2 | 8       | 5 | 8       | 35,2     |
| 40       | 62       | 1,2 | 8       | 5 | 8       | 37,2     |
| 42       | 62       | 1,2 | 8       | 5 | 8       | 39,2     |
| 45       | 68       | 1,2 | 8       | 5 | 8       | 42,2     |
| 48       | 75       | 1,2 | 8       | 5 | 8       | 45,2     |
| 50       | 75       | 1,2 | 8       | 5 | 8       | 47,2     |
| 55       | 80       | 1,2 | 10      | 6 | 10      | 52,1     |
| 58       | 90       | 1,5 | 10      | 6 | 10      | 55,1     |
| 60       | 90       | 1,5 | 10      | 6 | 10      | 57,1     |
| 62       | 95       | 1,5 | 10      | 6 | 10      | 59,1     |
| 65       | 95       | 1,5 | 10      | 6 | 10      | 62,2     |
| 68       | 100      | 1,5 | 10      | 6 | 10      | 65,2     |
| 70       | 100      | 1,5 | 10      | 6 | 10      | 67,2     |
| 72       | 110      | 1,5 | 10      | 7 | 10      | 68,7     |
| 75       | 110      | 1,5 | 10      | 7 | 10      | 71,7     |
| 80       | 115      | 1,5 | 10      | 7 | 10      | 76,7     |
| 85       | 120      | 1,5 | 10      | 7 | 10      | 81,7     |
| 90       | 130      | 1,5 | 10      | 7 | 10      | 86,7     |
| 95       | 135      | 1,5 | 12      | 8 | 12      | 91,6     |
| 100      | 145      | 1,5 | 12      | 8 | 12      | 96,7     |

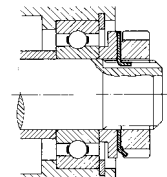
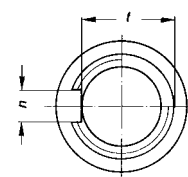
7

**Example of application / Assembly data**

slotted round nut for hookspanners acc. to DIN 1804W



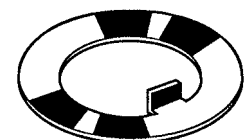
internal tab washer acc. to DIN 462



**38684 Internal tab washer**

L07J

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

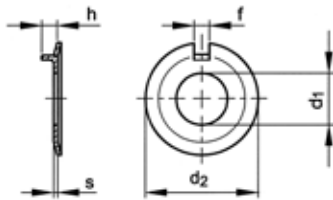
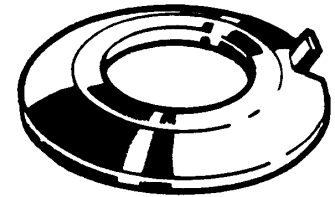


| d1   | ☒   | Art.number                    | d1   | ☒  | Art.number                    | d1   | ☒  | Art.number                    |
|------|-----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| 10MM | 100 | <a href="#">38684.100.001</a> | 20MM | 50 | <a href="#">38684.200.001</a> | 30MM | 25 | <a href="#">38684.300.001</a> |
| 12MM | 100 | <a href="#">38684.120.001</a> | 22MM | 50 | <a href="#">38684.220.001</a> | 32MM | 25 | <a href="#">38684.320.001</a> |
| 14MM | 50  | <a href="#">38684.140.001</a> | 24MM | 25 | <a href="#">38684.240.001</a> | 35MM | 25 | <a href="#">38684.350.001</a> |
| 16MM | 50  | <a href="#">38684.160.001</a> | 26MM | 25 | <a href="#">38684.260.001</a> | 38MM | 25 | <a href="#">38684.380.001</a> |
| 18MM | 50  | <a href="#">38684.180.001</a> | 28MM | 25 | <a href="#">38684.280.001</a> | 40MM | 25 | <a href="#">38684.400.001</a> |

**38684 Internal tab washer** ←

| d1   | ☒  | Art.number                    | d1   | ☒ | Art.number                    | d1    | ☒ | Art.number                    |
|------|----|-------------------------------|------|---|-------------------------------|-------|---|-------------------------------|
| 42MM | 25 | <a href="#">38684.420.001</a> | 60MM | 5 | <a href="#">38684.600.001</a> | 75MM  | 5 | <a href="#">38684.750.001</a> |
| 45MM | 25 | <a href="#">38684.450.001</a> | 62MM | 5 | <a href="#">38684.620.001</a> | 80MM  | 5 | <a href="#">38684.800.001</a> |
| 48MM | 25 | <a href="#">38684.480.001</a> | 65MM | 5 | <a href="#">38684.650.001</a> | 85MM  | 5 | <a href="#">38684.850.001</a> |
| 50MM | 25 | <a href="#">38684.500.001</a> | 68MM | 5 | <a href="#">38684.680.001</a> | 90MM  | 5 | <a href="#">38684.900.001</a> |
| 55MM | 25 | <a href="#">38684.550.001</a> | 70MM | 5 | <a href="#">38684.700.001</a> | 95MM  | 5 | <a href="#">38684.950.001</a> |
| 58MM | 25 | <a href="#">38684.580.001</a> | 72MM | 5 | <a href="#">38684.720.001</a> | 100MM | 5 | <a href="#">38684.982.001</a> |

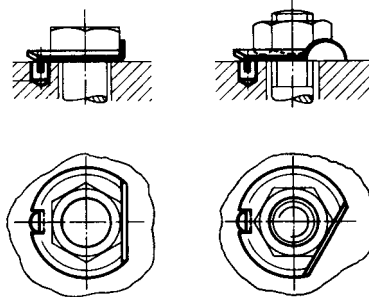
## External tab washer


 DIN 432  
 NEN 2279


### Technical data

| Nom.size shaft d1 | d <sub>1</sub> | d <sub>2</sub> | s    | f   | h ≈  |
|-------------------|----------------|----------------|------|-----|------|
| M6                | 6,4            | 19             | 0,75 | 3,5 | 3    |
| M8                | 8,4            | 22             | 1    | 3,5 | 4    |
| M10               | 10,5           | 26             | 1    | 4,5 | 4    |
| M12               | 13             | 30             | 1,2  | 4,5 | 4,5  |
| M14               | 15             | 33             | 1,2  | 4,5 | 4,5  |
| M16               | 17             | 36             | 1,2  | 5,5 | 4,5  |
| M18               | 19             | 40             | 1,2  | 6,5 | 4,5  |
| M20               | 21             | 42             | 1,6  | 6,5 | 4,5  |
| M22               | 23             | 50             | 1,6  | 7,5 | 6,5  |
| M24               | 25             | 50             | 1,6  | 7,5 | 6,5  |
| M27               | 28             | 58             | 1,6  | 8,5 | 9,5  |
| M30               | 31             | 63             | 1,6  | 8,5 | 9,5  |
| M33               | 34             | 68             | 1,6  | 9,5 | 9,5  |
| M36               | 37             | 75             | 2    | 11  | 9,5  |
| M39               | 40             | 82             | 2    | 11  | 11   |
| M42               | 43             | 88             | 2    | 11  | 11   |
| M45               | 46             | 95             | 2    | 13  | 12   |
| M48               | 50             | 100            | 2    | 13  | 13   |
| M52               | 54             | 105            | 2    | 13  | 13   |
| M56               | 58             | 112            | 2,5  | 16  | 14   |
| M60               | 62             | 118            | 2,5  | 16  | 13,5 |
| M64               | 66             | 125            | 2,5  | 18  | 13,5 |

### Example of application



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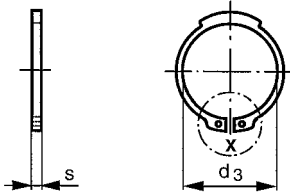
### 38670 External tab washer

L07J

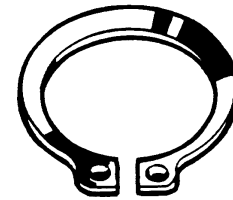
 Material Steel  
 Packaging Standard


| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 100 | <a href="#">38670.060.001</a> | M22           | 50 | <a href="#">38670.220.001</a> | M45           | 10 | <a href="#">38670.450.001</a> |
| M8            | 100 | <a href="#">38670.080.001</a> | M24           | 25 | <a href="#">38670.240.001</a> | M48           | 10 | <a href="#">38670.480.001</a> |
| M10           | 100 | <a href="#">38670.100.001</a> | M27           | 25 | <a href="#">38670.270.001</a> | M52           | 10 | <a href="#">38670.520.001</a> |
| M12           | 100 | <a href="#">38670.120.001</a> | M30           | 10 | <a href="#">38670.300.001</a> | M56           | 5  | <a href="#">38670.560.001</a> |
| M14           | 100 | <a href="#">38670.140.001</a> | M33           | 10 | <a href="#">38670.330.001</a> | M60           | 5  | <a href="#">38670.600.001</a> |
| M16           | 100 | <a href="#">38670.160.001</a> | M36           | 10 | <a href="#">38670.360.001</a> | M64           | 5  | <a href="#">38670.640.001</a> |
| M18           | 50  | <a href="#">38670.180.001</a> | M39           | 10 | <a href="#">38670.390.001</a> |               |    |                               |
| M20           | 50  | <a href="#">38670.200.001</a> | M42           | 10 | <a href="#">38670.420.001</a> |               |    |                               |

## Retaining ring for shaft - normal type



DIN 471  
 NF E22-163  
 BS 3673-4



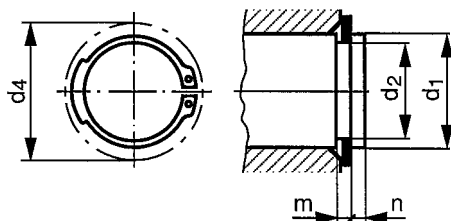
### Technical data

| Nom.size shaft d1 | Ring s | Ring d <sub>3</sub> | Ring d <sub>4</sub> | Groove d <sub>2</sub> | Groove m (H13) | Groove n (min.) |
|-------------------|--------|---------------------|---------------------|-----------------------|----------------|-----------------|
| 3                 | 0,4    | 2,7                 | 7                   | 2,8                   | 0,5            | 0,3             |
| 4                 | 0,4    | 3,7                 | 8,6                 | 3,8                   | 0,5            | 0,3             |
| 5                 | 0,6    | 4,7                 | 10,3                | 4,8                   | 0,7            | 0,3             |
| 6                 | 0,7    | 5,6                 | 11,7                | 5,7                   | 0,8            | 0,5             |
| 7                 | 0,8    | 6,5                 | 13,5                | 6,7                   | 0,9            | 0,5             |
| 8                 | 0,8    | 7,4                 | 14,7                | 7,6                   | 0,9            | 0,6             |
| 9                 | 1      | 8,4                 | 16                  | 8,6                   | 1,1            | 0,6             |
| 10                | 1      | 9,3                 | 17                  | 9,6                   | 1,1            | 0,6             |
| 11                | 1      | 10,2                | 18                  | 10,5                  | 1,1            | 0,8             |
| 12                | 1      | 11                  | 19                  | 11,5                  | 1,1            | 0,8             |
| 13                | 1      | 11,9                | 20,2                | 12,4                  | 1,1            | 0,9             |
| 14                | 1      | 12,9                | 21,4                | 13,4                  | 1,1            | 0,9             |
| 15                | 1      | 13,8                | 22,6                | 14,3                  | 1,1            | 1,1             |
| 16                | 1      | 14,7                | 23,8                | 15,2                  | 1,1            | 1,2             |
| 17                | 1      | 15,7                | 25                  | 16,2                  | 1,1            | 1,2             |
| 18                | 1,2    | 16,5                | 26,2                | 17                    | 1,3            | 1,5             |
| 19                | 1,2    | 17,5                | 27,2                | 18                    | 1,3            | 1,5             |
| 20                | 1,2    | 18,5                | 28,4                | 19                    | 1,3            | 1,5             |
| 21                | 1,2    | 19,5                | 29,6                | 20                    | 1,3            | 1,5             |
| 22                | 1,2    | 20,5                | 30,8                | 21                    | 1,3            | 1,5             |
| 23 (#DIN)         | 1,2    | 21,5                | 31                  | 22                    | 1,3            | 1,5             |
| 24                | 1,2    | 22,2                | 33,2                | 22,9                  | 1,3            | 1,7             |
| 25                | 1,2    | 23,2                | 34,2                | 23,9                  | 1,3            | 1,7             |
| 26                | 1,2    | 24,2                | 35,5                | 24,6                  | 1,3            | 1,7             |
| 27 (#DIN)         | 1,2    | 24,9                | 35,4                | 25,9                  | 1,3            | 2,1             |
| 28                | 1,5    | 25,9                | 37,9                | 26,6                  | 1,6            | 2,1             |
| 29                | 1,5    | 26,9                | 39,1                | 27,6                  | 1,6            | 2,1             |
| 30                | 1,5    | 27,9                | 40,5                | 28,6                  | 1,6            | 2,1             |
| 31 (#DIN)         | 1,5    | 28,6                | 40,3                | 29,3                  | 1,6            | 2,6             |
| 32                | 1,5    | 29,6                | 43                  | 30,3                  | 1,6            | 2,6             |
| 33 (#DIN)         | 1,5    | 30,5                | 43,4                | 31,3                  | 1,6            | 2,6             |
| 34                | 1,5    | 31,5                | 45,4                | 32,3                  | 1,6            | 2,6             |
| 35                | 1,5    | 32,2                | 46,8                | 33                    | 1,6            | 3               |
| 36                | 1,75   | 33,2                | 47,8                | 34                    | 1,85           | 3               |
| 37 (#DIN)         | 1,75   | 34,2                | 48                  | 35                    | 1,85           | 3               |
| 38                | 1,75   | 35,2                | 50,2                | 36                    | 1,85           | 3               |
| 39 (#DIN)         | 1,75   | 36                  | 50,2                | 37                    | 1,85           | 3               |
| 40                | 1,75   | 36,5                | 52,6                | 37,5                  | 1,85           | 3,8             |
| 42                | 1,75   | 38,5                | 55,7                | 39,5                  | 1,85           | 3,8             |
| 44 (#DIN)         | 1,75   | 40,5                | 56                  | 41,5                  | 1,85           | 3,8             |
| 45                | 1,75   | 41,5                | 59,1                | 42,5                  | 1,85           | 3,8             |
| 46                | 1,75   | 42,5                | 60,2                | 43,5                  | 1,85           | 3,8             |
| 47 (#DIN)         | 1,75   | 43,5                | 61,3                | 44,5                  | 1,85           | 3,8             |
| 48                | 1,75   | 44,5                | 62,5                | 45,5                  | 1,85           | 3,8             |
| 50                | 2      | 45,8                | 64,5                | 47                    | 2,15           | 4,5             |
| 52                | 2      | 47,8                | 66,7                | 49                    | 2,15           | 4,5             |
| 54 (#DIN)         | 2      | 49,8                | 67                  | 51                    | 2,15           | 4,5             |
| 55                | 2      | 50,8                | 70,2                | 52                    | 2,15           | 4,5             |
| 56                | 2      | 51,8                | 71,6                | 53                    | 2,15           | 4,5             |
| 57 (#DIN)         | 2      | 52,8                | 70                  | 54                    | 2,15           | 4,5             |
| 58                | 2      | 53,8                | 73,6                | 55                    | 2,15           | 4,5             |
| 60                | 2      | 55,8                | 75,6                | 57                    | 2,15           | 4,5             |
| 62                | 2      | 57,8                | 77,8                | 59                    | 2,15           | 4,5             |
| 63                | 2      | 58,8                | 79                  | 60                    | 2,15           | 4,5             |
| 65                | 2,5    | 60,8                | 81,4                | 62                    | 2,65           | 4,5             |
| 67 (#DIN)         | 2,5    | 62,5                | 82                  | 64                    | 2,65           | 4,5             |
| 68                | 2,5    | 63,5                | 84,8                | 65                    | 2,65           | 4,5             |
| 70                | 2,5    | 65,5                | 87                  | 67                    | 2,65           | 4,5             |
| 72                | 2,5    | 67,5                | 89,2                | 69                    | 2,65           | 4,5             |

| Nom.size shaft d1 | Ring s | Ring d <sub>3</sub> | Ring d <sub>4</sub> | Groove d <sub>2</sub> | Groove m (H13) | Groove n (min.) |
|-------------------|--------|---------------------|---------------------|-----------------------|----------------|-----------------|
| 75                | 2,5    | 70,5                | 92,7                | 72                    | 2,65           | 4,5             |
| 77 (#DIN)         | 2,5    | 72,5                | 94                  | 74                    | 2,65           | 4,5             |
| 78                | 2,5    | 73,5                | 96,1                | 75                    | 2,65           | 4,5             |
| 80                | 2,5    | 74,5                | 98,1                | 76,5                  | 2,65           | 5,3             |
| 82                | 2,5    | 76,5                | 100,3               | 78,5                  | 2,65           | 5,3             |
| 85                | 3      | 79,5                | 103,3               | 81,5                  | 3,15           | 5,3             |
| 87 (#DIN)         | 3      | 81,5                | 104                 | 83,5                  | 3,15           | 5,3             |
| 88                | 3      | 82,5                | 106,5               | 84,5                  | 3,15           | 5,3             |
| 90                | 3      | 84,5                | 108,5               | 86,5                  | 3,15           | 5,3             |
| 92 (#DIN)         | 3      | 86,5                | 111                 | 88,5                  | 3,15           | 5,3             |
| 95                | 3      | 89,5                | 114,8               | 91,5                  | 3,15           | 5,3             |
| 97 (#DIN)         | 3      | 91,5                | 116                 | 93,5                  | 3,15           | 5,3             |
| 98 (#DIN)         | 3      | 92,5                | 117                 | 94,5                  | 3,15           | 5,3             |
| 100               | 3      | 94,5                | 120,2               | 96,5                  | 3,15           | 5,3             |
| 105               | 4      | 98                  | 125,8               | 101                   | 4,15           | 6               |
| 110               | 4      | 103                 | 131,2               | 106                   | 4,15           | 6               |
| 115               | 4      | 108                 | 137,3               | 111                   | 4,15           | 6               |
| 120               | 4      | 113                 | 143,1               | 116                   | 4,15           | 6               |
| 125               | 4      | 118                 | 149                 | 121                   | 4,15           | 6               |
| 130               | 4      | 123                 | 154,4               | 126                   | 4,15           | 6               |
| 135               | 4      | 128                 | 159,8               | 131                   | 4,15           | 6               |
| 140               | 4      | 133                 | 165,2               | 136                   | 4,15           | 6               |
| 145               | 4      | 138                 | 170,6               | 141                   | 4,15           | 6               |
| 150               | 4      | 142                 | 177,3               | 145                   | 4,15           | 7,5             |
| 155               | 4      | 146                 | 182,3               | 150                   | 4,15           | 7,5             |
| 160               | 4      | 151                 | 188                 | 155                   | 4,15           | 7,5             |
| 165               | 4      | 155,5               | 193,4               | 160                   | 4,15           | 7,5             |
| 170               | 4      | 160,5               | 198,4               | 165                   | 4,15           | 7,5             |
| 175               | 4      | 165,5               | 203,4               | 170                   | 4,15           | 7,5             |
| 180               | 4      | 170,5               | 210                 | 175                   | 4,15           | 7,5             |
| 185               | 4      | 175,5               | 215                 | 180                   | 4,15           | 7,5             |
| 190               | 4      | 180,5               | 220                 | 185                   | 4,15           | 7,5             |
| 195               | 4      | 185,5               | 225                 | 190                   | 4,15           | 7,5             |
| 200               | 4      | 190,5               | 230                 | 195                   | 4,15           | 7,5             |
| 210               | 5      | 198                 | 240                 | 204                   | 5,15           | 9               |
| 220               | 5      | 208                 | 250                 | 214                   | 5,15           | 9               |
| 230               | 5      | 218                 | 260                 | 224                   | 5,15           | 9               |
| 240               | 5      | 228                 | 270                 | 234                   | 5,15           | 9               |
| 250               | 5      | 238                 | 280                 | 244                   | 5,15           | 9               |
| 260               | 5      | 245                 | 294                 | 252                   | 5,15           | 12              |
| 270               | 5      | 255                 | 304                 | 262                   | 5,15           | 12              |
| 280               | 5      | 265                 | 314                 | 272                   | 5,15           | 12              |
| 290               | 5      | 275                 | 324                 | 282                   | 5,15           | 12              |
| 300               | 5      | 285                 | 334                 | 292                   | 5,15           | 12              |

7

- Depending on availability the phosphated type can be supplied. The heavy type is only available on request.
- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



| DETAIL X               |                               |                           |
|------------------------|-------------------------------|---------------------------|
| d <sub>1</sub> ≤ 9 mm. | d <sub>1</sub> > 9 ≤ 300mm. ① | d <sub>1</sub> ≥ 170mm. ① |
|                        |                               |                           |

① At the manufacturer's discretion

### Article groups

| Material              | Packaging | Code  | Page  |
|-----------------------|-----------|-------|-------|
| Spring steel DIN17222 | Standard  | 36000 | 7-105 |
| St.St.                | Standard  | 51435 | 7-105 |

|   |                       |   |
|---|-----------------------|---|
| <b>36000 Retaining ring for shaft - normal type</b> |                       | <b>L07A</b>   |
| <b>Material</b>                                     | Spring steel DIN17222 |   |
| <b>Packaging</b>                                    | Standard              |   |
|   |                       |  |

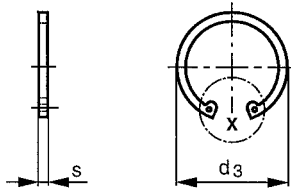
| Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒ | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|---|-------------------------------|
| 3MM                | 500 | <a href="#">36000.003.001</a> | 38MM               | 100 | <a href="#">36000.038.001</a> | 97MM               | 5 | <a href="#">36000.097.001</a> |
| 4MM                | 500 | <a href="#">36000.004.001</a> | 39MM               | 100 | <a href="#">36000.039.001</a> | 98MM               | 5 | <a href="#">36000.098.001</a> |
| 5MM                | 500 | <a href="#">36000.005.001</a> | 40MM               | 50  | <a href="#">36000.040.001</a> | 100MM              | 5 | <a href="#">36000.100.001</a> |
| 6MM                | 500 | <a href="#">36000.006.001</a> | 42MM               | 50  | <a href="#">36000.042.001</a> | 105MM              | 5 | <a href="#">36000.105.001</a> |
| 7MM                | 500 | <a href="#">36000.007.001</a> | 44MM               | 50  | <a href="#">36000.044.001</a> | 110MM              | 5 | <a href="#">36000.110.001</a> |
| 8MM                | 250 | <a href="#">36000.008.001</a> | 45MM               | 50  | <a href="#">36000.045.001</a> | 115MM              | 5 | <a href="#">36000.115.001</a> |
| 9MM                | 250 | <a href="#">36000.009.001</a> | 46MM               | 50  | <a href="#">36000.046.001</a> | 120MM              | 5 | <a href="#">36000.120.001</a> |
| 10MM               | 250 | <a href="#">36000.010.001</a> | 47MM               | 50  | <a href="#">36000.047.001</a> | 125MM              | 5 | <a href="#">36000.125.001</a> |
| 11MM               | 250 | <a href="#">36000.011.001</a> | 48MM               | 50  | <a href="#">36000.048.001</a> | 130MM              | 5 | <a href="#">36000.130.001</a> |
| 12MM               | 250 | <a href="#">36000.012.001</a> | 50MM               | 50  | <a href="#">36000.050.001</a> | 135MM              | 5 | <a href="#">36000.135.001</a> |
| 13MM               | 100 | <a href="#">36000.013.001</a> | 52MM               | 50  | <a href="#">36000.052.001</a> | 140MM              | 5 | <a href="#">36000.140.001</a> |
| 14MM               | 100 | <a href="#">36000.014.001</a> | 54MM               | 25  | <a href="#">36000.054.001</a> | 145MM              | 5 | <a href="#">36000.145.001</a> |
| 15MM               | 100 | <a href="#">36000.015.001</a> | 55MM               | 25  | <a href="#">36000.055.001</a> | 150MM              | 3 | <a href="#">36000.150.001</a> |
| 16MM               | 100 | <a href="#">36000.016.001</a> | 56MM               | 25  | <a href="#">36000.056.001</a> | 155MM              | 3 | <a href="#">36000.155.001</a> |
| 17MM               | 100 | <a href="#">36000.017.001</a> | 57MM               | 25  | <a href="#">36000.057.001</a> | 160MM              | 3 | <a href="#">36000.160.001</a> |
| 18MM               | 100 | <a href="#">36000.018.001</a> | 58MM               | 25  | <a href="#">36000.058.001</a> | 165MM              | 3 | <a href="#">36000.165.001</a> |
| 19MM               | 100 | <a href="#">36000.019.001</a> | 60MM               | 25  | <a href="#">36000.060.001</a> | 170MM              | 3 | <a href="#">36000.170.001</a> |
| 20MM               | 100 | <a href="#">36000.020.001</a> | 62MM               | 25  | <a href="#">36000.062.001</a> | 175MM              | 2 | <a href="#">36000.175.001</a> |
| 21MM               | 100 | <a href="#">36000.021.001</a> | 63MM               | 25  | <a href="#">36000.063.001</a> | 180MM              | 2 | <a href="#">36000.180.001</a> |
| 22MM               | 100 | <a href="#">36000.022.001</a> | 65MM               | 10  | <a href="#">36000.065.001</a> | 185MM              | 2 | <a href="#">36000.185.001</a> |
| 23MM               | 100 | <a href="#">36000.023.001</a> | 67MM               | 10  | <a href="#">36000.067.001</a> | 190MM              | 2 | <a href="#">36000.190.001</a> |
| 24MM               | 100 | <a href="#">36000.024.001</a> | 68MM               | 10  | <a href="#">36000.068.001</a> | 195MM              | 2 | <a href="#">36000.195.001</a> |
| 25MM               | 100 | <a href="#">36000.025.001</a> | 70MM               | 10  | <a href="#">36000.070.001</a> | 200MM              | 2 | <a href="#">36000.200.001</a> |
| 26MM               | 100 | <a href="#">36000.026.001</a> | 72MM               | 10  | <a href="#">36000.072.001</a> | 210MM              | 2 | <a href="#">36000.210.001</a> |
| 27MM               | 100 | <a href="#">36000.027.001</a> | 75MM               | 10  | <a href="#">36000.075.001</a> | 220MM              | 2 | <a href="#">36000.220.001</a> |
| 28MM               | 100 | <a href="#">36000.028.001</a> | 77MM               | 10  | <a href="#">36000.077.001</a> | 230MM              | 2 | <a href="#">36000.230.001</a> |
| 29MM               | 100 | <a href="#">36000.029.001</a> | 78MM               | 10  | <a href="#">36000.078.001</a> | 240MM              | 2 | <a href="#">36000.240.001</a> |
| 30MM               | 100 | <a href="#">36000.030.001</a> | 80MM               | 10  | <a href="#">36000.080.001</a> | 250MM              | 2 | <a href="#">36000.250.001</a> |
| 31MM               | 100 | <a href="#">36000.031.001</a> | 82MM               | 10  | <a href="#">36000.082.001</a> | 260MM              | 2 | <a href="#">36000.260.001</a> |
| 32MM               | 100 | <a href="#">36000.032.001</a> | 85MM               | 5   | <a href="#">36000.085.001</a> | 270MM              | 2 | <a href="#">36000.270.001</a> |
| 33MM               | 100 | <a href="#">36000.033.001</a> | 87MM               | 5   | <a href="#">36000.087.001</a> | 280MM              | 2 | <a href="#">36000.280.001</a> |
| 34MM               | 100 | <a href="#">36000.034.001</a> | 88MM               | 5   | <a href="#">36000.088.001</a> | 290MM              | 2 | <a href="#">36000.290.001</a> |
| 35MM               | 100 | <a href="#">36000.035.001</a> | 90MM               | 5   | <a href="#">36000.090.001</a> | 300MM              | 2 | <a href="#">36000.300.001</a> |
| 36MM               | 100 | <a href="#">36000.036.001</a> | 92MM               | 5   | <a href="#">36000.092.001</a> |                    |   |                               |
| 37MM               | 100 | <a href="#">36000.037.001</a> | 95MM               | 5   | <a href="#">36000.095.001</a> |                    |   |                               |

|   |                      |   |
|---|----------------------|---|
| <b>51435 Retaining ring for shaft - normal type</b> |                      | <b>R09A</b>   |
| <b>Material</b>                                     | Stainless steel      |   |
| <b>Packaging</b>                                    | Standard<br>DIN ≈471 |   |
|   |                      |  |

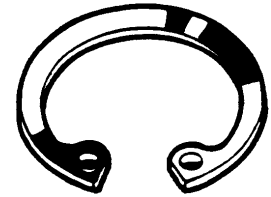
| Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒  | Art.number                    | Nom. size shaft d1 | ☒  | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|----|-------------------------------|--------------------|----|-------------------------------|
| 4MM                | 200 | <a href="#">51435.004.001</a> | 20MM               | 50 | <a href="#">51435.020.001</a> | 42MM               | 10 | <a href="#">51435.042.001</a> |
| 5MM                | 200 | <a href="#">51435.005.001</a> | 21MM               | 50 | <a href="#">51435.021.001</a> | 45MM               | 10 | <a href="#">51435.045.001</a> |
| 6MM                | 200 | <a href="#">51435.006.001</a> | 22MM               | 50 | <a href="#">51435.022.001</a> | 47MM               | 10 | <a href="#">51435.047.001</a> |
| 7MM                | 200 | <a href="#">51435.007.001</a> | 23MM               | 50 | <a href="#">51435.023.001</a> | 48MM               | 10 | <a href="#">51435.048.001</a> |
| 8MM                | 100 | <a href="#">51435.008.001</a> | 24MM               | 50 | <a href="#">51435.024.001</a> | 50MM               | 5  | <a href="#">51435.050.001</a> |
| 9MM                | 100 | <a href="#">51435.009.001</a> | 25MM               | 25 | <a href="#">51435.025.001</a> | 52MM               | 5  | <a href="#">51435.052.001</a> |
| 10MM               | 100 | <a href="#">51435.010.001</a> | 26MM               | 25 | <a href="#">51435.026.001</a> | 55MM               | 5  | <a href="#">51435.055.001</a> |
| 11MM               | 100 | <a href="#">51435.011.001</a> | 27MM               | 25 | <a href="#">51435.027.001</a> | 60MM               | 5  | <a href="#">51435.060.001</a> |
| 12MM               | 100 | <a href="#">51435.012.001</a> | 28MM               | 25 | <a href="#">51435.028.001</a> | 65MM               | 5  | <a href="#">51435.065.001</a> |
| 13MM               | 50  | <a href="#">51435.013.001</a> | 30MM               | 25 | <a href="#">51435.030.001</a> | 70MM               | 5  | <a href="#">51435.070.001</a> |
| 14MM               | 50  | <a href="#">51435.014.001</a> | 32MM               | 25 | <a href="#">51435.032.001</a> | 75MM               | 5  | <a href="#">51435.075.001</a> |
| 15MM               | 50  | <a href="#">51435.015.001</a> | 34MM               | 25 | <a href="#">51435.034.001</a> | 80MM               | 5  | <a href="#">51435.080.001</a> |
| 16MM               | 50  | <a href="#">51435.016.001</a> | 35MM               | 25 | <a href="#">51435.035.001</a> | 85MM               | 1  | <a href="#">51435.085.001</a> |
| 17MM               | 50  | <a href="#">51435.017.001</a> | 36MM               | 25 | <a href="#">51435.036.001</a> | 90MM               | 1  | <a href="#">51435.090.001</a> |
| 18MM               | 50  | <a href="#">51435.018.001</a> | 38MM               | 25 | <a href="#">51435.038.001</a> | 95MM               | 1  | <a href="#">51435.095.001</a> |
| 19MM               | 50  | <a href="#">51435.019.001</a> | 40MM               | 10 | <a href="#">51435.040.001</a> | 100MM              | 1  | <a href="#">51435.100.001</a> |

- Stainless steel circlips are made of martensitic stainless steel.
- In assemblies it is essential to use assembly pliers with a screw for limitation the opening-closing of the ring.
- Furthermore it is advisable to apply a minimum on clamping on the shaft or housing if the application permits it.
- Also avoid contact with chloride containing liquids (cleaning) to reduce the risk of 'stress corrosion cracking'.

## Retaining ring for bores - normal type



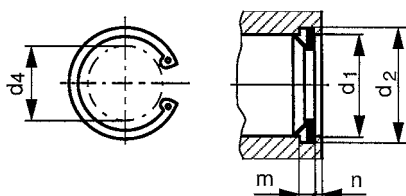
DIN 472  
 NF E22-165  
 BS 3673-4






### Technical data

| Nom.size bore d1 | Ring s | Ring d <sub>3</sub> | Ring d <sub>4</sub> | Groove d <sub>2</sub> | Groove m (H13) | Groove n (min.) |
|------------------|--------|---------------------|---------------------|-----------------------|----------------|-----------------|
| 8                | 0,8    | 8,7                 | 3                   | 8,4                   | 0,9            | 0,6             |
| 9                | 0,8    | 9,8                 | 3,7                 | 9,4                   | 0,9            | 0,6             |
| 10               | 1      | 10,8                | 3,3                 | 10,4                  | 1,1            | 0,6             |
| 11               | 1      | 11,8                | 4,1                 | 11,4                  | 1,1            | 0,6             |
| 12               | 1      | 13                  | 4,9                 | 12,5                  | 1,1            | 0,8             |
| 13               | 1      | 14,1                | 5,4                 | 13,6                  | 1,1            | 0,9             |
| 14               | 1      | 15,1                | 6,2                 | 14,6                  | 1,1            | 0,9             |
| 15               | 1      | 16,2                | 7,2                 | 15,7                  | 1,1            | 1,1             |
| 16               | 1      | 17,3                | 8                   | 16,8                  | 1,1            | 1,2             |
| 17               | 1      | 18,3                | 8,8                 | 17,8                  | 1,1            | 1,2             |
| 18               | 1      | 19,5                | 9,4                 | 19                    | 1,1            | 1,5             |
| 19               | 1      | 20,5                | 10,4                | 20                    | 1,1            | 1,5             |
| 20               | 1      | 21,5                | 11,2                | 21                    | 1,1            | 1,5             |
| 21               | 1      | 22,5                | 12,2                | 22                    | 1,1            | 1,5             |
| 22               | 1      | 23,5                | 13,2                | 23                    | 1,1            | 1,5             |
| 23 (#DIN)        | 1,2    | 24,6                | 15,4                | 24,1                  | 1,3            | 1,7             |
| 24               | 1,2    | 25,9                | 14,8                | 25,2                  | 1,3            | 1,8             |
| 25               | 1,2    | 26,9                | 15,5                | 26,2                  | 1,3            | 1,8             |
| 26               | 1,2    | 27,9                | 16,1                | 27,2                  | 1,3            | 1,8             |
| 27 (#DIN)        | 1,2    | 29,1                | 18,2                | 28,4                  | 1,3            | 2,1             |
| 28               | 1,2    | 30,1                | 17,9                | 29,4                  | 1,3            | 2,1             |
| 29 (#DIN)        | 1,2    | 31,1                | 19,6                | 30,4                  | 1,3            | 2,1             |
| 30               | 1,2    | 32,1                | 19,9                | 31,4                  | 1,3            | 2,1             |
| 31               | 1,2    | 33,4                | 20                  | 32,7                  | 1,3            | 2,6             |
| 32               | 1,2    | 34,4                | 20,6                | 33,7                  | 1,3            | 2,6             |
| 33 (#DIN)        | 1,2    | 35,5                | 22,2                | 34,7                  | 1,3            | 2,6             |
| 34               | 1,5    | 36,5                | 22,6                | 35,7                  | 1,6            | 2,6             |
| 35               | 1,5    | 37,8                | 23,6                | 37                    | 1,6            | 3               |
| 36               | 1,5    | 38,8                | 24,6                | 38                    | 1,6            | 3               |
| 37               | 1,5    | 39,8                | 25,4                | 39                    | 1,6            | 3               |
| 38               | 1,5    | 40,8                | 26,4                | 40                    | 1,6            | 3               |
| 39 (#DIN)        | 1,5    | 42                  | 28,6                | 41                    | 1,6            | 3               |
| 40               | 1,75   | 43,5                | 27,8                | 42,5                  | 1,85           | 3,8             |
| 41 (#DIN)        | 1,75   | 44,5                | 29                  | 43,5                  | 1,85           | 3,8             |
| 42               | 1,75   | 45,5                | 29,6                | 44,5                  | 1,85           | 3,8             |
| 43 (#DIN)        | 1,75   | 46,5                | -                   | 45,5                  | 1,85           | 3,8             |
| 44 (#DIN)        | 1,75   | 47,5                | 32                  | 46,5                  | 1,85           | 3,8             |
| 45               | 1,75   | 48,5                | 32                  | 47,5                  | 1,85           | 3,8             |
| 46 (#DIN)        | 1,75   | 49,5                | 34,6                | 48,5                  | 1,85           | 3,8             |
| 47               | 1,75   | 50,5                | 33,5                | 49,5                  | 1,85           | 3,8             |
| 48               | 1,75   | 51,5                | 34,5                | 50,5                  | 1,85           | 3,8             |
| 50               | 2      | 54,2                | 36,3                | 53                    | 2,15           | 4,5             |
| 52               | 2      | 56,2                | 37,9                | 55                    | 2,15           | 4,5             |
| 53 (#DIN)        | 2      | 57,2                | 40                  | 56                    | 2,15           | 4,5             |
| 54               | 2      | 58,2                | 41                  | 57                    | 2,15           | 4,5             |
| 55               | 2      | 59,2                | 40,7                | 58                    | 2,15           | 4,5             |
| 56               | 2      | 60,2                | 41,7                | 59                    | 2,15           | 4,5             |
| 57 (#DIN)        | 2      | 61,2                | 44                  | 60                    | 2,15           | 4,5             |
| 58               | 2      | 62,2                | 43,5                | 61                    | 2,15           | 4,5             |
| 60               | 2      | 64,2                | 44,7                | 63                    | 2,15           | 4,5             |
| 62               | 2      | 66,2                | 46,7                | 65                    | 2,15           | 4,5             |
| 63               | 2      | 67,2                | 47,7                | 66                    | 2,15           | 4,5             |
| 64 (#DIN)        | 2      | 68,2                | 48,7                | 67                    | 2,65           | 4,5             |
| 65               | 2,5    | 69,2                | 49                  | 68                    | 2,65           | 4,5             |
| 67 (#DIN)        | 2,5    | 71,5                | 52                  | 70                    | 2,65           | 4,5             |
| 68               | 2,5    | 72,5                | 51,6                | 71                    | 2,65           | 4,5             |
| 70               | 2,5    | 74,5                | 53,6                | 73                    | 2,65           | 4,5             |
| 72               | 2,5    | 76,5                | 55,6                | 75                    | 2,65           | 4,5             |
| 75               | 2,5    | 79,5                | 58,6                | 78                    | 2,65           | 4,5             |

| Nom.size bore d1 | Ring s | Ring d <sub>3</sub> | Ring d <sub>4</sub> | Groove d <sub>2</sub> | Groove m (H13) | Groove n (min.) |
|------------------|--------|---------------------|---------------------|-----------------------|----------------|-----------------|
| 77 (#DIN)        | 2,5    | 81,5                | 62                  | 80                    | 2,65           | 4,5             |
| 78               | 2,5    | 82,5                | 60,1                | 81                    | 2,65           | 4,5             |
| 80               | 2,5    | 85,5                | 62,1                | 83,5                  | 2,65           | 5,3             |
| 82               | 2,5    | 87,5                | 64,1                | 85,5                  | 2,65           | 5,3             |
| 85               | 3      | 90,5                | 66,9                | 88,5                  | 3,15           | 5,3             |
| 87 (#DIN)        | 3      | 92,5                | 69,8                | 90,5                  | 3,15           | 5,3             |
| 88               | 3      | 93,5                | 69,9                | 91,5                  | 3,15           | 5,3             |
| 90               | 3      | 95,5                | 71,9                | 93,5                  | 3,15           | 5,3             |
| 92               | 3      | 97,5                | 73,3                | 95,5                  | 3,15           | 5,3             |
| 95               | 3      | 100,5               | 76,5                | 98,5                  | 3,15           | 5,3             |
| 97 (#DIN)        | 3      | 102,5               | 79,4                | 100,5                 | 3,15           | 5,3             |
| 98               | 3      | 103,5               | 79                  | 101,5                 | 3,15           | 5,3             |
| 100              | 3      | 105,5               | 80,6                | 103,5                 | 3,15           | 5,3             |
| 102              | 4      | 108                 | 82                  | 106                   | 4,15           | 6               |
| 105              | 4      | 112                 | 85                  | 109                   | 4,15           | 6               |
| 108              | 4      | 115                 | 88                  | 112                   | 4,15           | 6               |
| 110              | 4      | 117                 | 88,2                | 114                   | 4,15           | 6               |
| 112              | 4      | 119                 | 90                  | 116                   | 4,15           | 6               |
| 115              | 4      | 122                 | 93                  | 119                   | 4,15           | 6               |
| 117 (#DIN)       | 4      | 124                 | 97                  | 121                   | 4,15           | 6               |
| 120              | 4      | 127                 | 96,9                | 124                   | 4,15           | 6               |
| 125              | 4      | 132                 | 101,9               | 129                   | 4,15           | 6               |
| 130              | 4      | 137                 | 106,9               | 134                   | 4,15           | 6               |
| 135              | 4      | 142                 | 111,5               | 139                   | 4,15           | 6               |
| 140              | 4      | 147                 | 116,5               | 144                   | 4,15           | 6               |
| 145              | 4      | 152                 | 121                 | 149                   | 4,15           | 6               |
| 150              | 4      | 158                 | 124,8               | 155                   | 4,15           | 7,5             |
| 155              | 4      | 164                 | 129,8               | 160                   | 4,15           | 7,5             |
| 160              | 4      | 169                 | 132,7               | 165                   | 4,15           | 7,5             |
| 165              | 4      | 174,5               | 137,7               | 170                   | 4,15           | 7,5             |
| 170              | 4      | 179,5               | 141,6               | 175                   | 4,15           | 7,5             |
| 172 (#DIN)       | 4      | 181,5               | -                   | 177                   | 4,15           | 7,5             |
| 175              | 4      | 184,5               | 146,6               | 180                   | 4,15           | 7,5             |
| 180              | 4      | 189,5               | 150,2               | 185                   | 4,15           | 7,5             |
| 185              | 4      | 194,5               | 155,2               | 190                   | 4,15           | 7,5             |
| 188 (#DIN)       | 4      | 197,5               | -                   | 193                   | 4,15           | 7,5             |
| 190              | 4      | 199,5               | 160,2               | 195                   | 4,15           | 7,5             |
| 195              | 4      | 204,5               | 165,2               | 200                   | 4,15           | 7,5             |
| 200              | 4      | 209,5               | 170,2               | 205                   | 4,15           | 7,5             |
| 210              | 5      | 222                 | 180,2               | 216                   | 5,15           | 9               |
| 215 (#DIN)       | 5      | 227                 | -                   | 221                   | 5,15           | 9               |
| 220              | 5      | 232                 | 190,2               | 226                   | 5,15           | 9               |
| 225 (#DIN)       | 5      | 237                 | -                   | 231                   | 5,15           | 9               |
| 230              | 5      | 242                 | 200,2               | 236                   | 5,15           | 9               |
| 240              | 5      | 252                 | 210,2               | 246                   | 5,15           | 9               |
| 250              | 5      | 262                 | 220,2               | 256                   | 5,15           | 9               |
| 260              | 5      | 275                 | 226                 | 268                   | 5,15           | 12              |
| 270 (#DIN)       | 5      | 285                 | -                   | 278                   | 5,15           | 12              |
| 275 (#DIN)       | 5      | 290                 | 241                 | 283                   | 5,15           | 12              |
| 280              | 5      | 295                 | 246                 | 288                   | 5,15           | 12              |
| 290              | 5      | 305                 | 256                 | 298                   | 5,15           | 12              |
| 300              | 5      | 315                 | 266                 | 308                   | 5,15           | 12              |



| DETAIL X  |  |   |
|---|--|---|
| d <sub>1</sub> ≤ 300mm.   | d <sub>1</sub> ≥ 170mm. ①  | d <sub>1</sub> ≥ 25mm. ①  |
|  |  |  |

① At the manufacturer's discretion

### Article groups

| Material              | Packaging | Code  | Page  |
|-----------------------|-----------|-------|-------|
| Spring steel DIN17222 | Standard  | 36050 | 7-108 |
| St.St.                | Standard  | 51437 | 7-108 |



| 36050 Retaining ring for bores - normal type |                       | L07A |
|--|-----------------------|------|
| <b>Material</b>                              | Spring steel DIN17222 |      |
| <b>Packaging</b>                             | Standard              |      |

| Nom. size bore d1 | ☒   | Art.number                    | Nom. size bore d1 | ☒  | Art.number                    | Nom. size bore d1 | ☒ | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|----|-------------------------------|-------------------|---|-------------------------------|
| 8MM               | 250 | <a href="#">36050.008.001</a> | 45MM              | 50 | <a href="#">36050.045.001</a> | 108MM             | 5 | <a href="#">36050.108.001</a> |
| 9MM               | 250 | <a href="#">36050.009.001</a> | 46MM              | 50 | <a href="#">36050.046.001</a> | 110MM             | 5 | <a href="#">36050.110.001</a> |
| 10MM              | 250 | <a href="#">36050.010.001</a> | 47MM              | 50 | <a href="#">36050.047.001</a> | 112MM             | 5 | <a href="#">36050.112.001</a> |
| 11MM              | 250 | <a href="#">36050.011.001</a> | 48MM              | 50 | <a href="#">36050.048.001</a> | 115MM             | 5 | <a href="#">36050.115.001</a> |
| 12MM              | 250 | <a href="#">36050.012.001</a> | 50MM              | 50 | <a href="#">36050.050.001</a> | 117MM             | 5 | <a href="#">36050.117.001</a> |
| 13MM              | 100 | <a href="#">36050.013.001</a> | 52MM              | 50 | <a href="#">36050.052.001</a> | 120MM             | 5 | <a href="#">36050.120.001</a> |
| 14MM              | 100 | <a href="#">36050.014.001</a> | 53MM              | 25 | <a href="#">36050.053.001</a> | 125MM             | 5 | <a href="#">36050.125.001</a> |
| 15MM              | 100 | <a href="#">36050.015.001</a> | 54MM              | 25 | <a href="#">36050.054.001</a> | 130MM             | 5 | <a href="#">36050.130.001</a> |
| 16MM              | 100 | <a href="#">36050.016.001</a> | 55MM              | 25 | <a href="#">36050.055.001</a> | 135MM             | 5 | <a href="#">36050.135.001</a> |
| 17MM              | 100 | <a href="#">36050.017.001</a> | 56MM              | 25 | <a href="#">36050.056.001</a> | 140MM             | 5 | <a href="#">36050.140.001</a> |
| 18MM              | 100 | <a href="#">36050.018.001</a> | 57MM              | 25 | <a href="#">36050.057.001</a> | 145MM             | 5 | <a href="#">36050.145.001</a> |
| 19MM              | 100 | <a href="#">36050.019.001</a> | 58MM              | 25 | <a href="#">36050.058.001</a> | 150MM             | 3 | <a href="#">36050.150.001</a> |
| 20MM              | 100 | <a href="#">36050.020.001</a> | 60MM              | 25 | <a href="#">36050.060.001</a> | 155MM             | 3 | <a href="#">36050.155.001</a> |
| 21MM              | 100 | <a href="#">36050.021.001</a> | 62MM              | 25 | <a href="#">36050.062.001</a> | 160MM             | 3 | <a href="#">36050.160.001</a> |
| 22MM              | 100 | <a href="#">36050.022.001</a> | 63MM              | 25 | <a href="#">36050.063.001</a> | 165MM             | 3 | <a href="#">36050.165.001</a> |
| 23MM              | 100 | <a href="#">36050.023.001</a> | 64MM              | 25 | <a href="#">36050.064.001</a> | 170MM             | 3 | <a href="#">36050.170.001</a> |
| 24MM              | 100 | <a href="#">36050.024.001</a> | 65MM              | 10 | <a href="#">36050.065.001</a> | 172MM             | 3 | <a href="#">36050.172.001</a> |
| 25MM              | 100 | <a href="#">36050.025.001</a> | 67MM              | 10 | <a href="#">36050.067.001</a> | 175MM             | 2 | <a href="#">36050.175.001</a> |
| 26MM              | 100 | <a href="#">36050.026.001</a> | 68MM              | 10 | <a href="#">36050.068.001</a> | 180MM             | 2 | <a href="#">36050.180.001</a> |
| 27MM              | 100 | <a href="#">36050.027.001</a> | 70MM              | 10 | <a href="#">36050.070.001</a> | 185MM             | 2 | <a href="#">36050.185.001</a> |
| 28MM              | 100 | <a href="#">36050.028.001</a> | 72MM              | 10 | <a href="#">36050.072.001</a> | 190MM             | 2 | <a href="#">36050.190.001</a> |
| 29MM              | 100 | <a href="#">36050.029.001</a> | 75MM              | 10 | <a href="#">36050.075.001</a> | 195MM             | 2 | <a href="#">36050.195.001</a> |
| 30MM              | 100 | <a href="#">36050.030.001</a> | 77MM              | 10 | <a href="#">36050.077.001</a> | 200MM             | 2 | <a href="#">36050.200.001</a> |
| 31MM              | 100 | <a href="#">36050.031.001</a> | 78MM              | 10 | <a href="#">36050.078.001</a> | 210MM             | 2 | <a href="#">36050.210.001</a> |
| 32MM              | 100 | <a href="#">36050.032.001</a> | 80MM              | 10 | <a href="#">36050.080.001</a> | 215MM             | 2 | <a href="#">36050.215.001</a> |
| 33MM              | 100 | <a href="#">36050.033.001</a> | 82MM              | 10 | <a href="#">36050.082.001</a> | 220MM             | 2 | <a href="#">36050.220.001</a> |
| 34MM              | 100 | <a href="#">36050.034.001</a> | 85MM              | 5  | <a href="#">36050.085.001</a> | 225MM             | 2 | <a href="#">36050.225.001</a> |
| 35MM              | 100 | <a href="#">36050.035.001</a> | 87MM              | 5  | <a href="#">36050.087.001</a> | 230MM             | 2 | <a href="#">36050.230.001</a> |
| 36MM              | 100 | <a href="#">36050.036.001</a> | 88MM              | 5  | <a href="#">36050.088.001</a> | 240MM             | 2 | <a href="#">36050.240.001</a> |
| 37MM              | 100 | <a href="#">36050.037.001</a> | 90MM              | 5  | <a href="#">36050.090.001</a> | 250MM             | 2 | <a href="#">36050.250.001</a> |
| 38MM              | 100 | <a href="#">36050.038.001</a> | 92MM              | 5  | <a href="#">36050.092.001</a> | 260MM             | 2 | <a href="#">36050.260.001</a> |
| 39MM              | 100 | <a href="#">36050.039.001</a> | 95MM              | 5  | <a href="#">36050.095.001</a> | 270MM             | 2 | <a href="#">36050.270.001</a> |
| 40MM              | 50  | <a href="#">36050.040.001</a> | 97MM              | 5  | <a href="#">36050.097.001</a> | 275MM             | 2 | <a href="#">36050.275.001</a> |
| 41MM              | 50  | <a href="#">36050.041.001</a> | 98MM              | 5  | <a href="#">36050.098.001</a> | 280MM             | 2 | <a href="#">36050.280.001</a> |
| 42MM              | 50  | <a href="#">36050.042.001</a> | 100MM             | 5  | <a href="#">36050.100.001</a> | 290MM             | 2 | <a href="#">36050.290.001</a> |
| 43MM              | 50  | <a href="#">36050.043.001</a> | 102MM             | 5  | <a href="#">36050.102.001</a> | 300MM             | 2 | <a href="#">36050.300.001</a> |
| 44MM              | 50  | <a href="#">36050.044.001</a> | 105MM             | 5  | <a href="#">36050.105.001</a> |                   |   |                               |

- Depending on availability the phosphated type can be supplied. The heavy type is only available on request.
- **Warning:** electro-galvanizing of these products may cause hydrogen embrittlement.

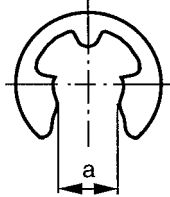
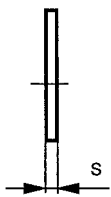
7

| 51437 Retaining ring for bores - normal type |                      | R09A |
|--|----------------------|------|
| <b>Material</b>                              | Stainless steel      |      |
| <b>Packaging</b>                             | Standard<br>DIN ≈472 |      |

| Nom. size bore d1 | ☒   | Art.number                    | Nom. size bore d1 | ☒  | Art.number                    | Nom. size bore d1 | ☒ | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|----|-------------------------------|-------------------|---|-------------------------------|
| 8MM               | 100 | <a href="#">51437.008.001</a> | 26MM              | 25 | <a href="#">51437.026.001</a> | 50MM              | 5 | <a href="#">51437.050.001</a> |
| 9MM               | 100 | <a href="#">51437.009.001</a> | 27MM              | 25 | <a href="#">51437.027.001</a> | 52MM              | 5 | <a href="#">51437.052.001</a> |
| 10MM              | 100 | <a href="#">51437.010.001</a> | 28MM              | 25 | <a href="#">51437.028.001</a> | 55MM              | 5 | <a href="#">51437.055.001</a> |
| 11MM              | 100 | <a href="#">51437.011.001</a> | 29MM              | 25 | <a href="#">51437.029.001</a> | 58MM              | 5 | <a href="#">51437.058.001</a> |
| 12MM              | 100 | <a href="#">51437.012.001</a> | 30MM              | 25 | <a href="#">51437.030.001</a> | 60MM              | 5 | <a href="#">51437.060.001</a> |
| 13MM              | 50  | <a href="#">51437.013.001</a> | 32MM              | 25 | <a href="#">51437.032.001</a> | 62MM              | 5 | <a href="#">51437.062.001</a> |
| 14MM              | 50  | <a href="#">51437.014.001</a> | 33MM              | 25 | <a href="#">51437.033.001</a> | 65MM              | 5 | <a href="#">51437.065.001</a> |
| 15MM              | 50  | <a href="#">51437.015.001</a> | 34MM              | 25 | <a href="#">51437.034.001</a> | 68MM              | 5 | <a href="#">51437.068.001</a> |
| 16MM              | 50  | <a href="#">51437.016.001</a> | 35MM              | 25 | <a href="#">51437.035.001</a> | 70MM              | 5 | <a href="#">51437.070.001</a> |
| 17MM              | 50  | <a href="#">51437.017.001</a> | 36MM              | 25 | <a href="#">51437.036.001</a> | 72MM              | 5 | <a href="#">51437.072.001</a> |
| 18MM              | 50  | <a href="#">51437.018.001</a> | 37MM              | 25 | <a href="#">51437.037.001</a> | 75MM              | 5 | <a href="#">51437.075.001</a> |
| 19MM              | 50  | <a href="#">51437.019.001</a> | 38MM              | 25 | <a href="#">51437.038.001</a> | 80MM              | 5 | <a href="#">51437.080.001</a> |
| 20MM              | 50  | <a href="#">51437.020.001</a> | 39MM              | 25 | <a href="#">51437.039.001</a> | 85MM              | 1 | <a href="#">51437.085.001</a> |
| 21MM              | 50  | <a href="#">51437.021.001</a> | 40MM              | 10 | <a href="#">51437.040.001</a> | 90MM              | 1 | <a href="#">51437.090.001</a> |
| 22MM              | 50  | <a href="#">51437.022.001</a> | 42MM              | 10 | <a href="#">51437.042.001</a> | 95MM              | 1 | <a href="#">51437.095.001</a> |
| 23MM              | 50  | <a href="#">51437.023.001</a> | 45MM              | 10 | <a href="#">51437.045.001</a> | 100MM             | 1 | <a href="#">51437.100.001</a> |
| 24MM              | 50  | <a href="#">51437.024.001</a> | 47MM              | 10 | <a href="#">51437.047.001</a> |                   |   |                               |
| 25MM              | 25  | <a href="#">51437.025.001</a> | 48MM              | 10 | <a href="#">51437.048.001</a> |                   |   |                               |

- Stainless steel circlips are made of martensitic stainless steel.
- In assemblies it is essential to use assembly pliers with a screw for limitation the opening-closing of the ring.
- Furthermore it is advisable to apply a minimum on clamping on the shaft or housing if the application permits it.
- Also avoid contact with chloride containing liquids (cleaning) to reduce the risk of 'stress corrosion cracking'.

## Retaining washer for shafts



DIN 6799  
BS 3673-2

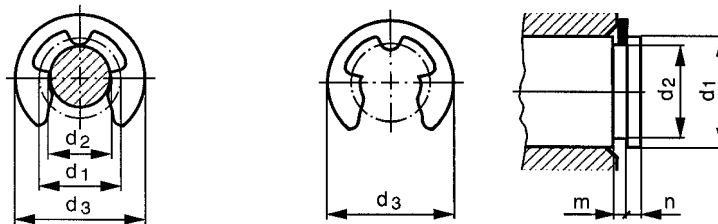


### Technical data

| Nom.size groove d2 (h11) | Range d <sub>1</sub> | Ring s | Ring a | Ring d <sub>3</sub> (max.) | Groove m | Groove n (min.) |
|--------------------------|----------------------|--------|--------|----------------------------|----------|-----------------|
| 1,2                      | 1,4-2                | 0,3    | 1,01   | 3,25                       | 0,34     | 0,6             |
| 1,5                      | 2-2,5                | 0,4    | 1,28   | 4,25                       | 0,44     | 0,8             |
| 1,9                      | 2,5-3                | 0,5    | 1,61   | 4,8                        | 0,54     | 1               |
| 2,3                      | 3-4                  | 0,6    | 1,94   | 6,3                        | 0,64     | 1               |
| 3,2                      | 4-5                  | 0,6    | 2,7    | 7,3                        | 0,64     | 1               |
| 4                        | 5-7                  | 0,7    | 3,34   | 9,3                        | 0,74     | 1,2             |
| 5                        | 6-8                  | 0,7    | 4,11   | 11,3                       | 0,74     | 1,2             |
| 6                        | 7-9                  | 0,7    | 5,26   | 12,3                       | 0,74     | 1,2             |
| 7                        | 8-11                 | 0,9    | 5,84   | 14,3                       | 0,94     | 1,5             |
| 8                        | 9-12                 | 1      | 6,52   | 16,3                       | 1,05     | 1,8             |
| 9                        | 10-14                | 1,1    | 7,63   | 18,8                       | 1,15     | 2               |
| 10                       | 11-15                | 1,2    | 8,32   | 20,4                       | 1,25     | 2               |
| 12                       | 13-18                | 1,3    | 10,45  | 23,4                       | 1,35     | 2,5             |
| 15                       | 16-24                | 1,5    | 12,61  | 29,4                       | 1,55     | 3               |
| 19                       | 20-31                | 1,75   | 15,92  | 37,6                       | 1,8      | 3,5             |
| 24                       | 25-38                | 2      | 21,88  | 44,6                       | 2,05     | 4               |

- Depending on availability the phosphated type can be supplied.

### Assembly data



### Article groups

| Material                | Packaging | Code  | Page  |
|-------------------------|-----------|-------|-------|
| Spring steel 460-580 HV | Standard  | 36200 | 7-109 |
| St.St.                  | Standard  | 51440 | 7-110 |

### 36200 Retaining washer for shafts

L07A

**Material** Spring steel 460-580 HV  
**Packaging** Standard



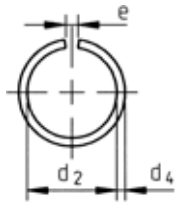
| Nom. size groove d2 (h11) | ☒   | Art.number                    | Nom. size groove d2 (h11) | ☒   | Art.number                    | Nom. size groove d2 (h11) | ☒   | Art.number                    |
|---------------------------|-----|-------------------------------|---------------------------|-----|-------------------------------|---------------------------|-----|-------------------------------|
| 1,2MM                     | 500 | <a href="#">36200.012.001</a> | 5MM                       | 500 | <a href="#">36200.050.001</a> | 12MM                      | 100 | <a href="#">36200.120.001</a> |
| 1,5MM                     | 500 | <a href="#">36200.015.001</a> | 6MM                       | 500 | <a href="#">36200.060.001</a> | 15MM                      | 100 | <a href="#">36200.150.001</a> |
| 1,9MM                     | 500 | <a href="#">36200.019.001</a> | 7MM                       | 250 | <a href="#">36200.070.001</a> | 19MM                      | 100 | <a href="#">36200.190.001</a> |
| 2,3MM                     | 500 | <a href="#">36200.023.001</a> | 8MM                       | 250 | <a href="#">36200.080.001</a> | 24MM                      | 100 | <a href="#">36200.240.001</a> |
| 3,2MM                     | 500 | <a href="#">36200.032.001</a> | 9MM                       | 250 | <a href="#">36200.090.001</a> |                           |     |                               |
| 4MM                       | 500 | <a href="#">36200.040.001</a> | 10MM                      | 250 | <a href="#">36200.100.001</a> |                           |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

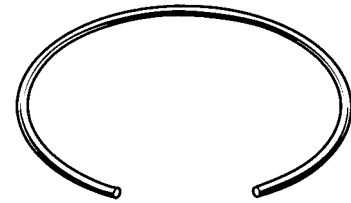
|  |                 |   |
|--|-----------------|---|
| <b>51440 Retaining washer for shafts</b> |                 | <b>R09A</b>   |
| <b>Material</b>                          | Stainless steel |  |
| <b>Packaging</b>                         | Standard        |   |

| Nom. size groove d2 (h11) | ☒   | Art.number                    | Nom. size groove d2 (h11) | ☒   | Art.number                    | Nom. size groove d2 (h11) | ☒   | Art.number                    |
|---------------------------|-----|-------------------------------|---------------------------|-----|-------------------------------|---------------------------|-----|-------------------------------|
| 1,2MM                     | 500 | <a href="#">51440.012.001</a> | 5MM                       | 250 | <a href="#">51440.050.001</a> | 12MM                      | 100 | <a href="#">51440.120.001</a> |
| 1,5MM                     | 500 | <a href="#">51440.015.001</a> | 6MM                       | 250 | <a href="#">51440.060.001</a> | 15MM                      | 100 | <a href="#">51440.150.001</a> |
| 1,9MM                     | 500 | <a href="#">51440.019.001</a> | 7MM                       | 250 | <a href="#">51440.070.001</a> | 19MM                      | 100 | <a href="#">51440.190.001</a> |
| 2,3MM                     | 250 | <a href="#">51440.023.001</a> | 8MM                       | 250 | <a href="#">51440.080.001</a> | 24MM                      | 100 | <a href="#">51440.240.001</a> |
| 3,2MM                     | 250 | <a href="#">51440.032.001</a> | 9MM                       | 100 | <a href="#">51440.090.001</a> |                           |     |                               |
| 4MM                       | 250 | <a href="#">51440.040.001</a> | 10MM                      | 100 | <a href="#">51440.100.001</a> |                           |     |                               |

## Snap ring for shafts



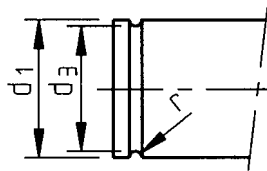
DIN 7993 A



### Technical data

| Nom. size shaft d1 | d <sub>2</sub> | d <sub>4</sub> | e ≈ | d <sub>3</sub> | r   |
|--------------------|----------------|----------------|-----|----------------|-----|
| 6                  | 5,1            | 0,8            | 1   | 5,2            | 0,5 |
| 8                  | 7,1            | 0,8            | 2   | 7,2            | 0,5 |
| 10                 | 9,1            | 0,8            | 2   | 9,2            | 0,5 |
| 12                 | 10,8           | 1              | 3   | 11             | 0,6 |
| 14                 | 12,8           | 1              | 3   | 13             | 0,6 |
| 16                 | 14,2           | 1,6            | 3   | 14,4           | 0,9 |
| 20                 | 17,7           | 2              | 3   | 18             | 1,1 |
| 22                 | 19,7           | 2              | 3   | 20             | 1,1 |
| 24                 | 21,7           | 2              | 3   | 22             | 1,1 |
| 25                 | 22,7           | 2              | 3   | 23             | 1,1 |
| 26                 | 23,7           | 2              | 3   | 24             | 1,1 |
| 28                 | 25,7           | 2              | 3   | 26             | 1,1 |
| 30                 | 27,7           | 2              | 3   | 28             | 1,1 |
| 32                 | 29,1           | 2,5            | 4   | 29,5           | 1,4 |
| 35                 | 32,1           | 2,5            | 4   | 32,5           | 1,4 |
| 38                 | 35,1           | 2,5            | 4   | 35,5           | 1,4 |
| 40                 | 37,1           | 2,5            | 4   | 37,5           | 1,4 |
| 45                 | 42             | 2,5            | 4   | 42,5           | 1,4 |
| 48                 | 45             | 2,5            | 4   | 45,5           | 1,4 |
| 50                 | 47             | 2,5            | 4   | 47,5           | 1,4 |
| 55                 | 51,1           | 3,2            | 4   | 51,8           | 1,8 |
| 60                 | 56,1           | 3,2            | 4   | 56,8           | 1,8 |
| 65                 | 61,1           | 3,2            | 4   | 61,8           | 1,8 |
| 70                 | 66             | 3,2            | 5   | 66,8           | 1,8 |
| 75                 | 71             | 3,2            | 5   | 71,8           | 1,8 |
| 80                 | 76             | 3,2            | 5   | 76,8           | 1,8 |
| 85                 | 81             | 3,2            | 5   | 81,8           | 1,8 |
| 90                 | 86             | 3,2            | 5   | 86,8           | 1,8 |
| 105                | 100,8          | 3,2            | 5   | 101,8          | 1,8 |
| 110                | 105,8          | 3,2            | 5   | 106,8          | 1,8 |
| 120                | 115,8          | 3,2            | 5   | 116,8          | 1,8 |

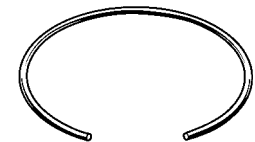
### Assembly data



### 36215 Snap ring for shafts

L07A

Material Spring steel 17223-1  
 Packaging Standard

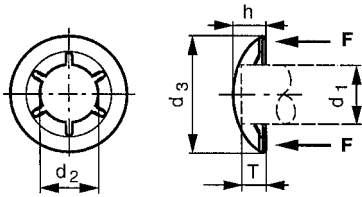


| Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒  | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|----|-------------------------------|
| 6MM                | 250 | <a href="#">36215.006.001</a> | 26MM               | 100 | <a href="#">36215.026.001</a> | 55MM               | 25 | <a href="#">36215.055.001</a> |
| 8MM                | 100 | <a href="#">36215.008.001</a> | 28MM               | 100 | <a href="#">36215.028.001</a> | 60MM               | 25 | <a href="#">36215.060.001</a> |
| 10MM               | 250 | <a href="#">36215.010.001</a> | 30MM               | 100 | <a href="#">36215.030.001</a> | 65MM               | 10 | <a href="#">36215.065.001</a> |
| 12MM               | 250 | <a href="#">36215.012.001</a> | 32MM               | 100 | <a href="#">36215.032.001</a> | 70MM               | 10 | <a href="#">36215.070.001</a> |
| 14MM               | 100 | <a href="#">36215.014.001</a> | 35MM               | 100 | <a href="#">36215.035.001</a> | 75MM               | 10 | <a href="#">36215.075.001</a> |
| 16MM               | 100 | <a href="#">36215.016.001</a> | 38MM               | 100 | <a href="#">36215.038.001</a> | 80MM               | 10 | <a href="#">36215.080.001</a> |
| 20MM               | 100 | <a href="#">36215.020.001</a> | 40MM               | 50  | <a href="#">36215.040.001</a> | 85MM               | 5  | <a href="#">36215.085.001</a> |
| 22MM               | 100 | <a href="#">36215.022.001</a> | 45MM               | 50  | <a href="#">36215.045.001</a> | 90MM               | 5  | <a href="#">36215.090.001</a> |
| 24MM               | 100 | <a href="#">36215.024.001</a> | 48MM               | 50  | <a href="#">36215.048.001</a> | 105MM              | 5  | <a href="#">36215.105.001</a> |
| 25MM               | 100 | <a href="#">36215.025.001</a> | 50MM               | 50  | <a href="#">36215.050.001</a> | 110MM              | 5  | <a href="#">36215.110.001</a> |

| 36215 Snap ring for shafts |            |                    |                               |                    |            |                    |            |                    |            |
|----------------------------|------------|--------------------|-------------------------------|--------------------|------------|--------------------|------------|--------------------|------------|
| Nom. size shaft d1         | Art.number | Nom. size shaft d1 | Art.number                    | Nom. size shaft d1 | Art.number | Nom. size shaft d1 | Art.number | Nom. size shaft d1 | Art.number |
| 120MM                      | 5          |                    | <a href="#">36215.120.001</a> |                    |            |                    |            |                    |            |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Fixing washer for shafts with stainless steel cap type A



### Technical data

| For shaft d1 (h11) | d <sub>2</sub> (max.) | d <sub>3</sub> | h     | T (max.) | F-1  | F-2  |
|--------------------|-----------------------|----------------|-------|----------|------|------|
| 2                  | 1,84                  | 10,6           | 3     | 2,5      | 200  | -    |
| 3                  | 2,81                  | 10,6           | 3     | 2,5      | 200  | 180  |
| 4                  | 3,8                   | 12,4           | 3,8   | 3        | 400  | 360  |
| 5                  | 4,74                  | 12,4           | 3,8   | 3        | 400  | 360  |
| 6                  | 5,7                   | 16,2           | 5     | 4        | 800  | 720  |
| 8                  | 7,66                  | 16,2           | 5     | 4        | 800  | 720  |
| 10                 | 9,74                  | 19,7           | 5,9   | 4,5      | 1000 | 900  |
| 12                 | 11,62                 | 26             | 7,5   | 6        | 2500 | 2250 |
| 13                 | 12,64                 | 26             | 7,5   | 6        | 2500 | -    |
| 14                 | 13,65                 | 29,4           | 9     | 7        | 2500 | 2250 |
| 15                 | 14,68                 | 39,4           | 9     | 7        | 2500 | -    |
| 16                 | 15,53                 | 29,4           | 9     | 7        | 2500 | -    |
| 17                 | 16,78                 | 29,4           | 9     | 7        | 2500 | -    |
| 19                 | 18,68                 | 38,2           | 11,7  | 8,7      | 3500 | -    |
| 20                 | 19,63                 | 38,2           | 11,7  | 8,7      | 3500 | -    |
| 25                 | 24,63                 | 43,4           | 13,75 | 9,5      | 3850 | -    |

- F-1 = allowable load in Newton (shaft St 37).
- F-2 = allowable load in Newton (shaft St.st.).

### Article groups

| Material     | Surface treatment           | Packaging | Code  | Page  |
|--------------|-----------------------------|-----------|-------|-------|
| Spring steel | Bronze plated and varnished | Standard  | 36233 | 7-113 |
| St.St.       |                             | Standard  | 51446 | 7-113 |

#### 36233 Fixing washer for shafts with stainless steel cap type A

L07B

|                          |                             |
|--------------------------|-----------------------------|
| <b>Material</b>          | Spring steel                |
| <b>Surface treatment</b> | Bronze plated and varnished |
| <b>Packaging</b>         | Standard                    |



| For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3MM          | 250 | <a href="#">36233.030.001</a> | 6MM          | 250 | <a href="#">36233.060.001</a> | 12MM         | 250 | <a href="#">36233.120.001</a> |
| 4MM          | 250 | <a href="#">36233.040.001</a> | 8MM          | 250 | <a href="#">36233.080.001</a> | 16MM         | 100 | <a href="#">36233.160.001</a> |
| 5MM          | 250 | <a href="#">36233.050.001</a> | 10MM         | 250 | <a href="#">36233.100.001</a> | 20MM         | 100 | <a href="#">36233.200.001</a> |

#### 51446 Fixing washer for shafts with stainless steel cap type A

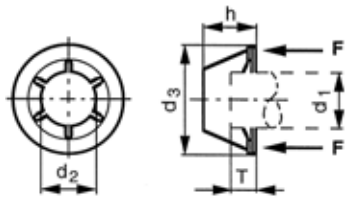
R09A

|                  |                 |
|------------------|-----------------|
| <b>Material</b>  | Stainless steel |
| <b>Packaging</b> | Standard        |



| For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3MM          | 100 | <a href="#">51446.030.001</a> | 6MM          | 100 | <a href="#">51446.060.001</a> | 12MM         | 100 | <a href="#">51446.120.001</a> |
| 4MM          | 100 | <a href="#">51446.040.001</a> | 8MM          | 100 | <a href="#">51446.080.001</a> | 14MM         | 100 | <a href="#">51446.140.001</a> |
| 5MM          | 100 | <a href="#">51446.050.001</a> | 10MM         | 100 | <a href="#">51446.100.001</a> |              |     |                               |

## Fixing washer for shafts with steel zinc plated cap type 4A



### Technical data

| For shaft d1 (h11)    | 4    | 5    | 6    | 8    | 10   |
|-----------------------|------|------|------|------|------|
| d <sub>2</sub> (max.) | 3,8  | 4,74 | 5,7  | 7,66 | 9,74 |
| d <sub>3</sub>        | 12,3 | 12,3 | 16,2 | 16,2 | 19,7 |
| h                     | 5,7  | 5,7  | 7,2  | 7,2  | 8,1  |
| T (max.)              | 5,3  | 5,3  | 6,7  | 6,7  | 7,8  |
| F-1                   | 400  | 400  | 800  | 800  | 1000 |

- F-1 = allowable load in Newton (shaft St 37).

### 36239 Fixing washer for shafts with steel zinc plated cap type 4A

L07B

**Material** Spring steel  
**Surface treatment** Bronze plated and varnished  
**Packaging** Standard

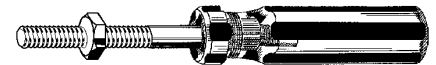


| For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 4MM          | 250 | <a href="#">36239.040.001</a> | 6MM          | 250 | <a href="#">36239.060.001</a> | 10MM         | 250 | <a href="#">36239.100.001</a> |
| 5MM          | 250 | <a href="#">36239.050.001</a> | 8MM          | 250 | <a href="#">36239.080.001</a> |              |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Fixing washer installation tool

7



- Application with magnetic ferrules, article groups 36251 and 36252.

### 36250 Fixing washer universal handle

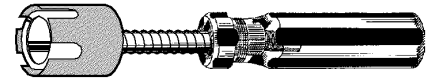
L07B

**Packaging** Standard



| Type   | ☒ | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|--------|---|-------------------------------|------|---|------------|------|---|------------|
| HANDLE | 1 | <a href="#">36250.001.770</a> |      |   |            |      |   |            |

**Handle, magnetic ferrule and plastic holder**



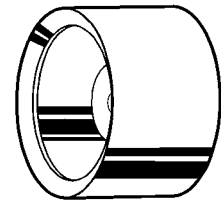
- Suitable for the installation of fixing washers for shafts without cap, made of spring steel and stainless steel.

|                  |  |   |
|------------------|--|---|
| <b>36253</b>     | <b>Handle, magnetic ferrule and plastic holder</b> | <b>L07B</b>   |
| <b>Packaging</b> | Standard   |  |

| Type      | ☒ | Art.number                    | Type       | ☒ | Art.number                    | Type        | ☒ | Art.number                    |
|-----------|---|-------------------------------|------------|---|-------------------------------|-------------|---|-------------------------------|
| 1,6-3,2MM | 1 | <a href="#">36253.016.032</a> | 6,0-8,0MM  | 1 | <a href="#">36253.060.080</a> | 12,0-13,0MM | 1 | <a href="#">36253.120.130</a> |
| 4,0-5,0MM | 1 | <a href="#">36253.040.050</a> | 9,0-11,0MM | 1 | <a href="#">36253.090.110</a> |             |   |                               |



## Magnetic ferrule



### Article groups

|   | Packaging | Code  | Page  |
|---|-----------|-------|-------|
| - | Standard  | 36251 | 7-116 |
| - | Standard  | 36252 | 7-116 |

#### 36251 Magnetic ferrule L07B

Packaging Standard



| Type      | ☒ | Art.number                    | Type        | ☒ | Art.number                    | Type        | ☒ | Art.number                    |
|-----------|---|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 1,6-3,2MM | 1 | <a href="#">36251.016.032</a> | 9,0-11,0MM  | 1 | <a href="#">36251.090.110</a> | 18,0-23,0MM | 1 | <a href="#">36251.180.230</a> |
| 4,0-5,0MM | 1 | <a href="#">36251.040.050</a> | 12,0-13,0MM | 1 | <a href="#">36251.120.130</a> | 24,0-25,0MM | 1 | <a href="#">36251.240.250</a> |
| 6,0-8,0MM | 1 | <a href="#">36251.060.080</a> | 14,0-17,0MM | 1 | <a href="#">36251.140.170</a> |             |   |                               |

- Suitable for the installation of fixing washers for shafts without cap, made of spring steel.
- Application with handle, article group 36250.
- Shaft 6,0-8,0MM: Also suitable for fixing washers for shafts with cap type 4A, made of spring steel and stainless steel: 4,0 mm - 5,0 mm.
- Shaft 9,0-11,0MM: Also suitable for fixing washers for shafts with cap type 4A, made of spring steel and stainless steel: 6,0 mm - 9,0 mm.
- Shaft 12,0-13,0MM: Also suitable for fixing washers for shafts with cap type 4A, made of spring steel and stainless steel: 10,0 mm - 11,0 mm.

#### 36252 Magnetic ferrule L07B

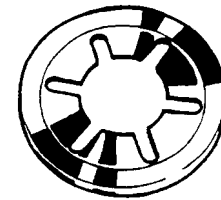
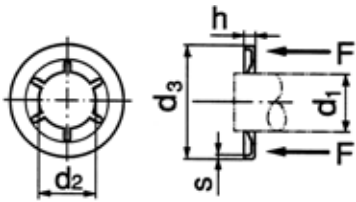
Packaging Standard



| Type      | ☒ | Art.number                    | Type        | ☒ | Art.number                    | Type        | ☒ | Art.number                    |
|-----------|---|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 1,6-3,2MM | 1 | <a href="#">36252.016.032</a> | 9,0-11,0MM  | 1 | <a href="#">36252.090.110</a> | 18,0-22,0MM | 1 | <a href="#">36252.180.220</a> |
| 4,0-5,0MM | 1 | <a href="#">36252.040.050</a> | 12,0-13,0MM | 1 | <a href="#">36252.120.130</a> |             |   |                               |
| 6,0-8,0MM | 1 | <a href="#">36252.060.080</a> | 14,0-17,0MM | 1 | <a href="#">36252.140.170</a> |             |   |                               |

- Suitable for the installation of fixing washers for shafts with cap type A, made of spring steel and/or stainless steel.
- Application with handle, article group 36250.

## Fixing washer for shafts (without cap)



### Technical data

| For shaft d1 (h11) | d <sub>2</sub> (max.) | d <sub>3</sub> | h   | s    | F-1  | F-2  |
|--------------------|-----------------------|----------------|-----|------|------|------|
| 2                  | 1,84                  | 9,7            | 1,3 | 0,2  | 200  | -    |
| 3                  | 2,81                  | 9,7            | 1,3 | 0,2  | 200  | 200  |
| 4                  | 3,8                   | 11,5           | 1,3 | 0,2  | 400  | 300  |
| 5                  | 4,74                  | 11,5           | 1,3 | 0,2  | 400  | 200  |
| 6                  | 5,7                   | 15,3           | 1,3 | 0,25 | 800  | 600  |
| 6,35               | 6,08                  | 15,3           | 1,3 | 0,25 | 800  | -    |
| 7                  | 6,72                  | 15,3           | 1,3 | 0,25 | 800  | -    |
| 8                  | 7,66                  | 15,3           | 1,3 | 0,25 | 800  | 800  |
| 9                  | 8,75                  | 18,4           | 1,9 | 0,3  | 1000 | -    |
| 10                 | 9,74                  | 18,4           | 1,9 | 0,3  | 1000 | 800  |
| 11                 | 10,76                 | 18,4           | 1,9 | 0,3  | 1000 | -    |
| 12                 | 11,62                 | 25             | 2,3 | 0,4  | 2500 | 2000 |
| 13                 | 12,64                 | 25             | 2,3 | 0,4  | 2500 | -    |
| 14                 | 13,66                 | 28,2           | 2,3 | 0,4  | 2500 | -    |
| 15                 | 14,68                 | 28,2           | 2,3 | 0,4  | 2500 | -    |
| 16                 | 15,53                 | 28,2           | 2,3 | 0,4  | 2500 | -    |
| 17                 | 16,68                 | 28,2           | 2,3 | 0,4  | 2500 | -    |
| 18                 | 17,62                 | 36,6           | 3   | 0,4  | 3500 | -    |
| 19                 | 18,69                 | 36,6           | 3   | 0,4  | 3850 | -    |
| 20                 | 19,63                 | 36,6           | 3   | 0,4  | 3850 | -    |
| 24                 | 23,66                 | 41,4           | 3,2 | 0,5  | 3850 | -    |
| 25                 | 24,63                 | 41,4           | 3,2 | 0,5  | 3850 | -    |

- F-1 = allowable load in Newton (shaft St 37).
- F-2 = allowable load in Newton (shaft St.st.).

### Article groups

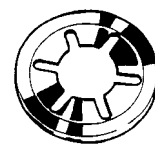
| Material     | Surface treatment           | Packaging | Code  | Page  |
|--------------|-----------------------------|-----------|-------|-------|
| Spring steel | Bronze plated and varnished | Standard  | 36230 | 7-117 |
| St.St.       |                             | Standard  | 51445 | 7-118 |

7

#### 36230 Fixing washer for shafts (without cap)

L07B

**Material** Spring steel  
**Surface treatment** Bronze plated and varnished  
**Packaging** Standard



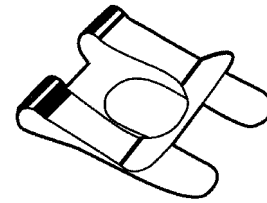
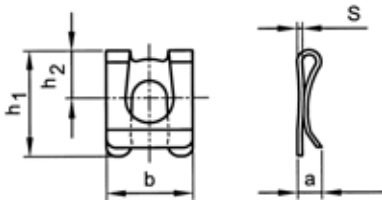
| For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2MM          | 500 | <a href="#">36230.020.001</a> | 9MM          | 250 | <a href="#">36230.090.001</a> | 17MM         | 100 | <a href="#">36230.170.001</a> |
| 3MM          | 500 | <a href="#">36230.030.001</a> | 10MM         | 250 | <a href="#">36230.100.001</a> | 18MM         | 100 | <a href="#">36230.180.001</a> |
| 4MM          | 500 | <a href="#">36230.040.001</a> | 11MM         | 250 | <a href="#">36230.110.001</a> | 19MM         | 100 | <a href="#">36230.190.001</a> |
| 5MM          | 500 | <a href="#">36230.050.001</a> | 12MM         | 250 | <a href="#">36230.120.001</a> | 20MM         | 100 | <a href="#">36230.200.001</a> |
| 6MM          | 500 | <a href="#">36230.060.001</a> | 13MM         | 100 | <a href="#">36230.130.001</a> | 24MM         | 50  | <a href="#">36230.240.001</a> |
| 6,35MM       | 500 | <a href="#">36230.063.501</a> | 14MM         | 100 | <a href="#">36230.140.001</a> | 25MM         | 50  | <a href="#">36230.250.001</a> |
| 7MM          | 250 | <a href="#">36230.070.001</a> | 15MM         | 100 | <a href="#">36230.150.001</a> |              |     |                               |
| 8MM          | 250 | <a href="#">36230.080.001</a> | 16MM         | 100 | <a href="#">36230.160.001</a> |              |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

|   |                 |   |
|---|-----------------|---|
| <b>51445 Fixing washer for shafts (without cap)</b> |                 | <b>R09A</b>   |
| <b>Material</b>                                     | Stainless steel |  |
| <b>Packaging</b>                                    | Standard        |   |

| For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    | For shaft d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3MM          | 100 | <a href="#">51445.030.001</a> | 6MM          | 100 | <a href="#">51445.060.001</a> | 12MM         | 100 | <a href="#">51445.120.001</a> |
| 4MM          | 100 | <a href="#">51445.040.001</a> | 8MM          | 100 | <a href="#">51445.080.001</a> |              |     |                               |
| 5MM          | 100 | <a href="#">51445.050.001</a> | 10MM         | 100 | <a href="#">51445.100.001</a> |              |     |                               |

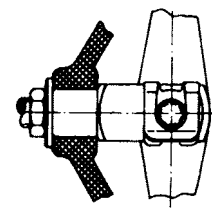
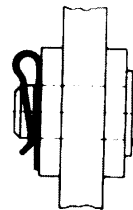
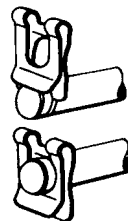
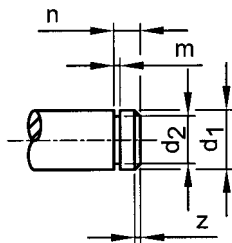
**SL Clip for bolts and shafts**



**Technical data**

| Nom.size shaft d1          | 4    | 5    | 6    | 8    | 10   | 12   | 14   | 16   |
|----------------------------|------|------|------|------|------|------|------|------|
| <b>b</b>                   | 7    | 9    | 11   | 14   | 18   | 22   | 25   | 28   |
| <b>h<sub>1</sub></b>       | 8,5  | 10,8 | 14   | 17,5 | 22   | 26   | 30   | 34,5 |
| <b>h<sub>2</sub></b>       | 4    | 5    | 6    | 8    | 10   | 12   | 13,5 | 16   |
| <b>a</b>                   | 2,2  | 2,7  | 3,2  | 3,7  | 4,7  | 5,5  | 5,7  | 6,8  |
| <b>s</b>                   | 0,3  | 0,35 | 0,4  | 0,45 | 0,5  | 0,5  | 0,6  | 0,6  |
| <b>Assembly data</b>       |      |      |      |      |      |      |      |      |
| <b>d<sub>2</sub> (h11)</b> | 3,2  | 4    | 5    | 6    | 8    | 9    | 10   | 12   |
| <b>m</b>                   | 0,64 | 0,74 | 0,74 | 0,94 | 1,05 | 11,5 | 1,25 | 1,35 |
| <b>n</b>                   | 2    | 2,5  | 3    | 3,5  | 4,5  | 5    | 5,5  | 6    |
| <b>z</b>                   | 0.5  | 0,5  | 0,75 | 1    | 1    | 1,25 | 1,5  | 1,5  |

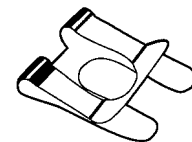
**Assembly data / Application data**



**36265 SL Clip for bolts and shafts**

L07A

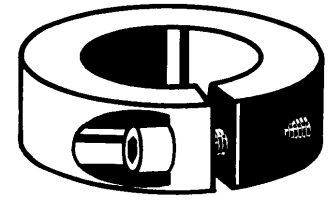
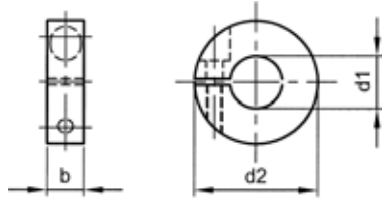
**Material** Spring steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



7

| Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒   | Art.number                    | Nom. size shaft d1 | ☒   | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| 4MM                | 500 | <a href="#">36265.040.001</a> | 8MM                | 200 | <a href="#">36265.080.001</a> | 14MM               | 100 | <a href="#">36265.140.001</a> |
| 5MM                | 500 | <a href="#">36265.050.001</a> | 10MM               | 200 | <a href="#">36265.100.001</a> | 16MM               | 100 | <a href="#">36265.160.001</a> |
| 6MM                | 500 | <a href="#">36265.060.001</a> | 12MM               | 200 | <a href="#">36265.120.001</a> |                    |     |                               |

## Clamp-adjusting ring with hexagon socket head cap screw



### Technical data

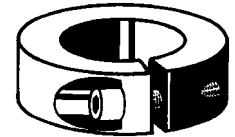
| d1 | d2 | b  | Screw size | d1 | d2 | b  | Screw size | d1 | d2 | b  | Screw size |
|----|----|----|------------|----|----|----|------------|----|----|----|------------|
| 8  | 25 | 10 | M4x15      | 16 | 40 | 12 | M5x20      | 35 | 63 | 12 | M5x20      |
| 10 | 32 | 10 | M4x15      | 20 | 45 | 12 | M5x20      | 40 | 70 | 14 | M6x20      |
| 12 | 32 | 10 | M4x15      | 25 | 50 | 12 | M5x20      | 45 | 80 | 14 | M6x20      |
| 15 | 40 | 12 | M5x20      | 30 | 56 | 12 | M5x20      | 50 | 80 | 14 | M6x20      |

- Special features of clamp-adjusting rings:
- Simple installation, low loading of the shaft.
- Compensates tolerance variations of the shaft.
- Simple dis-assembly and precise moveable.
- The shaft remains undamaged due to no metal disformation during tightening.
- Equal division of clamping force over the circumference.

### 37840 Clamp-adjusting ring with hexagon socket head cap screw

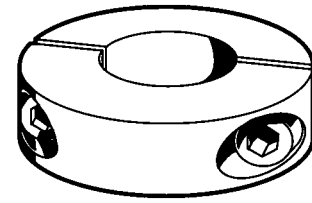
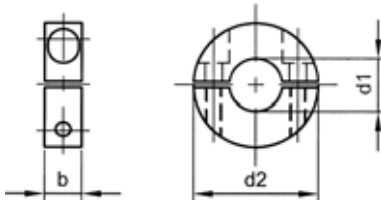
L07F

**Material** Free-cutting steel  
**Packaging** Standard



| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒ | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|----|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 8X25X10MM   | 10 | <a href="#">37840.080.001</a> | 16X40X12MM  | 5 | <a href="#">37840.160.001</a> | 35X63X12MM  | 2 | <a href="#">37840.350.001</a> |
| 10X32X10MM  | 10 | <a href="#">37840.100.001</a> | 20X45X12MM  | 5 | <a href="#">37840.200.001</a> | 40X70X14MM  | 2 | <a href="#">37840.400.001</a> |
| 12X32X10MM  | 5  | <a href="#">37840.120.001</a> | 25X50X12MM  | 5 | <a href="#">37840.250.001</a> | 45X80X14MM  | 2 | <a href="#">37840.450.001</a> |
| 15X40X12MM  | 5  | <a href="#">37840.150.001</a> | 30X56X12MM  | 5 | <a href="#">37840.300.001</a> | 50X80X14MM  | 2 | <a href="#">37840.500.001</a> |

## Clamp-adjusting ring with 2x hexagon socket



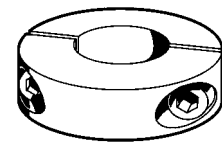
### Technical data

| d1 (H8) | d2 (H13) | b (j14) | d1 (H8) | d2 (H13) | b (j14) | d1 (H8) | d2 (H13) | b (j14) |
|---------|----------|---------|---------|----------|---------|---------|----------|---------|
| 8       | 25       | 10      | 16      | 40       | 12      | 35      | 63       | 12      |
| 10      | 332      | 10      | 20      | 45       | 12      | 40      | 70       | 14      |
| 12      | 32       | 10      | 25      | 50       | 12      | 45      | 80       | 14      |
| 15      | 40       | 12      | 30      | 56       | 12      | 50      | 80       | 14      |

### 37845 Clamp-adjusting ring with 2x hexagon socket

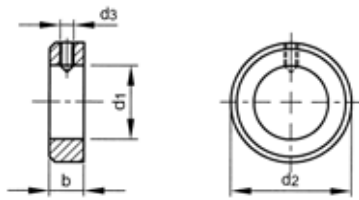
L07F

**Material** Free-cutting steel  
**Packaging** Standard

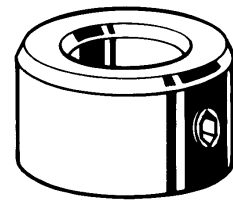


| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒ | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|----|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 8X25X10MM   | 10 | <a href="#">37845.080.001</a> | 16X40X12MM  | 5 | <a href="#">37845.160.001</a> | 35X63X12MM  | 2 | <a href="#">37845.350.001</a> |
| 10X32X10MM  | 10 | <a href="#">37845.100.001</a> | 20X45X12MM  | 5 | <a href="#">37845.200.001</a> | 40X70X14MM  | 2 | <a href="#">37845.400.001</a> |
| 12X32X10MM  | 5  | <a href="#">37845.120.001</a> | 25X50X12MM  | 5 | <a href="#">37845.250.001</a> | 45X80X14MM  | 2 | <a href="#">37845.450.001</a> |
| 15X40X12MM  | 5  | <a href="#">37845.150.001</a> | 30X56X12MM  | 5 | <a href="#">37845.300.001</a> | 50X80X14MM  | 2 | <a href="#">37845.500.001</a> |

## Adjusting ring with set screw



ISO - / 7434  
**DIN 705 A**  
 NEN - / 1488  
 NF - / E25-161  
 BS - / 4219



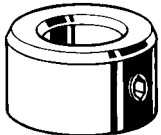
### Technical data

| d1 (H8)    | d2 (h13) | b (js14) | d3   |
|------------|----------|----------|------|
| 3          | 7        | 5        | M2   |
| 4          | 8        | 5        | M2,5 |
| 5          | 10       | 6        | M3   |
| 6          | 12       | 8        | M4   |
| 7          | 12       | 8        | M4   |
| 8          | 16       | 8        | M4   |
| 9 (#DIN)   | 18       | 10       | M5   |
| 10         | 20       | 10       | M5   |
| 11 (#DIN)  | 20       | 10       | M5   |
| 12         | 22       | 12       | M6   |
| 13 (#DIN)  | 22       | 12       | M6   |
| 14         | 25       | 12       | M6   |
| 15         | 25       | 12       | M6   |
| 16         | 28       | 12       | M6   |
| 18         | 32       | 14       | M6   |
| 20         | 32       | 14       | M6   |
| 22         | 36       | 14       | M6   |
| 24         | 40       | 16       | M8   |
| 25         | 40       | 16       | M8   |
| 26         | 40       | 16       | M8   |
| 28         | 45       | 16       | M8   |
| 30         | 45       | 16       | M8   |
| 32         | 50       | 16       | M8   |
| 34 (#DIN)  | 50       | 16       | M8   |
| 35         | 56       | 16       | M8   |
| 36         | 56       | 16       | M8   |
| 38 (#DIN)  | 56       | 16       | M8   |
| 40         | 63       | 18       | M10  |
| 42 (#DIN)  | 63       | 18       | M10  |
| 45         | 70       | 18       | M10  |
| 48 (#DIN)  | 70       | 18       | M10  |
| 50         | 80       | 18       | M10  |
| 55         | 80       | 18       | M10  |
| 56         | 80       | 18       | M10  |
| 58 (#DIN)  | 90       | 20       | M10  |
| 60         | 90       | 20       | M10  |
| 63         | 90       | 20       | M10  |
| 65         | 100      | 20       | M10  |
| 70         | 100      | 20       | M10  |
| 75 (2xset) | 110      | 22       | M12  |
| 80 (2xset) | 110      | 22       | M12  |

### Article groups

| Material           | Surface treatment |              | Packaging | Code  | Page  |
|--------------------|-------------------|--------------|-----------|-------|-------|
| Free-cutting steel |                   | with DIN 916 | Standard  | 37810 | 7-123 |
| Free-cutting steel |                   | with DIN 553 | Standard  | 37815 | 7-123 |
| Free-cutting steel | Zipl              | with DIN 916 | Standard  | 37820 | 7-123 |
| St.St. A1          |                   | with DIN 916 | Standard  | 51370 | 7-123 |
| St.St. A1          |                   | with DIN 553 | Standard  | 51372 | 7-124 |

**37810 Adjusting ring with hexagon socket set screw** L07F

|                  |                                 |   |
|------------------|---------------------------------|---|
| <b>Material</b>  | Free-cutting steel              |  |
| <b>Packaging</b> | Standard                        |   |
|                  | ISO - / 4029                    |   |
|                  | <b>DIN 705 A / 916</b>          |   |
|                  | NEN - / 2343                    |   |
|                  | NF - / E27-183<br>BS - / 4168-5 |   |

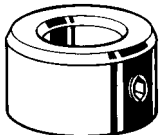
| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|---|-------------------------------|
| 3X7X5MM     | 50 | <a href="#">37810.030.001</a> | 18X32X14MM  | 10 | <a href="#">37810.180.001</a> | 42X63X18MM  | 5 | <a href="#">37810.420.001</a> |
| 4X8X5MM     | 50 | <a href="#">37810.040.001</a> | 20X32X14MM  | 10 | <a href="#">37810.200.001</a> | 45X70X18MM  | 5 | <a href="#">37810.450.001</a> |
| 5X10X6MM    | 50 | <a href="#">37810.050.001</a> | 22X36X14MM  | 10 | <a href="#">37810.220.001</a> | 48X70X18MM  | 5 | <a href="#">37810.480.001</a> |
| 6X12X8MM    | 50 | <a href="#">37810.060.001</a> | 24X40X16MM  | 10 | <a href="#">37810.240.001</a> | 50X80X18MM  | 5 | <a href="#">37810.500.001</a> |
| 7X12X8MM    | 50 | <a href="#">37810.070.001</a> | 25X40X16MM  | 10 | <a href="#">37810.250.001</a> | 55X80X18MM  | 1 | <a href="#">37810.550.001</a> |
| 8X16X8MM    | 50 | <a href="#">37810.080.001</a> | 26X40X16MM  | 10 | <a href="#">37810.260.001</a> | 56X80X18MM  | 1 | <a href="#">37810.560.001</a> |
| 9X18X10MM   | 25 | <a href="#">37810.090.001</a> | 28X45X16MM  | 10 | <a href="#">37810.280.001</a> | 58X90X20MM  | 1 | <a href="#">37810.580.001</a> |
| 10X20X10MM  | 25 | <a href="#">37810.100.001</a> | 30X45X16MM  | 10 | <a href="#">37810.300.001</a> | 60X90X20MM  | 1 | <a href="#">37810.600.001</a> |
| 11X20X10MM  | 25 | <a href="#">37810.110.001</a> | 32X50X16MM  | 10 | <a href="#">37810.320.001</a> | 63X90X20MM  | 1 | <a href="#">37810.630.001</a> |
| 12X22X12MM  | 10 | <a href="#">37810.120.001</a> | 34X50X16MM  | 5  | <a href="#">37810.340.001</a> | 65X100X20MM | 1 | <a href="#">37810.650.001</a> |
| 13X22X12MM  | 10 | <a href="#">37810.130.001</a> | 35X56X16MM  | 5  | <a href="#">37810.350.001</a> | 70X100X20MM | 1 | <a href="#">37810.700.001</a> |
| 14X25X12MM  | 10 | <a href="#">37810.140.001</a> | 36X56X16MM  | 5  | <a href="#">37810.360.001</a> | 75X110X22MM | 1 | <a href="#">37810.750.001</a> |
| 15X25X12MM  | 10 | <a href="#">37810.150.001</a> | 38X56X16MM  | 5  | <a href="#">37810.380.001</a> | 80X110X22MM | 1 | <a href="#">37810.800.001</a> |
| 16X28X12MM  | 10 | <a href="#">37810.160.001</a> | 40X63X18MM  | 5  | <a href="#">37810.400.001</a> |             |   |                               |

**37815 Adjusting ring with slotted set screw** L07F

|                  |                    |   |
|------------------|--------------------|---|
| <b>Material</b>  | Free-cutting steel |  |
| <b>Packaging</b> | Standard           |   |
|                  | DIN 705 A / 553    |   |

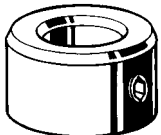
| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|---|-------------------------------|
| 3X7X5MM     | 50 | <a href="#">37815.030.001</a> | 18X32X14MM  | 10 | <a href="#">37815.180.001</a> | 40X63X18MM  | 5 | <a href="#">37815.400.001</a> |
| 4X8X5MM     | 50 | <a href="#">37815.040.001</a> | 20X32X14MM  | 10 | <a href="#">37815.200.001</a> | 42X63X18MM  | 5 | <a href="#">37815.420.001</a> |
| 5X10X6MM    | 50 | <a href="#">37815.050.001</a> | 22X36X14MM  | 10 | <a href="#">37815.220.001</a> | 45X70X18MM  | 5 | <a href="#">37815.450.001</a> |
| 6X12X8MM    | 50 | <a href="#">37815.060.001</a> | 24X40X16MM  | 10 | <a href="#">37815.240.001</a> | 48X70X18MM  | 5 | <a href="#">37815.480.001</a> |
| 7X12X8MM    | 50 | <a href="#">37815.070.001</a> | 25X40X16MM  | 10 | <a href="#">37815.250.001</a> | 50X80X18MM  | 5 | <a href="#">37815.500.001</a> |
| 8X16X8MM    | 50 | <a href="#">37815.080.001</a> | 26X40X16MM  | 10 | <a href="#">37815.260.001</a> | 55X80X18MM  | 1 | <a href="#">37815.550.001</a> |
| 9X18X10MM   | 25 | <a href="#">37815.090.001</a> | 28X45X16MM  | 10 | <a href="#">37815.280.001</a> | 58X90X20MM  | 1 | <a href="#">37815.580.001</a> |
| 10X20X10MM  | 25 | <a href="#">37815.100.001</a> | 30X45X16MM  | 10 | <a href="#">37815.300.001</a> | 60X90X20MM  | 1 | <a href="#">37815.600.001</a> |
| 11X20X10MM  | 25 | <a href="#">37815.110.001</a> | 32X50X16MM  | 10 | <a href="#">37815.320.001</a> | 63X90X20MM  | 1 | <a href="#">37815.630.001</a> |
| 12X22X12MM  | 10 | <a href="#">37815.120.001</a> | 34X50X16MM  | 5  | <a href="#">37815.340.001</a> | 65X100X20MM | 1 | <a href="#">37815.650.001</a> |
| 14X25X12MM  | 10 | <a href="#">37815.140.001</a> | 35X56X16MM  | 5  | <a href="#">37815.350.001</a> | 70X100X20MM | 1 | <a href="#">37815.700.001</a> |
| 15X25X12MM  | 10 | <a href="#">37815.150.001</a> | 36X56X16MM  | 5  | <a href="#">37815.360.001</a> | 75X110X22MM | 1 | <a href="#">37815.750.001</a> |
| 16X28X12MM  | 10 | <a href="#">37815.160.001</a> | 38X56X16MM  | 5  | <a href="#">37815.380.001</a> | 80X110X22MM | 1 | <a href="#">37815.800.001</a> |

**37820 Adjusting ring with hexagon socket set screw** L07F

|                          |   |   |
|--------------------------|---|---|
| <b>Material</b>          | Free-cutting steel                              |  |
| <b>Surface treatment</b> | Zinc plated                                     |   |
| <b>Packaging</b>         | Standard  |   |
|                          | ISO - / 4029                                    |   |
|                          | <b>DIN 705 A / 916</b>                          |   |
|                          | NEN - / 2343<br>NF - / E27-183<br>BS - / 4168-5 |   |

| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 5X10X6MM    | 50 | <a href="#">37820.050.001</a> | 16X28X12MM  | 10 | <a href="#">37820.160.001</a> | 30X45X16MM  | 10 | <a href="#">37820.300.001</a> |
| 6X12X8MM    | 50 | <a href="#">37820.060.001</a> | 18X32X14MM  | 10 | <a href="#">37820.180.001</a> | 35X56X16MM  | 5  | <a href="#">37820.350.001</a> |
| 8X16X8MM    | 50 | <a href="#">37820.080.001</a> | 20X32X14MM  | 10 | <a href="#">37820.200.001</a> | 40X63X18MM  | 5  | <a href="#">37820.400.001</a> |
| 10X20X10MM  | 25 | <a href="#">37820.100.001</a> | 22X36X14MM  | 10 | <a href="#">37820.220.001</a> | 45X70X18MM  | 5  | <a href="#">37820.450.001</a> |
| 12X22X12MM  | 10 | <a href="#">37820.120.001</a> | 25X40X16MM  | 10 | <a href="#">37820.250.001</a> | 50X80X18MM  | 5  | <a href="#">37820.500.001</a> |
| 14X25X12MM  | 10 | <a href="#">37820.140.001</a> | 26X40X16MM  | 10 | <a href="#">37820.260.001</a> | 60X90X20MM  | 1  | <a href="#">37820.600.001</a> |
| 15X25X12MM  | 10 | <a href="#">37820.150.001</a> | 28X45X16MM  | 10 | <a href="#">37820.280.001</a> | 70X100X20MM | 1  | <a href="#">37820.700.001</a> |

**51370 Adjusting ring with hexagon socket set screw** R09A

|                  |                                 |   |
|------------------|---------------------------------|---|
| <b>Material</b>  | Stainless steel A1              |  |
| <b>Packaging</b> | Standard                        |   |
|                  | ISO - / 4029                    |   |
|                  | <b>DIN 705 A / 916</b>          |   |
|                  | NEN - / 2343                    |   |
|                  | NF - / E27-183<br>BS - / 4168-5 |   |

| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|---|-------------------------------|
| 5X10X6MM    | 25 | <a href="#">51370.050.001</a> | 14X25X12MM  | 10 | <a href="#">51370.140.001</a> | 22X36X14MM  | 5 | <a href="#">51370.220.001</a> |
| 6X12X8MM    | 25 | <a href="#">51370.060.001</a> | 15X25X12MM  | 10 | <a href="#">51370.150.001</a> | 25X40X16MM  | 5 | <a href="#">51370.250.001</a> |
| 8X16X8MM    | 25 | <a href="#">51370.080.001</a> | 16X28X12MM  | 5  | <a href="#">51370.160.001</a> | 28X45X16MM  | 2 | <a href="#">51370.280.001</a> |
| 10X20X10MM  | 10 | <a href="#">51370.100.001</a> | 18X32X14MM  | 5  | <a href="#">51370.180.001</a> | 30X45X16MM  | 2 | <a href="#">51370.300.001</a> |
| 12X22X12MM  | 10 | <a href="#">51370.120.001</a> | 20X32X14MM  | 5  | <a href="#">51370.200.001</a> | 35X56X16MM  | 2 | <a href="#">51370.350.001</a> |



**51370 Adjusting ring with hexagon socket set screw** ←

| d1 x d2 x b | ☒ | Art.number                    | d1 x d2 x b | ☒ | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|---|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 36X56X16MM  | 1 | <a href="#">51370.360.001</a> | 45X70X18MM  | 1 | <a href="#">51370.450.001</a> | 60X90X20MM  | 1 | <a href="#">51370.600.001</a> |
| 40X63X18MM  | 1 | <a href="#">51370.400.001</a> | 50X80X18MM  | 1 | <a href="#">51370.500.001</a> |             |   |                               |

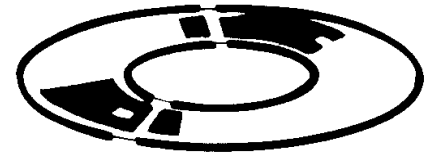
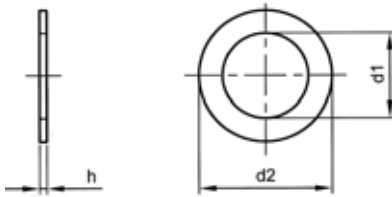
**51372 Adjusting ring with slotted set screw** R09A

|                  |                    |  |
|------------------|--------------------|--|
| <b>Material</b>  | Stainless steel A1 |  |
| <b>Packaging</b> | Standard           |  |
|                  | DIN ≈705 A / 553   |  |

| d1 x d2 x b | ☒  | Art.number                    | d1 x d2 x b | ☒ | Art.number                    | d1 x d2 x b | ☒ | Art.number                    |
|-------------|----|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 5X10X6MM    | 25 | <a href="#">51372.050.001</a> | 16X28X12MM  | 5 | <a href="#">51372.160.001</a> | 34X50X16MM  | 2 | <a href="#">51372.340.001</a> |
| 6X12X8MM    | 25 | <a href="#">51372.060.001</a> | 20X32X14MM  | 5 | <a href="#">51372.200.001</a> | 35X56X16MM  | 2 | <a href="#">51372.350.001</a> |
| 8X16X8MM    | 25 | <a href="#">51372.080.001</a> | 24X40X16MM  | 5 | <a href="#">51372.240.001</a> | 36X56X16MM  | 1 | <a href="#">51372.360.001</a> |
| 9X18X10MM   | 10 | <a href="#">51372.090.001</a> | 25X40X16MM  | 5 | <a href="#">51372.250.001</a> | 38X56X16MM  | 1 | <a href="#">51372.380.001</a> |
| 10X20X10MM  | 10 | <a href="#">51372.100.001</a> | 26X40X16MM  | 5 | <a href="#">51372.260.001</a> | 40X63X18MM  | 1 | <a href="#">51372.400.001</a> |
| 11X20X10MM  | 10 | <a href="#">51372.110.001</a> | 28X45X16MM  | 2 | <a href="#">51372.280.001</a> | 45X70X18MM  | 1 | <a href="#">51372.450.001</a> |
| 12X22X12MM  | 10 | <a href="#">51372.120.001</a> | 30X45X16MM  | 2 | <a href="#">51372.300.001</a> | 50X80X18MM  | 1 | <a href="#">51372.500.001</a> |
| 15X25X12MM  | 10 | <a href="#">51372.150.001</a> | 32X50X16MM  | 2 | <a href="#">51372.320.001</a> |             |   |                               |

## Shim ring

DIN 988



### Technical data

| d1 x d2      | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> (min.) | d <sub>2</sub> (max.) |
|--------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 3x6          | 3,02                  | 3,12                  | 5,85                  | 5,97                  |
| 4x8          | 4,03                  | 4,15                  | 7,81                  | 7,96                  |
| 5x10         | 5,03                  | 5,15                  | 9,81                  | 9,96                  |
| 6x12         | 6,03                  | 6,15                  | 11,77                 | 11,95                 |
| 6x18 (#DIN)  | 6,03                  | 6,15                  | 17,77                 | 17,95                 |
| 7x13         | 7,04                  | 7,15                  | 12,77                 | 12,95                 |
| 8x14         | 8,04                  | 8,19                  | 13,77                 | 13,95                 |
| 8x20 (#DIN)  | 8,04                  | 8,16                  | 19,77                 | 19,95                 |
| 9x15         | 9,04                  | 9,19                  | 14,77                 | 14,95                 |
| 10x16        | 10,04                 | 10,19                 | 15,77                 | 15,95                 |
| 10x18 (#DIN) | 10,04                 | 10,19                 | 17,77                 | 15,95                 |
| 10x22 (#DIN) | 10,04                 | 10,19                 | 21,725                | 21,935                |
| 11x17        | 11,05                 | 11,23                 | 16,77                 | 16,95                 |
| 12x18        | 12,05                 | 12,23                 | 17,77                 | 17,95                 |
| 12x20 (#DIN) | 12,05                 | 12,23                 | 19,725                | 19,935                |
| 12x24 (#DIN) | 12,05                 | 12,23                 | 23,725                | 23,935                |
| 13x19        | 13,05                 | 13,23                 | 17,77                 | 17,95                 |
| 14x20        | 14,05                 | 14,23                 | 19,725                | 19,935                |
| 14x26 (#DIN) | 14,03                 | 14,23                 | 25,725                | 25,935                |
| 15x21        | 15,05                 | 15,23                 | 20,725                | 20,935                |
| 16x22        | 16,05                 | 16,23                 | 21,725                | 21,935                |
| 16x26 (#DIN) | 16,05                 | 16,23                 | 25,275                | 25,935                |
| 16x28 (#DIN) | 16,05                 | 16,23                 | 27,275                | 27,935                |
| 17x24        | 17,05                 | 17,23                 | 23,725                | 23,935                |
| 18x25        | 18,05                 | 18,23                 | 24,725                | 24,935                |
| 18x30 (#DIN) | 18,05                 | 18,23                 | 29,725                | 29,735                |
| 19x26        | 19,065                | 19,275                | 25,725                | 25,935                |
| 20x28        | 20,065                | 20,275                | 27,725                | 27,935                |
| 20x32 (#DIN) | 20,065                | 20,275                | 31,67                 | 31,92                 |
| 22x30        | 22,065                | 22,275                | 29,725                | 29,935                |
| 22x32        | 22,065                | 22,275                | 31,67                 | 31,92                 |
| 22x34 (#DIN) | 22,065                | 22,275                | 33,67                 | 33,92                 |
| 24x36 (#DIN) | 24,065                | 24,275                | 35,67                 | 35,92                 |
| 25x35        | 25,065                | 25,275                | 34,67                 | 34,92                 |
| 25x36        | 25,065                | 25,275                | 35,67                 | 35,92                 |
| 26x37        | 26,065                | 26,275                | 36,67                 | 36,92                 |
| 26x38 (#DIN) | 26,065                | 26,275                | 37,67                 | 37,92                 |
| 28x40        | 28,065                | 28,275                | 39,67                 | 39,92                 |
| 30x35 (#DIN) | 30,065                | 30,275                | 34,67                 | 34,92                 |
| 30x40 (#DIN) | 30,065                | 30,275                | 39,67                 | 39,92                 |
| 30x42        | 30,065                | 30,275                | 41,67                 | 41,92                 |
| 32x44 (#DIN) | 32,08                 | 32,33                 | 43,67                 | 43,92                 |
| 32x45        | 32,08                 | 32,33                 | 44,67                 | 44,92                 |
| 34x46 (#DIN) | 34,08                 | 34,33                 | 45,67                 | 45,92                 |
| 35x45        | 35,08                 | 35,33                 | 44,67                 | 44,92                 |
| 36x45        | 36,08                 | 36,33                 | 44,67                 | 44,92                 |
| 36x48 (#DIN) | 36,08                 | 36,33                 | 47,67                 | 47,92                 |
| 37x47        | 37,08                 | 37,33                 | 46,67                 | 46,92                 |
| 38x50 (#DIN) | 38,08                 | 38,33                 | 49,67                 | 49,92                 |
| 40x50        | 40,08                 | 40,33                 | 49,67                 | 49,92                 |
| 40x52 (#DIN) | 40,08                 | 40,33                 | 51,6                  | 51,9                  |
| 42x52        | 42,08                 | 42,33                 | 51,6                  | 51,9                  |
| 42x54 (#DIN) | 42,08                 | 43,33                 | 53,6                  | 53,9                  |
| 44x56 (#DIN) | 44,08                 | 44,33                 | 55,6                  | 55,9                  |
| 45x55        | 45,08                 | 45,33                 | 54,6                  | 54,9                  |
| 45x56        | 45,08                 | 45,33                 | 55,6                  | 55,9                  |
| 46x58 (#DIN) | 46,08                 | 46,33                 | 57,6                  | 57,9                  |
| 48x60        | 48,08                 | 48,33                 | 59,6                  | 59,9                  |
| 50x62        | 50,08                 | 50,33                 | 61,6                  | 61,9                  |

| d1 x d2        | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> (min.) | d <sub>2</sub> (max.) |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 50x63          | 50,08                 | 50,33                 | 62,6                  | 62,9                  |
| 52x65          | 52,1                  | 52,4                  | 64,6                  | 64,9                  |
| 55x68          | 55,1                  | 55,4                  | 67,6                  | 67,9                  |
| 56x68 (#DIN)   | 56,1                  | 56,4                  | 67,6                  | 67,9                  |
| 56x70          | 56,1                  | 56,4                  | 69,6                  | 69,9                  |
| 56x72          | 56,1                  | 56,4                  | 71,6                  | 71,9                  |
| 60x72 (#DIN)   | 60,1                  | 60,4                  | 71,6                  | 71,9                  |
| 60x75          | 60,1                  | 60,4                  | 74,6                  | 74,9                  |
| 63x80          | 63,1                  | 63,4                  | 79,6                  | 79,9                  |
| 65x80 (#DIN)   | 65,1                  | 65,4                  | 79,6                  | 79,9                  |
| 65x85          | 65,1                  | 65,4                  | 84,53                 | 84,88                 |
| 70x85 (#DIN)   | 70,1                  | 70,4                  | 84,53                 | 84,88                 |
| 70x90          | 70,1                  | 70,4                  | 89,53                 | 89,88                 |
| 75x90 (#DIN)   | 75,1                  | 75,4                  | 89,53                 | 89,88                 |
| 75x95          | 75,1                  | 75,4                  | 94,53                 | 94,88                 |
| 80x100         | 80,1                  | 80,4                  | 99,53                 | 99,88                 |
| 85x105         | 85,12                 | 85,47                 | 104,53                | 104,88                |
| 90x110         | 90,12                 | 90,47                 | 109,53                | 109,88                |
| 95x110 (#DIN)  | 95,12                 | 95,47                 | 109,53                | 109,88                |
| 100x120        | 100,12                | 100,47                | 119,53                | 119,88                |
| 100x125        | 100,12                | 100,47                | 124,455               | 124,855               |
| 105x125 (#DIN) | 105,12                | 105,47                | 124,455               | 124,855               |
| 105x130        | 105,12                | 105,47                | 129,455               | 129,855               |
| 110x130 (#DIN) | 110,12                | 110,47                | 129,455               | 129,855               |
| 110x140        | 110,12                | 110,47                | 139,455               | 139,855               |
| 120x140 (#DIN) | 120,12                | 120,47                | 139,455               | 139,855               |
| 120x150        | 120,12                | 120,47                | 149,455               | 149,855               |
| 130x150 (#DIN) | 130,145               | 130,545               | 149,455               | 149,855               |
| 130x160        | 130,145               | 130,545               | 159,455               | 159,855               |
| 140x170        | 140,145               | 140,545               | 169,455               | 169,855               |
| 150x180        | 150,145               | 150,545               | 179,455               | 179,855               |
| 160x180 (#DIN) | 160,145               | 160,545               | 179,455               | 179,855               |
| 160x190        | 160,145               | 160,545               | 189,37                | 189,83                |
| 170x200        | 170,145               | 170,545               | 199,37                | 199,83                |
| 185x215 (#DIN) | 185,12                | 185,47                | 214,37                | 214,83                |

## Article groups

| Material               | Packaging | Code     | Page  |       |
|------------------------|-----------|----------|-------|-------|
| St 2 K 50 acc. DIN1624 | h=0,1mm   | Standard | 38600 | 7-126 |
| St 2 K 50 acc. DIN1624 | h=0,25mm  | Standard | 38602 | 7-127 |
| St 2 K 50 acc. DIN1624 | h=0,3mm   | Standard | 38583 | 7-127 |
| St 2 K 50 acc. DIN1624 | h=0,5mm   | Standard | 38585 | 7-127 |
| St 2 K 50 acc. DIN1624 | h=1,0mm   | Standard | 38590 | 7-128 |

### 38600 Shim ring thickness h=0,1mm

L07H

Material Steel 2 K 50 acc. DIN1624  
 Packaging Standard



| d1 x d2 | ☒   | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|-----------|----|-------------------------------|
| 8X14    | 100 | <a href="#">38600.080.014</a> | 20X28MM | 50 | <a href="#">38600.200.028</a> | 38X50MM   | 25 | <a href="#">38600.380.050</a> |
| 8X20MM  | 100 | <a href="#">38600.080.020</a> | 20X32MM | 50 | <a href="#">38600.200.032</a> | 40X50MM   | 25 | <a href="#">38600.400.050</a> |
|         |     |                               |         |    |                               | 42X52MM   | 25 | <a href="#">38600.420.052</a> |
| 10X16   | 100 | <a href="#">38600.100.016</a> | 22X34MM | 50 | <a href="#">38600.220.034</a> | 50X62MM   | 25 | <a href="#">38600.500.062</a> |
| 10X22MM | 100 | <a href="#">38600.100.022</a> | 24X36MM | 50 | <a href="#">38600.240.036</a> | 56X70MM   | 25 | <a href="#">38600.560.070</a> |
|         |     |                               | 25X35MM | 50 | <a href="#">38600.250.035</a> | 56X72MM   | 10 | <a href="#">38600.560.072</a> |
| 12X18MM | 100 | <a href="#">38600.120.018</a> | 26X38MM | 50 | <a href="#">38600.260.038</a> |           |    |                               |
| 12X24MM | 100 | <a href="#">38600.120.024</a> | 28X40MM | 50 | <a href="#">38600.280.040</a> | 63X80MM   | 25 | <a href="#">38600.630.080</a> |
|         |     |                               | 30X35MM | 50 | <a href="#">38600.300.035</a> | 75X90MM   | 10 | <a href="#">38600.750.090</a> |
| 14X26MM | 100 | <a href="#">38600.140.026</a> | 30X42MM | 50 | <a href="#">38600.300.042</a> | 80X100MM  | 10 | <a href="#">38600.800.100</a> |
| 16X28MM | 50  | <a href="#">38600.160.028</a> |         |    |                               | 90X110MM  | 10 | <a href="#">38600.900.110</a> |
| 17X24MM | 50  | <a href="#">38600.170.024</a> | 32X44MM | 25 | <a href="#">38600.320.044</a> | 105X125MM | 10 | <a href="#">38600.983.125</a> |
| 18X25MM | 50  | <a href="#">38600.180.025</a> | 34X46MM | 25 | <a href="#">38600.340.046</a> | 110X140MM | 5  | <a href="#">38600.984.140</a> |
| 18X30MM | 50  | <a href="#">38600.180.030</a> | 36X48MM | 25 | <a href="#">38600.360.048</a> | 120X140MM | 10 | <a href="#">38600.986.140</a> |
|         |     |                               | 37X47MM | 50 | <a href="#">38600.370.047</a> | 140X170MM | 5  | <a href="#">38600.990.170</a> |

|   |                           |             |
|---|---------------------------|-------------|
| <b>38602 Shim ring thickness h=0,25mm</b> |                           | <b>L07H</b> |
| <b>Material</b>                           | Steel 2 K 50 acc. DIN1624 |             |
| <b>Packaging</b>                          | Standard                  |             |
|   |                           |             |


| d1 x d2 | ☒   | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| 8X20MM  | 100 | <a href="#">38602.080.020</a> | 16X28MM | 50 | <a href="#">38602.160.028</a> | 36X48MM | 25 | <a href="#">38602.360.048</a> |
| 10X16MM | 100 | <a href="#">38602.100.016</a> | 20X32MM | 50 | <a href="#">38602.200.032</a> | 38X50MM | 25 | <a href="#">38602.380.050</a> |
| 10X22MM | 100 | <a href="#">38602.100.022</a> | 18X30MM | 50 | <a href="#">38602.180.030</a> | 42X54MM | 25 | <a href="#">38602.420.054</a> |
| 12X20MM | 100 | <a href="#">38602.120.020</a> | 20X32MM | 50 | <a href="#">38602.200.032</a> | 44X56MM | 25 | <a href="#">38602.440.056</a> |
| 12X24MM | 100 | <a href="#">38602.120.024</a> | 22X34MM | 50 | <a href="#">38602.220.034</a> | 46X58MM | 25 | <a href="#">38602.460.058</a> |
| 14X26MM | 100 | <a href="#">38602.140.026</a> | 24X36MM | 50 | <a href="#">38602.240.036</a> | 48X60MM | 25 | <a href="#">38602.480.060</a> |
| 16X26MM | 100 | <a href="#">38602.160.026</a> | 26X38MM | 50 | <a href="#">38602.260.038</a> | 50X62MM | 25 | <a href="#">38602.500.062</a> |
|         |     |                               | 32X44MM | 25 | <a href="#">38602.320.044</a> | 56X68MM | 25 | <a href="#">38602.560.068</a> |
|         |     |                               | 34X46MM | 25 | <a href="#">38602.340.046</a> | 60X72MM | 25 | <a href="#">38602.600.072</a> |

|  |                           |             |
|--|---------------------------|-------------|
| <b>38583 Shim ring thickness h=0,3mm</b> |                           | <b>L07H</b> |
| <b>Material</b>                          | Steel 2 K 50 acc. DIN1624 |             |
| <b>Packaging</b>                         | Standard                  |             |
|  |                           |             |

| d1 x d2 | ☒   | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|-----------|----|-------------------------------|
| 3X6MM   | 100 | <a href="#">38583.030.006</a> | 25X36MM | 50 | <a href="#">38583.250.036</a> | 65X85MM   | 50 | <a href="#">38583.650.085</a> |
| 4X8MM   | 100 | <a href="#">38583.040.008</a> | 26X37MM | 50 | <a href="#">38583.260.037</a> | 70X90MM   | 10 | <a href="#">38583.700.090</a> |
| 5X10MM  | 100 | <a href="#">38583.050.010</a> | 28X40MM | 50 | <a href="#">38583.280.040</a> | 75X90MM   | 10 | <a href="#">38583.750.090</a> |
| 6X12MM  | 100 | <a href="#">38583.060.012</a> | 30X35MM | 50 | <a href="#">38583.300.035</a> | 80X100MM  | 1  | <a href="#">38583.800.100</a> |
| 8X14MM  | 100 | <a href="#">38583.080.014</a> | 30X42MM | 50 | <a href="#">38583.300.042</a> | 85X105MM  | 1  | <a href="#">38583.850.105</a> |
| 10X16MM | 100 | <a href="#">38583.100.016</a> | 32X45MM | 25 | <a href="#">38583.320.045</a> | 90X110MM  | 1  | <a href="#">38583.900.110</a> |
| 12X18MM | 100 | <a href="#">38583.120.018</a> | 35X45MM | 25 | <a href="#">38583.350.045</a> | 95X110MM  | 10 | <a href="#">38583.950.110</a> |
| 14X20MM | 100 | <a href="#">38583.140.020</a> | 36X45MM | 25 | <a href="#">38583.360.045</a> | 100X120MM | 1  | <a href="#">38583.982.120</a> |
| 15X21MM | 100 | <a href="#">38583.150.021</a> | 37X47MM | 25 | <a href="#">38583.370.047</a> | 105X125MM | 10 | <a href="#">38583.983.125</a> |
| 16X22MM | 50  | <a href="#">38583.160.022</a> | 40X50MM | 25 | <a href="#">38583.400.050</a> | 110X130MM | 10 | <a href="#">38583.984.130</a> |
| 17X24MM | 50  | <a href="#">38583.170.024</a> | 42X52MM | 25 | <a href="#">38583.420.052</a> | 110X140MM | 1  | <a href="#">38583.984.140</a> |
| 18X25MM | 50  | <a href="#">38583.180.025</a> | 45X55MM | 25 | <a href="#">38583.450.055</a> | 130X160MM | 1  | <a href="#">38583.988.160</a> |
| 19X26MM | 50  | <a href="#">38583.190.026</a> | 50X62MM | 25 | <a href="#">38583.500.062</a> | 140X170MM | 1  | <a href="#">38583.990.170</a> |
| 20X28MM | 50  | <a href="#">38583.200.028</a> | 56X72MM | 25 | <a href="#">38583.560.072</a> | 160X180MM | 10 | <a href="#">38583.993.180</a> |
| 22X30MM | 50  | <a href="#">38583.220.030</a> | 60X75MM | 25 | <a href="#">38583.600.075</a> | 185X215MM | 10 | <a href="#">38583.996.215</a> |
| 22X32MM | 50  | <a href="#">38583.220.032</a> | 63X80MM | 10 | <a href="#">38583.630.080</a> |           |    |                               |
| 24X36MM | 50  | <a href="#">38583.240.036</a> | 65X80MM | 10 | <a href="#">38583.650.080</a> |           |    |                               |
| 25X35MM | 50  | <a href="#">38583.250.035</a> |         |    |                               |           |    |                               |

|  |                           |             |
|--|---------------------------|-------------|
| <b>38585 Shim ring thickness h=0,5mm</b> |                           | <b>L07H</b> |
| <b>Material</b>                          | Steel 2 K 50 acc. DIN1624 |             |
| <b>Packaging</b>                         | Standard                  |             |
|  |                           |             |

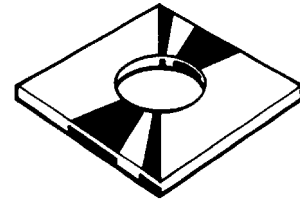
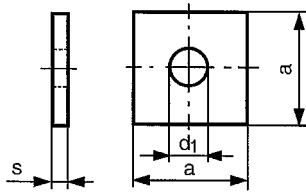
| d1 x d2 | ☒   | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2   | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|-----------|----|-------------------------------|
| 3X6MM   | 100 | <a href="#">38585.030.006</a> | 28X40MM | 50 | <a href="#">38585.280.040</a> | 75X90MM   | 10 | <a href="#">38585.750.090</a> |
| 4X8MM   | 100 | <a href="#">38585.040.008</a> | 30X42MM | 50 | <a href="#">38585.300.042</a> | 80X100MM  | 10 | <a href="#">38585.800.100</a> |
| 5X10MM  | 100 | <a href="#">38585.050.010</a> | 32X45MM | 25 | <a href="#">38585.320.045</a> | 90X110MM  | 10 | <a href="#">38585.900.110</a> |
| 6X12MM  | 100 | <a href="#">38585.060.012</a> | 35X45MM | 25 | <a href="#">38585.350.045</a> | 100X120MM | 1  | <a href="#">38585.981.120</a> |
| 8X14MM  | 100 | <a href="#">38585.080.014</a> | 36X45MM | 25 | <a href="#">38585.360.045</a> | 105X125MM | 10 | <a href="#">38585.983.125</a> |
| 10X16MM | 100 | <a href="#">38585.100.016</a> | 37X47MM | 25 | <a href="#">38585.370.047</a> | 110X130MM | 10 | <a href="#">38585.984.130</a> |
| 12X18MM | 100 | <a href="#">38585.120.018</a> | 40X50MM | 25 | <a href="#">38585.400.050</a> | 110X140MM | 1  | <a href="#">38585.984.140</a> |
| 14X20MM | 100 | <a href="#">38585.140.020</a> | 42X52MM | 25 | <a href="#">38585.420.052</a> | 130X150MM | 5  | <a href="#">38585.988.150</a> |
| 16X22MM | 50  | <a href="#">38585.160.022</a> | 45X55MM | 10 | <a href="#">38585.450.055</a> | 130X160MM | 1  | <a href="#">38585.988.160</a> |
| 17X24MM | 50  | <a href="#">38585.170.024</a> | 50X62MM | 25 | <a href="#">38585.500.062</a> | 140X170MM | 1  | <a href="#">38585.990.170</a> |
| 18X25MM | 50  | <a href="#">38585.180.025</a> | 56X72MM | 10 | <a href="#">38585.560.072</a> | 150X180MM | 1  | <a href="#">38585.992.180</a> |
| 19X26MM | 50  | <a href="#">38585.190.026</a> | 60X75MM | 10 | <a href="#">38585.600.075</a> | 160X180MM | 5  | <a href="#">38585.993.180</a> |
| 20X28MM | 50  | <a href="#">38585.200.028</a> | 63X80MM | 10 | <a href="#">38585.630.080</a> |           |    |                               |
| 22X32MM | 50  | <a href="#">38585.220.032</a> | 65X80MM | 10 | <a href="#">38585.650.080</a> |           |    |                               |
| 25X35MM | 50  | <a href="#">38585.250.035</a> | 70X85MM | 50 | <a href="#">38585.700.085</a> |           |    |                               |
| 26X37MM | 50  | <a href="#">38585.260.037</a> | 70X90MM | 10 | <a href="#">38585.700.090</a> |           |    |                               |

|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>38590</b>     | <b>Shim ring thickness h=1,0mm</b> | <b>L07H</b>   |
| <b>Material</b>  | Steel 2 K 50 acc. DIN1624          |  |
| <b>Packaging</b> | Standard                           |   |

| d1 x d2 | ☒   | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|-----|-------------------------------|
| 3X6MM   | 100 | <a href="#">38590.030.006</a> | 16X22MM | 50 | <a href="#">38590.160.022</a> | 28X40MM | 50  | <a href="#">38590.280.040</a> |
| 4X8MM   | 100 | <a href="#">38590.040.008</a> | 18X25MM | 50 | <a href="#">38590.180.025</a> | 30X42MM | 50  | <a href="#">38590.300.042</a> |
| 5X10MM  | 100 | <a href="#">38590.050.010</a> | 20X28MM | 50 | <a href="#">38590.200.028</a> | 32X45MM | 25  | <a href="#">38590.320.045</a> |
| 6X12MM  | 100 | <a href="#">38590.060.012</a> | 20X32MM | 50 | <a href="#">38590.200.032</a> | 35X45MM | 25  | <a href="#">38590.350.045</a> |
| 8X14MM  | 100 | <a href="#">38590.080.014</a> |         |    |                               | 36X45MM | 25  | <a href="#">38590.360.045</a> |
| 10X16MM | 100 | <a href="#">38590.100.016</a> | 22X32MM | 50 | <a href="#">38590.220.032</a> | 37X47MM | 25  | <a href="#">38590.370.047</a> |
| 12X18MM | 100 | <a href="#">38590.120.018</a> | 25X35MM | 50 | <a href="#">38590.250.035</a> | 40X50MM | 25  | <a href="#">38590.400.050</a> |
| 12X24MM | 100 | <a href="#">38590.120.024</a> | 26X37MM | 50 | <a href="#">38590.260.037</a> | 45X55MM | 10  | <a href="#">38590.450.055</a> |
| 14X20MM | 100 | <a href="#">38590.140.020</a> | 26X38MM | 50 | <a href="#">38590.260.038</a> | 60X75MM | 100 | <a href="#">38590.600.075</a> |

## Square washer

DIN 436



### Technical data

| For nom.size | d <sub>1</sub> | a  | s |
|--------------|----------------|----|---|
| M8 (#DIN)    | 9              | 30 | 3 |
| M10          | 11             | 30 | 3 |
| M12          | 13,5           | 40 | 4 |
| M16          | 17,5           | 50 | 5 |
| M20          | 22             | 60 | 5 |
| M22          | 24             | 70 | 6 |
| M24          | 26             | 80 | 6 |
| M27          | 30             | 90 | 6 |
| M30          | 33             | 95 | 6 |

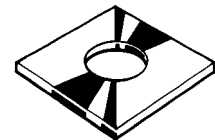
### Article groups

| Material  | Surface treatment | Packaging | Code  | Page  |
|-----------|-------------------|-----------|-------|-------|
| St        |                   | Standard  | 38300 | 7-129 |
| St        | Zipl              | Standard  | 38310 | 7-129 |
| St        | Hot d.g.          | Standard  | 38320 | 7-129 |
| St.St. A2 |                   | Standard  | 51908 | 7-130 |
| St.St. A4 |                   | Standard  | 55908 | 7-130 |

#### 38300 Square washer

L07G

Material Steel  
 Packaging Standard

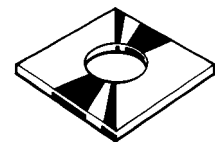


| For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38300.080.001</a> | M16           | 100 | <a href="#">38300.160.001</a> | M24           | 25 | <a href="#">38300.240.001</a> |
| M10           | 100 | <a href="#">38300.100.001</a> | M20           | 50  | <a href="#">38300.200.001</a> |               |    |                               |
| M12           | 100 | <a href="#">38300.120.001</a> | M22           | 50  | <a href="#">38300.220.001</a> |               |    |                               |

#### 38310 Square washer

L07G

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard

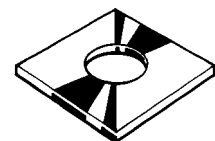


| For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38310.080.001</a> | M12           | 100 | <a href="#">38310.120.001</a> | M20           | 50 | <a href="#">38310.200.001</a> |
| M10           | 100 | <a href="#">38310.100.001</a> | M16           | 100 | <a href="#">38310.160.001</a> | M24           | 25 | <a href="#">38310.240.001</a> |

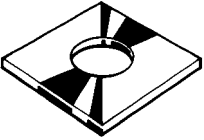
#### 38320 Square washer

L07G

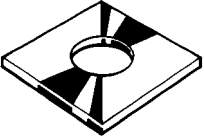
Material Steel  
 Surface treatment Hot dip galvanized  
 Packaging Standard



| For nom. size | ✉   | Art.number                    | For nom. size | ✉   | Art.number                    | For nom. size | ✉  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38320.080.001</a> | M16           | 100 | <a href="#">38320.160.001</a> | M24           | 25 | <a href="#">38320.240.001</a> |
| M10           | 100 | <a href="#">38320.100.001</a> | M20           | 50  | <a href="#">38320.200.001</a> | M27           | 25 | <a href="#">38320.270.001</a> |
| M12           | 100 | <a href="#">38320.120.001</a> | M22           | 50  | <a href="#">38320.220.001</a> | M30           | 10 | <a href="#">38320.300.001</a> |

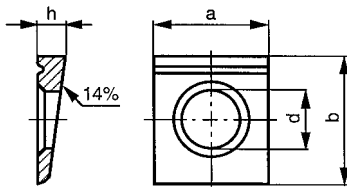
|   |                      |             |
|---|----------------------|-------------|
| <b>51908 Square washer</b>  |                      | <b>R09A</b> |
| <b>Material</b>   | Stainless steel A2   |             |
| <b>Packaging</b>  | Standard<br>DIN ≈436 |             |
|  |                      |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M10           | 100 | <a href="#">51908.100.001</a> | M16           | 100 | <a href="#">51908.160.001</a> | M24           | 25 | <a href="#">51908.240.001</a> |
| M12           | 100 | <a href="#">51908.120.001</a> | M20           | 50  | <a href="#">51908.200.001</a> |               |    |                               |

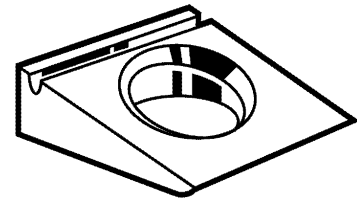
|   |                      |             |
|---|----------------------|-------------|
| <b>55908 Square washer</b>  |                      | <b>R49A</b> |
| <b>Material</b>   | Stainless steel A4   |             |
| <b>Packaging</b>  | Standard<br>DIN ≈436 |             |
|  |                      |             |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M10           | 100 | <a href="#">55908.100.001</a> | M16           | 100 | <a href="#">55908.160.001</a> | M24           | 25 | <a href="#">55908.240.001</a> |
| M12           | 100 | <a href="#">55908.120.001</a> | M20           | 50  | <a href="#">55908.200.001</a> |               |    |                               |

## Square taper washers 14% for I-sections



DIN 435  
NEN 2273



### Technical data

| For nom.size | d    | a  | b  | h    |
|--------------|------|----|----|------|
| M8           | 9    | 22 | 22 | 4,6  |
| M10          | 11   | 22 | 22 | 4,6  |
| M12          | 13,5 | 26 | 30 | 6,2  |
| M16          | 17,5 | 32 | 36 | 7,5  |
| M20          | 22   | 40 | 44 | 9,2  |
| M22          | 24   | 44 | 50 | 10   |
| M24          | 26   | 56 | 56 | 10,8 |
| M27          | 30   | 56 | 56 | 10,8 |
| M30 (#DIN)   | 33   | 62 | 62 | 11,7 |
| M33 (#DIN)   | 36   | 68 | 68 | 11,7 |

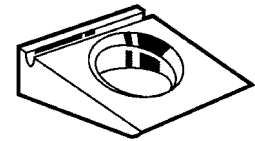
### Article groups

| Material        | Surface treatment | Packaging | Code  | Page  |
|-----------------|-------------------|-----------|-------|-------|
| St 100-250 HV10 |                   | Standard  | 38520 | 7-131 |
| St 100-250 HV10 | Hot d.g.          | Standard  | 38540 | 7-131 |
| St.St. A2       |                   | Standard  | 51922 | 7-131 |
| St.St. A4       |                   | Standard  | 55922 | 7-132 |

#### 38520 Square taper washers 14% for I-sections

L07G

**Material** Steel 100-250 HV10  
**Packaging** Standard

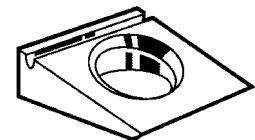


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38520.080.001</a> | M16           | 100 | <a href="#">38520.160.001</a> | M24           | 25 | <a href="#">38520.240.001</a> |
| M10           | 100 | <a href="#">38520.100.001</a> | M20           | 50  | <a href="#">38520.200.001</a> |               |    |                               |
| M12           | 100 | <a href="#">38520.120.001</a> | M22           | 50  | <a href="#">38520.220.001</a> |               |    |                               |

#### 38540 Square taper washers 14% for I-sections

L07G

**Material** Steel 100-250 HV10  
**Surface treatment** Hot dip galvanized  
**Packaging** Standard

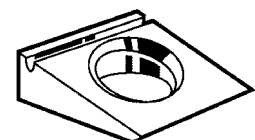


| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38540.080.001</a> | M20           | 50 | <a href="#">38540.200.001</a> | M30           | 10 | <a href="#">38540.300.001</a> |
| M10           | 100 | <a href="#">38540.100.001</a> | M22           | 50 | <a href="#">38540.220.001</a> | M33           | 10 | <a href="#">38540.330.001</a> |
| M12           | 100 | <a href="#">38540.120.001</a> | M24           | 25 | <a href="#">38540.240.001</a> |               |    |                               |
| M16           | 100 | <a href="#">38540.160.001</a> | M27           | 25 | <a href="#">38540.270.001</a> |               |    |                               |

#### 51922 Square taper washers 14% for I-sections

R09A

**Material** Stainless steel A2  
**Packaging** Standard  
DIN ≈435  
NEN ≈2273



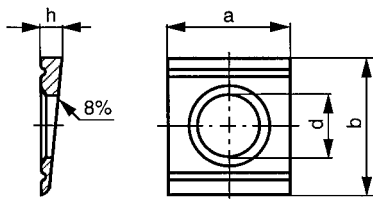
| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M8            | 50 | <a href="#">51922.080.001</a> | M16           | 50 | <a href="#">51922.160.001</a> | M24 *         | 10 | <a href="#">51922.240.001</a> |
| M10           | 50 | <a href="#">51922.100.001</a> | M20 *         | 25 | <a href="#">51922.200.001</a> |               |    |                               |
| M12           | 50 | <a href="#">51922.120.001</a> | M22 *         | 25 | <a href="#">51922.220.001</a> |               |    |                               |



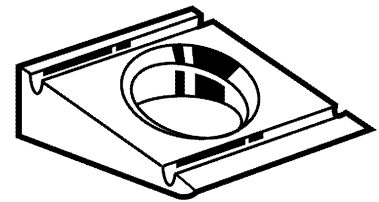
|  |                       |   |
|--|-----------------------|---|
| <b>55922 Square taper washers 14% for I-sections</b> |                       | <b>R49A</b>   |
| <b>Material</b>                                      | Stainless steel A4    |  |
| <b>Packaging</b>                                     | Standard              |   |
|  | DIN ≈435<br>NEN ≈2273 |   |

| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|---|------------|
| M10           | 50 | <a href="#">55922.100.001</a> | M16           | 50 | <a href="#">55922.160.001</a> |               |   |            |
| M12           | 50 | <a href="#">55922.120.001</a> | M20 *         | 25 | <a href="#">55922.200.001</a> |               |   |            |

## Square taper washer 8% for U-section



DIN 434  
NEN 2272



### Technical data

| For nom.size | d    | a    | b    | h   |
|--------------|------|------|------|-----|
| M8           | 9    | 22   | 22   | 3,8 |
| M10          | 11   | 22   | 22   | 3,8 |
| M12          | 13,5 | 26   | 30   | 4,9 |
| M14 (#DIN)   | 16,3 | 26,2 | 30,1 | 5,5 |
| M16          | 17,5 | 32   | 36   | 5,9 |
| M20          | 22   | 40   | 44   | 7   |
| M22          | 24   | 44   | 50   | 8   |
| M24          | 26   | 56   | 56   | 8,5 |
| M27          | 30   | 56   | 56   | 8,5 |
| M30 (#DIN)   | 33   | 56   | 56   | 8,5 |
| M33 (#DIN)   | 36   | 56   | 56   | 8,5 |

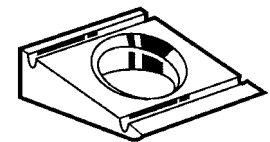
### Article groups

| Material        | Surface treatment | Packaging | Code  | Page  |
|-----------------|-------------------|-----------|-------|-------|
| St 100-250 HV10 |                   | Standard  | 38500 | 7-133 |
| St 100-250 HV10 | Zipl              | Standard  | 38495 | 7-133 |
| St 100-250 HV10 | Hot d.g.          | Standard  | 38490 | 7-133 |
| St.St. A2       |                   | Standard  | 51920 | 7-134 |
| St.St. A4       |                   | Standard  | 55920 | 7-134 |

#### 38500 Square taper washer 8% for U-section

L07G

Material Steel 100-250 HV10  
Packaging Standard

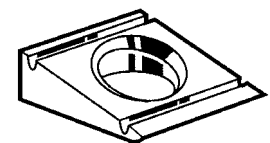


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38500.080.001</a> | M16           | 100 | <a href="#">38500.160.001</a> | M27           | 25 | <a href="#">38500.270.001</a> |
| M10           | 100 | <a href="#">38500.100.001</a> | M20           | 50  | <a href="#">38500.200.001</a> | M30           | 10 | <a href="#">38500.300.001</a> |
| M12           | 100 | <a href="#">38500.120.001</a> | M22           | 50  | <a href="#">38500.220.001</a> | M33           | 10 | <a href="#">38500.330.001</a> |
| M14           | 100 | <a href="#">38500.140.001</a> | M24           | 25  | <a href="#">38500.240.001</a> |               |    |                               |

#### 38495 Square taper washer 8% for U-section

L07G

Material Steel 100-250 HV10  
Surface treatment Zinc plated  
Packaging Standard

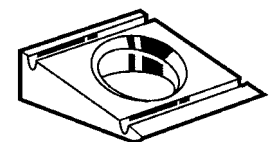


| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 200 | <a href="#">38495.080.001</a> | M12           | 100 | <a href="#">38495.120.001</a> | M20           | 50 | <a href="#">38495.200.001</a> |
| M10           | 200 | <a href="#">38495.100.001</a> | M16           | 100 | <a href="#">38495.160.001</a> | M24           | 50 | <a href="#">38495.240.001</a> |

#### 38490 Square taper washer 8% for U-section

L07G

Material Steel 100-250 HV10  
Surface treatment Hot dip galvanized  
Packaging Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M8            | 100 | <a href="#">38490.080.001</a> | M16           | 100 | <a href="#">38490.160.001</a> | M24           | 25 | <a href="#">38490.240.001</a> |
| M10           | 100 | <a href="#">38490.100.001</a> | M20           | 50  | <a href="#">38490.200.001</a> | M27           | 25 | <a href="#">38490.270.001</a> |
| M12           | 100 | <a href="#">38490.120.001</a> | M22           | 50  | <a href="#">38490.220.001</a> | M30           | 10 | <a href="#">38490.300.001</a> |

| 38490 Square taper washer 8% for U-section |   |            |                               |   |            |               |   |            |
|--|---|------------|-------------------------------|---|------------|---------------|---|------------|
| For nom. size                              | ☒ | Art.number | For nom. size                 | ☒ | Art.number | For nom. size | ☒ | Art.number |
| M33  |   | 10         | <a href="#">38490.330.001</a> |   |            |               |   |            |

| 51920 Square taper washer 8% for U-section |                    |  |  |  |  |  |  | R09A |
|--|--------------------|--|--|--|--|--|--|------|
| <b>Material</b>                            | Stainless steel A2 |  |  |  |  |  |  |      |
| <b>Packaging</b>                           | Standard           |  |  |  |  |  |  |      |
|  | DIN ≈434           |  |  |  |  |  |  |      |
|  | NEN ≈2272          |  |  |  |  |  |  |      |

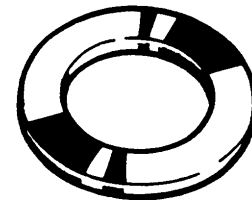
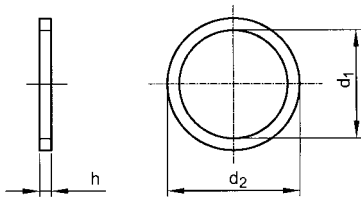
| For nom. size | ☒ | Art.number | For nom. size                 | ☒     | Art.number | For nom. size                 | ☒     | Art.number |                               |
|---------------|---|------------|-------------------------------|-------|------------|-------------------------------|-------|------------|-------------------------------|
| M8            |   | 50         | <a href="#">51920.080.001</a> | M16   | 50         | <a href="#">51920.160.001</a> | M24 * | 10         | <a href="#">51920.240.001</a> |
| M10           |   | 50         | <a href="#">51920.100.001</a> | M20   | 25         | <a href="#">51920.200.001</a> |       |            |                               |
| M12           |   | 50         | <a href="#">51920.120.001</a> | M22 * | 10         | <a href="#">51920.220.001</a> |       |            |                               |

| 55920 Square taper washer 8% for U-section |                    |  |  |  |  |  |  | R49A |
|--|--------------------|--|--|--|--|--|--|------|
| <b>Material</b>                            | Stainless steel A4 |  |  |  |  |  |  |      |
| <b>Packaging</b>                           | Standard           |  |  |  |  |  |  |      |
|  | DIN ≈434           |  |  |  |  |  |  |      |
|  | NEN ≈2272          |  |  |  |  |  |  |      |

| For nom. size | ☒ | Art.number | For nom. size                 | ☒     | Art.number | For nom. size                 | ☒     | Art.number |                               |
|---------------|---|------------|-------------------------------|-------|------------|-------------------------------|-------|------------|-------------------------------|
| M8            |   | 50         | <a href="#">55920.080.001</a> | M16   | 50         | <a href="#">55920.160.001</a> | M24 * | 10         | <a href="#">55920.240.001</a> |
| M10           |   | 50         | <a href="#">55920.100.001</a> | M20   | 25         | <a href="#">55920.200.001</a> |       |            |                               |
| M12           |   | 50         | <a href="#">55920.120.001</a> | M22 * | 10         | <a href="#">55920.220.001</a> |       |            |                               |

## Sealing ring

DIN 7603 A/C



### Technical data

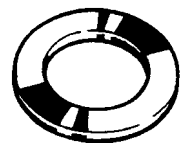
| d1 x d2            | d <sub>1</sub> | d <sub>2</sub> |
|--------------------|----------------|----------------|
| 4x8x1              | 4,2            | 7,9            |
| 5x7,5x1            | 5,2            | 7,9            |
| 5x9x1              | 5,2            | 8,9            |
| 5x9x1,5            | 5,2            | 8,9            |
| 5x10x1 (#DIN)      | 5,2            | 9,9            |
| 6x10x1             | 6,2            | 9,9            |
| 6x10x1,5           | 6,2            | 9,9            |
| 6x12x1 (#DIN)      | 6,2            | 11,9           |
| 6x12x1,5 (#DIN)    | 6,2            | 11,9           |
| 6,5x9,5x1          | 6,7            | 9,4            |
| 7x10x1 (#DIN)      | 7,2            | 9,9            |
| 7x15x2 (#DIN)      | 7,1            | 14,9           |
| 8x11,5x1           | 8,2            | 11,4           |
| 8x11,5x1,5         | 8,2            | 11,4           |
| 8x12x1             | 8,2            | 11,9           |
| 8x12x1,5           | 8,2            | 11,9           |
| 8x13x1             | 8,2            | 12,9           |
| 8x14x1             | 8,2            | 13,9           |
| 8x14x1,5           | 8,2            | 13,9           |
| 9x14x1 (#DIN)      | 9,2            | 13,9           |
| 9x14x1,5 (#DIN)    | 9,2            | 13,9           |
| 10x13,5x1          | 10,2           | 13,4           |
| 10x13,5x1,5        | 10,2           | 13,4           |
| 10x14x1            | 10,2           | 13,9           |
| 10x14x1,5          | 10,2           | 13,9           |
| 10x15x1            | 10,2           | 14,9           |
| 10x16x1            | 10,2           | 15,9           |
| 10x16x1,5          | 10,2           | 15,9           |
| 10x19x2 (#DIN)     | 10,2           | 18,9           |
| 10x20x1,5 (#DIN)   | 10,2           | 19,9           |
| 10,5x17x1,5 (#DIN) | 10,7           | 16,9           |
| 11x17x1,5 (#DIN)   | 11,2           | 16,9           |
| 12x15,5x1,5        | 12,2           | 15,4           |
| 12x16x1 (#DIN)     | 12,2           | 15,9           |
| 12x16x1,5          | 12,2           | 15,9           |
| 12x16x2            | 12,2           | 15,9           |
| 12x17x1,5          | 12,2           | 16,9           |
| 12x18x1,5          | 12,2           | 17,9           |
| 12x18x2            | 12,2           | 17,9           |
| 12x20x1,5 (#DIN)   | 12,2           | 19,9           |
| 12,5x20x1,5 (#DIN) | 12,7           | 19,9           |
| 13x18x1,5 (#DIN)   | 13,2           | 17,9           |
| 13x18x2 (#DIN)     | 13,2           | 17,9           |
| 14x18x1 (#DIN)     | 14,2           | 17,9           |
| 14x18x1,5          | 14,2           | 17,9           |
| 14x18x2            | 14,2           | 17,9           |
| 14x18x2 (#DIN)     | 14,2           | 17,9           |
| 14x20x1 (#DIN)     | 14,2           | 19,9           |
| 14x20x1,5          | 14,2           | 19,9           |
| 14x20x2            | 14,2           | 19,9           |
| 14x20x2 (#DIN)     | 14,2           | 19,9           |
| 14x22x1,5 (#DIN)   | 14,2           | 21,9           |
| 15x19x1,5          | 15,2           | 18,9           |
| 15x20x1 (#DIN)     | 15,2           | 19,9           |
| 15x20x1,5 (#DIN)   | 15,2           | 19,9           |
| 15x20x2 (#DIN)     | 15,2           | 19,9           |
| 16x20x1,5          | 16,2           | 19,9           |
| 16x20x2            | 16,2           | 19,9           |
| 16x20x2 (#DIN)     | 16,2           | 19,9           |

| d1 x d2          | d <sub>1</sub> | d <sub>2</sub> |
|------------------|----------------|----------------|
| 16x21x2 (≠DIN)   | 16,2           | 20,9           |
| 16x22x1,5        | 16,2           | 21,9           |
| 16x22x2          | 16,2           | 21,9           |
| 16x22x2 (≠DIN)   | 16,2           | 21,9           |
| 16,5x24x2 (≠DIN) | 16,7           | 23,9           |
| 17x21x1,5        | 17,2           | 20,9           |
| 17x21x2          | 17,2           | 20,9           |
| 17x22x1,5 (≠DIN) | 17,2           | 21,9           |
| 17x23x1,5        | 17,2           | 22,9           |
| 17x23x2          | 17,2           | 22,9           |
| 17x24x2 (≠DIN)   | 17,2           | 23,9           |
| 17,5x25x2 (≠DIN) | 17,7           | 24,9           |
| 18x22x1,5        | 18,2           | 21,9           |
| 18x22x2          | 18,2           | 21,9           |
| 18x24x1,5        | 18,2           | 23,9           |
| 18x24x2          | 18,2           | 23,9           |
| 18x24x2 (≠DIN)   | 18,2           | 23,9           |
| 19x26x2 (≠DIN)   | 19,2           | 25,9           |
| 20x24x1,5        | 20,2           | 23,9           |
| 20x24x2          | 20,2           | 23,9           |
| 20x24x2 (≠DIN)   | 20,2           | 23,9           |
| 20x26x1,5        | 20,2           | 25,9           |
| 20x26x2          | 20,2           | 25,9           |
| 21x26x1,5        | 21,2           | 25,9           |
| 21x26x2          | 21,2           | 25,9           |
| 21x26x2 (≠DIN)   | 21,2           | 25,9           |
| 21x28x1,5 (≠DIN) | 21,2           | 27,9           |
| 21x28x2 (≠DIN)   | 21,2           | 27,9           |
| 22x26x2 (≠DIN)   | 22,2           | 25,9           |
| 22x27x1,5        | 22,2           | 26,9           |
| 22x27x2          | 22,2           | 26,9           |
| 22x29x1,5        | 22,2           | 28,9           |
| 22x29x2          | 22,2           | 28,9           |
| 22x29x2 (≠DIN)   | 22,2           | 28,9           |
| 24x29x2          | 24,3           | 28,9           |
| 24x29x2,5        | 24,3           | 28,9           |
| 24x30x2 (≠DIN)   | 24,3           | 29,9           |
| 24x30x2,5 (≠DIN) | 24,3           | 29,9           |
| 24x32x2          | 24,3           | 31,9           |
| 24x32x2,5        | 24,3           | 31,9           |
| 26x31x2          | 26,3           | 30,9           |
| 26x32x2          | 26,3           | 31,9           |
| 26x32x2,5        | 26,3           | 31,9           |
| 26x33x2 (≠DIN)   | 26,3           | 32,9           |
| 26x34x2          | 26,3           | 33,9           |
| 26x34x2,5        | 26,3           | 33,9           |
| 27x32x2          | 27,3           | 31,9           |
| 27x32x2,5        | 27,3           | 31,9           |
| 28x34x2 (≠DIN)   | 28,3           | 33,9           |
| 28x34x2,5 (≠DIN) | 28,3           | 33,9           |
| 30x36x2          | 30,3           | 35,9           |
| 30x36x2,5        | 30,3           | 35,9           |
| 30x38x2          | 30,3           | 37,9           |
| 30x38x2,5        | 30,3           | 37,9           |
| 32x38x2          | 32,3           | 37,9           |
| 32x38x2,5        | 32,3           | 37,9           |
| 32x40x2          | 32,3           | 39,9           |
| 33x39x2          | 33,3           | 38,9           |
| 33x39x2,5        | 33,3           | 38,9           |
| 35x41x2          | 35,3           | 40,9           |
| 35x41x2,5        | 35,3           | 40,9           |
| 35x45x2 (≠DIN)   | 35,3           | 44,9           |
| 36x42x2          | 36,3           | 41,9           |
| 36x42x2,5        | 36,3           | 41,9           |
| 38x44x2          | 38,3           | 43,9           |
| 38x44x2,5        | 38,3           | 43,9           |
| 40x47x2          | 40,3           | 46,9           |
| 40x47x2,5        | 40,3           | 46,9           |
| 42x49x2          | 42,3           | 48,9           |
| 42x49x2,5        | 42,3           | 48,9           |
| 45x52x2          | 44,3           | 51,9           |
| 45x52x2,5 (≠DIN) | 45,3           | 51,9           |

| d1 x d2    | d <sub>1</sub> | d <sub>2</sub> |
|------------|----------------|----------------|
| 48x55x2    | 48,3           | 54,9           |
| 48x55x2,5  | 48,3           | 54,9           |
| 50x57x2    | 50,2           | 56,9           |
| 60x68x2,5  | 60,5           | 67,8           |
| 75x84x2,5  | 75,5           | 83,8           |
| 90x100x2,5 | 90,5           | 99,8           |

## Article groups

| Material     | Packaging           | Code  | Page  |
|--------------|---------------------|-------|-------|
| Al 99F11     | h=1,0mm<br>Standard | 45191 | 7-137 |
| Al 99F11     | h=1,5mm<br>Standard | 45192 | 7-137 |
| Al 99F11     | h=2,0mm<br>Standard | 45193 | 7-137 |
| Cu           | h=1,0mm<br>Standard | 50300 | 7-138 |
| Cu           | h=1,5mm<br>Standard | 50301 | 7-138 |
| Cu           | h=2,0mm<br>Standard | 50302 | 7-138 |
| Cu           | h=2,5mm<br>Standard | 50303 | 7-139 |
| Cu/FESTAPLAN | h=1,5mm<br>Standard | 50332 | 7-139 |
| Cu/FESTAPLAN | h=2,0mm<br>Standard | 50333 | 7-139 |
| Cu/FESTAPLAN | h=2,5mm<br>Standard | 50334 | 7-139 |

| 45191 Sealing ring annealed hardness HB 32-45 h=1mm |                        |  |  | W01D   |
|---|------------------------|--|--|--|
| <b>Material</b>                                     | Aluminium 99F11        |  |  |  |
| <b>Packaging</b>                                    | Standard<br>DIN 7603 A |  |  |  |

| d1 x d2       | Art.number                        | d1 x d2   | Art.number                        | d1 x d2   | Art.number                        |
|---------------|-----------------------------------|-----------|-----------------------------------|-----------|-----------------------------------|
| 4X8MM         | 100 <a href="#">45191.040.008</a> | 6,5X9,5MM | 100 <a href="#">45191.065.009</a> | 10X13,5MM | 100 <a href="#">45191.100.013</a> |
| 5X7,5MM       | 100 <a href="#">45191.050.007</a> | 8X11,5MM  | 100 <a href="#">45191.080.011</a> | 10X14MM   | 100 <a href="#">45191.100.014</a> |
| 5X9MM         | 100 <a href="#">45191.050.009</a> | 8X12MM    | 100 <a href="#">45191.080.012</a> | 10X16MM   | 100 <a href="#">45191.100.016</a> |
| 6X10MM        | 100 <a href="#">45191.060.010</a> | 8X13MM    | 100 <a href="#">45191.080.013</a> |           |                                   |
| 6X12MM (#DIN) | 100 <a href="#">45191.060.012</a> | 8X14MM    | 100 <a href="#">45191.080.014</a> |           |                                   |

- Applicable for pipe-connections and screw plugs.

| 45192 Sealing ring annealed hardness HB 32-45 h=1,5mm |                        |  |  | W01D  |
|---|------------------------|--|--|---|
| <b>Material</b>                                       | Aluminium 99F11        |  |  |  |
| <b>Packaging</b>                                      | Standard<br>DIN 7603 A |  |  |   |

| d1 x d2        | Art.number                        | d1 x d2 | Art.number                        | d1 x d2        | Art.number                       |
|----------------|-----------------------------------|---------|-----------------------------------|----------------|----------------------------------|
| 12X15,5MM      | 100 <a href="#">45192.120.015</a> | 16X22MM | 100 <a href="#">45192.160.022</a> | 20X26MM        | 50 <a href="#">45192.200.026</a> |
| 12X16MM        | 100 <a href="#">45192.120.016</a> | 17X21MM | 100 <a href="#">45192.170.021</a> | 21X28MM (#DIN) | 50 <a href="#">45192.210.028</a> |
| 12X17MM        | 100 <a href="#">45192.120.017</a> | 17X23MM | 100 <a href="#">45192.170.023</a> | 22X27MM        | 50 <a href="#">45192.220.027</a> |
| 12X18MM        | 100 <a href="#">45192.120.018</a> |         |                                   | 22X29MM        | 50 <a href="#">45192.220.029</a> |
| 13X18MM (#DIN) | 100 <a href="#">45192.130.018</a> | 18X22MM | 100 <a href="#">45192.180.022</a> |                |                                  |
| 14X20MM        | 100 <a href="#">45192.140.020</a> | 18X24MM | 100 <a href="#">45192.180.024</a> |                |                                  |
| 15X19MM        | 100 <a href="#">45192.150.019</a> | 20X24MM | 50 <a href="#">45192.200.024</a>  |                |                                  |
| 16X20MM        | 100 <a href="#">45192.160.020</a> |         |                                   |                |                                  |

- Applicable for pipe-connections and screw plugs.

| 45193 Sealing ring annealed hardness HB 32-45 h=2mm |                        |  |  | W01D  |
|---|------------------------|--|--|---|
| <b>Material</b>                                     | Aluminium 99F11        |  |  |  |
| <b>Packaging</b>                                    | Standard<br>DIN 7603 A |  |  |   |

| d1 x d2        | Art.number                       | d1 x d2 | Art.number                       | d1 x d2        | Art.number                       |
|----------------|----------------------------------|---------|----------------------------------|----------------|----------------------------------|
| 24X29MM        | 50 <a href="#">45193.240.029</a> | 26X32MM | 50 <a href="#">45193.260.032</a> | 28X34MM (#DIN) | 10 <a href="#">45193.280.034</a> |
| 24X30MM (#DIN) | 50 <a href="#">45193.240.030</a> | 26X34MM | 10 <a href="#">45193.260.034</a> | 30X36MM        | 10 <a href="#">45193.300.036</a> |
| 26X31MM        | 50 <a href="#">45193.260.031</a> | 27X32MM | 10 <a href="#">45193.270.032</a> | 30X38MM        | 10 <a href="#">45193.300.038</a> |

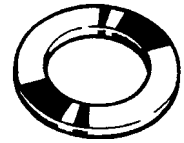
**45193 Sealing ring annealed hardness HB 32-45 h=2mm**

| d1 x d2 | Art.number                       | d1 x d2 | Art.number                       | d1 x d2 | Art.number                       |
|---------|----------------------------------|---------|----------------------------------|---------|----------------------------------|
| 32X38MM | 10 <a href="#">45193.320.038</a> | 40X47MM | 10 <a href="#">45193.400.047</a> | 50X57MM | 10 <a href="#">45193.500.057</a> |
| 33X39MM | 10 <a href="#">45193.330.039</a> | 42X49MM | 10 <a href="#">45193.420.049</a> |         |                                  |
| 35X41MM | 10 <a href="#">45193.350.041</a> | 48X55MM | 10 <a href="#">45193.480.055</a> |         |                                  |

- Applicable for pipe-connections and screw plugs.

**50300 Sealing ring annealed h=1mm**
**M03A**

**Material** Copper  
**Packaging** Standard  
**DIN** 7603 A

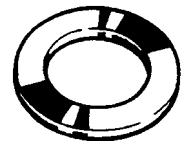


| d1 x d2       | Art.number                        | d1 x d2       | Art.number                        | d1 x d2        | Art.number                       |
|---------------|-----------------------------------|---------------|-----------------------------------|----------------|----------------------------------|
| 5X10MM (#DIN) | 100 <a href="#">50300.050.010</a> | 9X14MM (#DIN) | 100 <a href="#">50300.090.014</a> | 12X16MM (#DIN) | 50 <a href="#">50300.120.016</a> |
| 6X10MM        | 100 <a href="#">50300.060.010</a> | 10X14MM       | 100 <a href="#">50300.100.014</a> | 14X18MM (#DIN) | 50 <a href="#">50300.140.018</a> |
| 6,5X9,5MM     | 100 <a href="#">50300.065.009</a> | 10X15MM       | 100 <a href="#">50300.100.015</a> | 14X20MM (#DIN) | 50 <a href="#">50300.140.020</a> |
| 7X10MM (#DIN) | 100 <a href="#">50300.070.010</a> | 10X16MM       | 100 <a href="#">50300.100.016</a> |                |                                  |
| 8X12MM        | 100 <a href="#">50300.080.012</a> |               |                                   | 15X20MM (#DIN) | 50 <a href="#">50300.150.020</a> |

- Applicable for pipe-connections and screw plugs.

**50301 Sealing ring annealed h=1,5mm**
**M03A**

**Material** Copper  
**Packaging** Standard  
**DIN** 7603 A

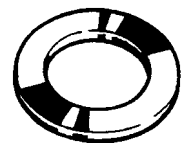


| d1 x d2          | Art.number                        | d1 x d2          | Art.number                       | d1 x d2        | Art.number                       |
|------------------|-----------------------------------|------------------|----------------------------------|----------------|----------------------------------|
| 6X10MM           | 100 <a href="#">50301.060.010</a> | 12,5X20MM (#DIN) | 50 <a href="#">50301.125.020</a> | 17X22MM (#DIN) | 50 <a href="#">50301.170.022</a> |
| 8X14MM           | 100 <a href="#">50301.080.014</a> | 13X18MM (#DIN)   | 50 <a href="#">50301.130.018</a> | 18X24MM        | 25 <a href="#">50301.180.024</a> |
| 9X14MM (#DIN)    | 100 <a href="#">50301.090.014</a> | 14X18MM          | 50 <a href="#">50301.140.018</a> | 20X24MM        | 25 <a href="#">50301.200.024</a> |
| 10X14MM          | 100 <a href="#">50301.100.014</a> | 14X20MM          | 50 <a href="#">50301.140.020</a> | 20X26MM        | 25 <a href="#">50301.200.026</a> |
| 10X16MM          | 100 <a href="#">50301.100.016</a> | 14X22MM (#DIN)   | 50 <a href="#">50301.140.022</a> |                |                                  |
| 10X20MM (#DIN)   | 100 <a href="#">50301.100.020</a> |                  |                                  | 21X26MM        | 25 <a href="#">50301.210.026</a> |
| 10,5X17MM (#DIN) | 100 <a href="#">50301.105.017</a> | 15X20MM (#DIN)   | 50 <a href="#">50301.150.020</a> | 21X28MM (#DIN) | 25 <a href="#">50301.210.028</a> |
| 11X17MM (#DIN)   | 100 <a href="#">50301.110.017</a> | 16X20MM          | 50 <a href="#">50301.160.020</a> |                |                                  |
| 12X16MM          | 50 <a href="#">50301.120.016</a>  | 16X22MM          | 50 <a href="#">50301.160.022</a> | 22X27MM        | 25 <a href="#">50301.220.027</a> |
| 12X17MM          | 50 <a href="#">50301.120.017</a>  |                  |                                  | 22X29MM        | 25 <a href="#">50301.220.029</a> |
| 12X18MM          | 50 <a href="#">50301.120.018</a>  | 17X21MM          | 50 <a href="#">50301.170.021</a> |                |                                  |
| 12X20MM (#DIN)   | 50 <a href="#">50301.120.020</a>  |                  |                                  |                |                                  |

- Applicable for pipe-connections and screw plugs.

**50302 Sealing ring annealed h=2mm**
**M03A**

**Material** Copper  
**Packaging** Standard  
**DIN** 7603 A



| d1 x d2          | Art.number                        | d1 x d2        | Art.number                       | d1 x d2        | Art.number                       |
|------------------|-----------------------------------|----------------|----------------------------------|----------------|----------------------------------|
| 7,1X15MM (#DIN)  | 100 <a href="#">50302.071.015</a> | 19X26MM (#DIN) | 25 <a href="#">50302.190.026</a> | 28X34MM (#DIN) | 10 <a href="#">50302.280.034</a> |
| 10X19MM (#DIN)   | 100 <a href="#">50302.100.019</a> | 20X24MM (#DIN) | 25 <a href="#">50302.200.024</a> | 30X36MM        | 10 <a href="#">50302.300.036</a> |
| 13X18MM (#DIN)   | 50 <a href="#">50302.130.018</a>  | 21X26MM (#DIN) | 25 <a href="#">50302.210.026</a> | 30X38MM        | 10 <a href="#">50302.300.038</a> |
| 14X18MM (#DIN)   | 50 <a href="#">50302.140.018</a>  | 21X28MM (#DIN) | 25 <a href="#">50302.210.028</a> |                |                                  |
| 14X20MM (#DIN)   | 50 <a href="#">50302.140.020</a>  |                |                                  | 32X38MM        | 10 <a href="#">50302.320.038</a> |
|                  |                                   | 22X26MM (#DIN) | 25 <a href="#">50302.220.026</a> | 32X40MM        | 10 <a href="#">50302.320.040</a> |
| 15X20MM (#DIN)   | 50 <a href="#">50302.150.020</a>  | 22X29MM (#DIN) | 25 <a href="#">50302.220.029</a> |                |                                  |
| 16X20MM (#DIN)   | 50 <a href="#">50302.160.020</a>  |                |                                  | 33X39MM        | 10 <a href="#">50302.330.039</a> |
| 16X21MM (#DIN)   | 50 <a href="#">50302.160.021</a>  | 24X30MM (#DIN) | 25 <a href="#">50302.240.030</a> | 35X45MM (#DIN) | 10 <a href="#">50302.350.045</a> |
| 16X22MM (#DIN)   | 50 <a href="#">50302.160.022</a>  | 24X32MM        | 25 <a href="#">50302.240.032</a> | 36X42MM        | 10 <a href="#">50302.360.042</a> |
|                  |                                   |                |                                  | 38X44MM        | 10 <a href="#">50302.380.044</a> |
| 16,5X24MM (#DIN) | 25 <a href="#">50302.165.024</a>  | 26X32MM        | 10 <a href="#">50302.260.032</a> | 40X47MM        | 10 <a href="#">50302.400.047</a> |
| 17X24MM (#DIN)   | 25 <a href="#">50302.170.024</a>  | 26X33MM (#DIN) | 10 <a href="#">50302.260.033</a> | 45X52MM        | 10 <a href="#">50302.450.052</a> |
| 17,5X25MM (#DIN) | 25 <a href="#">50302.175.025</a>  | 26X34MM        | 10 <a href="#">50302.260.034</a> | 50X57MM        | 10 <a href="#">50302.500.057</a> |
| 18X24MM (#DIN)   | 25 <a href="#">50302.180.024</a>  |                |                                  |                |                                  |


- Applicable for pipe-connections and screw plugs.

**7**

|                  |                                      |   |
|------------------|--------------------------------------|---|
| <b>50303</b>     | <b>Sealing ring annealed h=2,5mm</b> | <b>M03A</b>   |
| <b>Material</b>  | Copper                               |  |
| <b>Packaging</b> | Standard                             |   |
|                  | DIN 7603 A                           |   |

| d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2  | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|----------|----|-------------------------------|
| 60X68MM | 10 | <a href="#">50303.600.068</a> | 75X84MM | 10 | <a href="#">50303.750.084</a> | 90X100MM | 10 | <a href="#">50303.900.100</a> |

- Applicable for pipe-connections and screw plugs.

|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>50332</b>     | <b>Sealing ring filled h=1,5mm</b> | <b>M03A</b>   |
| <b>Material</b>  | Copper/FESTAPLAN                   |  |
| <b>Packaging</b> | Standard                           |   |
|                  | DIN 7603 C                         |   |

| d1 x d2       | ☒   | Art.number                    | d1 x d2  | ☒   | Art.number                    | d1 x d2   | ☒   | Art.number                    |
|---------------|-----|-------------------------------|----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 5X9MM         | 100 | <a href="#">50332.050.009</a> | 8X11,5MM | 100 | <a href="#">50332.080.011</a> | 10X13,5MM | 100 | <a href="#">50332.100.013</a> |
| 6X10MM        | 100 | <a href="#">50332.060.010</a> | 8X12MM   | 100 | <a href="#">50332.080.012</a> | 10X14MM   | 100 | <a href="#">50332.100.014</a> |
| 6X12MM (#DIN) | 100 | <a href="#">50332.060.012</a> | 8X14MM   | 100 | <a href="#">50332.080.014</a> | 10X16MM   | 100 | <a href="#">50332.100.016</a> |

- Mineral fibres with the tradename FESTAPLAN.
- Suitable for applications with a temperature of max. 180°C.

|                  |                                  |   |
|------------------|----------------------------------|---|
| <b>50333</b>     | <b>Sealing ring filled h=2mm</b> | <b>M03A</b>   |
| <b>Material</b>  | Copper/FESTAPLAN                 |  |
| <b>Packaging</b> | Standard                         |   |
|                  | DIN 7603 C                       |   |

| d1 x d2        | ☒   | Art.number                    | d1 x d2 | ☒   | Art.number                    | d1 x d2 | ☒  | Art.number                    |
|----------------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| 12X16MM        | 100 | <a href="#">50333.120.016</a> | 16X22MM | 100 | <a href="#">50333.160.022</a> | 20X24MM | 50 | <a href="#">50333.200.024</a> |
| 12X18MM        | 100 | <a href="#">50333.120.018</a> | 17X21MM | 100 | <a href="#">50333.170.021</a> | 20X26MM | 50 | <a href="#">50333.200.026</a> |
| 13X18MM (#DIN) | 100 | <a href="#">50333.130.018</a> | 17X23MM | 100 | <a href="#">50333.170.023</a> | 21X26MM | 50 | <a href="#">50333.210.026</a> |
| 14X18MM        | 100 | <a href="#">50333.140.018</a> | 18X22MM | 100 | <a href="#">50333.180.022</a> | 22X27MM | 50 | <a href="#">50333.220.027</a> |
| 14X20MM        | 100 | <a href="#">50333.140.020</a> | 18X24MM | 50  | <a href="#">50333.180.024</a> | 22X29MM | 50 | <a href="#">50333.220.029</a> |
| 16X20MM        | 100 | <a href="#">50333.160.020</a> |         |     |                               |         |    |                               |

- Mineral fibres with the tradename FESTAPLAN.
- Suitable for applications with a temperature of max. 180°C.

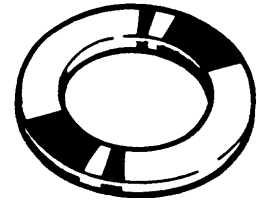
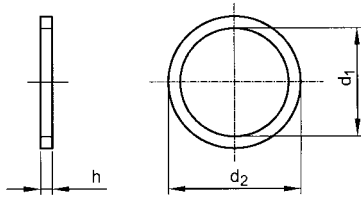
|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>50334</b>     | <b>Sealing ring filled h=2,5mm</b> | <b>M03A</b>   |
| <b>Material</b>  | Copper/FESTAPLAN                   |  |
| <b>Packaging</b> | Standard                           |   |
|                  | DIN 7603 C                         |   |

| d1 x d2        | ☒  | Art.number                    | d1 x d2        | ☒  | Art.number                    | d1 x d2        | ☒  | Art.number                    |
|----------------|----|-------------------------------|----------------|----|-------------------------------|----------------|----|-------------------------------|
| 24X29MM        | 25 | <a href="#">50334.240.029</a> | 27X32MM        | 25 | <a href="#">50334.270.032</a> | 35X41MM        | 25 | <a href="#">50334.350.041</a> |
| 24X30MM (#DIN) | 25 | <a href="#">50334.240.030</a> | 28X34MM (#DIN) | 25 | <a href="#">50334.280.034</a> | 36X42MM        | 25 | <a href="#">50334.360.042</a> |
| 24X32MM        | 25 | <a href="#">50334.240.032</a> | 30X36MM        | 25 | <a href="#">50334.300.036</a> | 38X44MM        | 25 | <a href="#">50334.380.044</a> |
|                |    |                               | 30X38MM        | 25 | <a href="#">50334.300.038</a> | 40X47MM        | 25 | <a href="#">50334.400.047</a> |
| 26X32MM        | 25 | <a href="#">50334.260.032</a> |                |    |                               | 42X49MM        | 25 | <a href="#">50334.420.049</a> |
| 26X34MM        | 25 | <a href="#">50334.260.034</a> | 32X38MM        | 25 | <a href="#">50334.320.038</a> | 45X52MM (#DIN) | 10 | <a href="#">50334.450.052</a> |
|                |    |                               | 33X39MM        | 25 | <a href="#">50334.330.039</a> | 48X55MM        | 10 | <a href="#">50334.480.055</a> |

- Mineral fibres with the tradename FESTAPLAN.
- Suitable for applications with a temperature of max. 180°C.



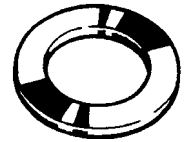
## Packing ring (Jointing ring)



### 50900 Packing ring (Jointing ring) h=1mm

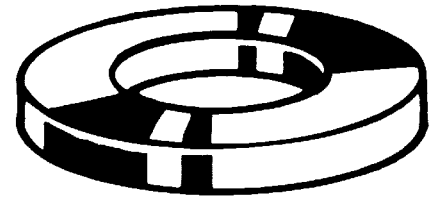
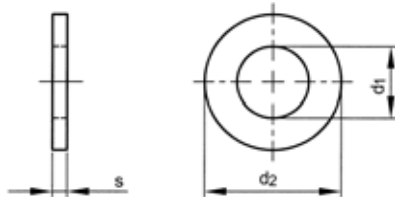
**W05C**

**Material** Vulcanized fibre Vf3110 DIN7737  
**Packaging** Standard



| d1 x d2  | ☒   | Art.number                    | d1 x d2   | ☒   | Art.number                    | d1 x d2 | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|---------|-----|-------------------------------|
| 3X5MM    | 200 | <a href="#">50900.030.005</a> | 8,5X14MM  | 200 | <a href="#">50900.085.014</a> | 18X24MM | 100 | <a href="#">50900.180.024</a> |
| 3,5X6MM  | 200 | <a href="#">50900.035.006</a> | 9X14MM    | 200 | <a href="#">50900.090.014</a> | 19X23MM | 100 | <a href="#">50900.190.023</a> |
| 4X6,5MM  | 200 | <a href="#">50900.040.006</a> | 9,5X14MM  | 200 | <a href="#">50900.095.014</a> | 20X24MM | 100 | <a href="#">50900.200.024</a> |
| 4,5X8MM  | 200 | <a href="#">50900.045.008</a> | 10X14MM   | 200 | <a href="#">50900.100.014</a> | 22X26MM | 50  | <a href="#">50900.220.026</a> |
| 5X8MM    | 200 | <a href="#">50900.050.008</a> | 10,5X17MM | 200 | <a href="#">50900.105.017</a> | 24X28MM | 50  | <a href="#">50900.240.028</a> |
| 5X10MM   | 200 | <a href="#">50900.050.010</a> | 11X17MM   | 200 | <a href="#">50900.110.017</a> | 25X34MM | 50  | <a href="#">50900.250.034</a> |
| 5,5X9MM  | 200 | <a href="#">50900.055.009</a> | 12X16MM   | 200 | <a href="#">50900.120.016</a> | 26X33MM | 50  | <a href="#">50900.260.033</a> |
| 6X9MM    | 200 | <a href="#">50900.060.009</a> | 12,5X18MM | 100 | <a href="#">50900.125.018</a> | 28X40MM | 50  | <a href="#">50900.280.040</a> |
| 6X10MM   | 200 | <a href="#">50900.060.010</a> | 13X18MM   | 100 | <a href="#">50900.130.018</a> | 30X42MM | 50  | <a href="#">50900.300.042</a> |
| 6X12MM   | 200 | <a href="#">50900.060.012</a> | 14X18MM   | 100 | <a href="#">50900.140.018</a> | 32X44MM | 25  | <a href="#">50900.320.044</a> |
| 6,5X10MM | 200 | <a href="#">50900.065.010</a> | 15X19MM   | 100 | <a href="#">50900.150.019</a> | 34X46MM | 25  | <a href="#">50900.340.046</a> |
| 7X10MM   | 200 | <a href="#">50900.070.010</a> | 16X20MM   | 100 | <a href="#">50900.160.020</a> | 36X48MM | 25  | <a href="#">50900.360.048</a> |
| 8X12MM   | 200 | <a href="#">50900.080.012</a> | 16X21MM   | 100 | <a href="#">50900.160.021</a> | 38X50MM | 25  | <a href="#">50900.380.050</a> |
| 8X16MM   | 200 | <a href="#">50900.080.016</a> | 17X22MM   | 100 | <a href="#">50900.170.022</a> | 40X52MM | 25  | <a href="#">50900.400.052</a> |

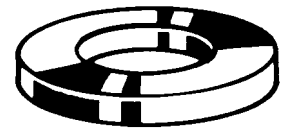
## Flat washer for Toyota



### 72037 Flat washer Special for Toyota

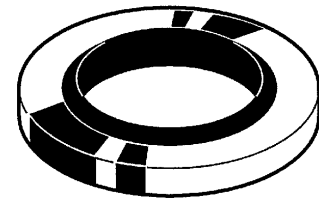
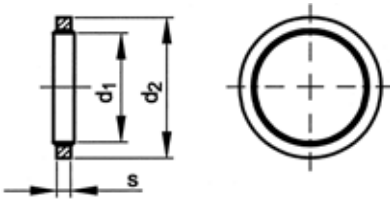
**Y92E**

**Material** Vulcanized fibre  
**Packaging** Standard



| d1 x d2 x s | ☒  | Art.number                    | d1 x d2 x s | ☒ | Art.number | d1 x d2 x s | ☒ | Art.number |
|-------------|----|-------------------------------|-------------|---|------------|-------------|---|------------|
| 12X24X2MM   | 25 | <a href="#">72037.120.020</a> |             |   |            |             |   |            |
| 18X28X2MM   | 25 | <a href="#">72037.180.020</a> |             |   |            |             |   |            |

## Bonded seal with rubber

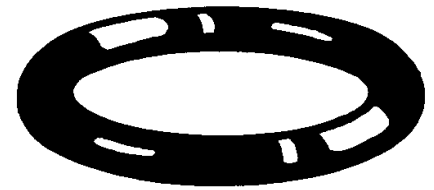
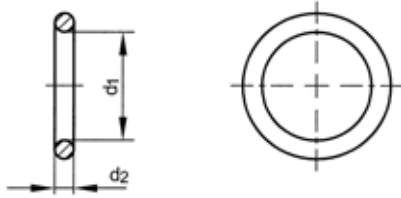


- Special features of bonded seals:
- Are particularly suitable for screw connections, pipe joints, hose couplings etc.
- The sealing lip of nitrile rubber is resistant to mineral oil, water, gas and numerous other media.

| 38793 Bonded seal with rubber |             | L07G  |
|-------------------------------|-------------|---|
| <b>Material</b>               | Steel       |  |
| <b>Surface treatment</b>      | Zinc plated |   |
| <b>Packaging</b>              | Standard    |   |

| d1 x d2 x s   | ☒   | Art.number                    | d1 x d2 x s   | ☒   | Art.number                    | d1 x d2 x s | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|-------------|----|-------------------------------|
| 4,5X7X1MM     | 100 | <a href="#">38793.052.100</a> | 12,7X20X1,5MM | 100 | <a href="#">38793.147.150</a> | 24,7X32X2MM | 25 | <a href="#">38793.279.200</a> |
| 5,7X10X1MM    | 100 | <a href="#">38793.067.100</a> |               |     |                               | 26,7X35X2MM | 25 | <a href="#">38793.302.200</a> |
| 6,7X11X1MM    | 100 | <a href="#">38793.078.100</a> | 14,7X22X1,5MM | 50  | <a href="#">38793.169.150</a> | 27,2X36X2MM | 25 | <a href="#">38793.308.200</a> |
| 7,1X12X1MM    | 100 | <a href="#">38793.083.100</a> | 16,7X24X1,5MM | 50  | <a href="#">38793.191.150</a> | 28,7X37X2MM | 25 | <a href="#">38793.324.200</a> |
| 8,7X16X1MM    | 100 | <a href="#">38793.103.100</a> | 18,7X26X1,5MM | 50  | <a href="#">38793.213.150</a> | 31X39X2MM   | 10 | <a href="#">38793.349.200</a> |
| 10,7X18X1,5MM | 100 | <a href="#">38793.125.150</a> | 20,7X28X1,5MM | 50  | <a href="#">38793.235.150</a> |             |    |                               |
| 12,7X18X1,5MM | 100 | <a href="#">38793.145.150</a> | 22,7X30X2MM   | 25  | <a href="#">38793.257.200</a> |             |    |                               |

## O-ring



- $d_1$  = Inside diameter.

### Article groups

| Material            | Colour |                     | Packaging | Code  | Page  |
|---------------------|--------|---------------------|-----------|-------|-------|
| Rubber NBR 70°shore | Black  | $d_2=1,5\text{mm}$  | Standard  | 38801 | 7-142 |
| Rubber NBR 70°shore | Black  | $d_2=1,6\text{mm}$  | Standard  | 38802 | 7-142 |
| Rubber NBR 70°shore | Black  | $d_2=1,78\text{mm}$ | Standard  | 38803 | 7-143 |
| Rubber NBR 70°shore | Black  | $d_2=2,0\text{mm}$  | Standard  | 38805 | 7-143 |
| Rubber NBR 70°shore | Black  | $d_2=2,4\text{mm}$  | Standard  | 38806 | 7-143 |
| Rubber NBR 70°shore | Black  | $d_2=2,5\text{mm}$  | Standard  | 38807 | 7-143 |
| Rubber NBR 70°shore | Black  | $d_2=2,62\text{mm}$ | Standard  | 38808 | 7-144 |
| Rubber NBR 70°shore | Black  | $d_2=3,0\text{mm}$  | Standard  | 38810 | 7-144 |
| Rubber NBR 70°shore | Black  | $d_2=3,53\text{mm}$ | Standard  | 38812 | 7-144 |
| Rubber NBR 70°shore | Black  | $d_2=4,0\text{mm}$  | Standard  | 38814 | 7-145 |
| Rubber NBR 70°shore | Black  | $d_2=5,0\text{mm}$  | Standard  | 38816 | 7-145 |
| Rubber FPM 80°shore | Black  | $d_2=1,6\text{mm}$  | Standard  | 38869 | 7-145 |
| Rubber FPM 80°shore | Black  | $d_2=1,78\text{mm}$ | Standard  | 38871 | 7-146 |
| Rubber FPM 80°shore | Black  | $d_2=1,9\text{mm}$  | Standard  | 38873 | 7-146 |
| Rubber FPM 80°shore | Black  | $d_2=2,0\text{mm}$  | Standard  | 38874 | 7-146 |
| Rubber FPM 80°shore | Black  | $d_2=2,4\text{mm}$  | Standard  | 38875 | 7-146 |
| Rubber FPM 80°shore | Black  | $d_2=2,62\text{mm}$ | Standard  | 38877 | 7-146 |
| Rubber FPM 80°shore | Black  | $d_2=3,53\text{mm}$ | Standard  | 38883 | 7-147 |
| Rubber FPM 80°shore | Black  | $d_2=4,0\text{mm}$  | Standard  | 38885 | 7-147 |
| Rubber FPM 80°shore | Black  | $d_2=5,0\text{mm}$  | Standard  | 38887 | 7-147 |

#### 38801 O-ring, $d_2=1,5\text{mm}$

W05A

|                  |                     |
|------------------|---------------------|
| <b>Material</b>  | Rubber NBR 70°shore |
| <b>Colour</b>    | Black               |
| <b>Packaging</b> | Standard            |



| d1    | ☒  | Art.number                    | d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|--------|----|-------------------------------|
| 3,0MM | 50 | <a href="#">38801.003.001</a> | 7,0MM | 50 | <a href="#">38801.007.001</a> | 9,0MM  | 50 | <a href="#">38801.009.001</a> |
| 5,0MM | 50 | <a href="#">38801.005.001</a> | 7,5MM | 50 | <a href="#">38801.007.501</a> | 35,0MM | 10 | <a href="#">38801.035.001</a> |
| 6,0MM | 50 | <a href="#">38801.006.001</a> | 8,0MM | 50 | <a href="#">38801.008.001</a> |        |    |                               |

#### 38802 O-ring, $d_2=1,6\text{mm}$

W05A

|                  |                     |
|------------------|---------------------|
| <b>Material</b>  | Rubber NBR 70°shore |
| <b>Colour</b>    | Black               |
| <b>Packaging</b> | Standard            |



| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 3,1MM  | 50 | <a href="#">38802.003.101</a> | 12,1MM | 25 | <a href="#">38802.012.101</a> | 21,1MM | 25 | <a href="#">38802.021.101</a> |
| 4,1MM  | 50 | <a href="#">38802.004.101</a> | 13,1MM | 25 | <a href="#">38802.013.101</a> | 22,1MM | 10 | <a href="#">38802.022.101</a> |
| 5,1MM  | 50 | <a href="#">38802.005.101</a> | 14,1MM | 25 | <a href="#">38802.014.101</a> | 25,1MM | 10 | <a href="#">38802.025.101</a> |
| 6,1MM  | 50 | <a href="#">38802.006.101</a> | 15,1MM | 25 | <a href="#">38802.015.101</a> | 27,1MM | 10 | <a href="#">38802.027.101</a> |
| 7,1MM  | 50 | <a href="#">38802.007.101</a> | 16,1MM | 25 | <a href="#">38802.016.101</a> | 29,1MM | 10 | <a href="#">38802.029.101</a> |
| 8,1MM  | 50 | <a href="#">38802.008.101</a> | 17,1MM | 25 | <a href="#">38802.017.101</a> | 32,1MM | 10 | <a href="#">38802.032.101</a> |
| 9,1MM  | 50 | <a href="#">38802.009.101</a> | 18,1MM | 25 | <a href="#">38802.018.101</a> | 35,1MM | 10 | <a href="#">38802.035.101</a> |
| 10,1MM | 25 | <a href="#">38802.010.101</a> | 19,1MM | 25 | <a href="#">38802.019.101</a> | 37,1MM | 10 | <a href="#">38802.037.101</a> |
| 11,1MM | 25 | <a href="#">38802.011.101</a> | 20,1MM | 25 | <a href="#">38802.020.101</a> |        |    |                               |

|                  |   |   |
|------------------|---|---|
| <b>38803</b>     | <b>O-ring, AS 568A d<sub>2</sub>=1,78mm</b> | <b>W05A</b>   |
| <b>Material</b>  | Rubber NBR 70°shore                         |  |
| <b>Colour</b>    | Black                                       |   |
| <b>Packaging</b> | Standard                                    |   |

| d1       | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    |
|----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 1,78-004 | 50 | <a href="#">38803.001.781</a> | 10,82-013 | 50 | <a href="#">38803.010.821</a> | 36,27MM   | 10 | <a href="#">38803.036.271</a> |
| 2,57-005 | 50 | <a href="#">38803.002.571</a> | 11,11MM   | 50 | <a href="#">38803.011.111</a> | 37,82-029 | 10 | <a href="#">38803.037.821</a> |
| 2,90-006 | 50 | <a href="#">38803.002.901</a> | 12,42-014 | 50 | <a href="#">38803.012.421</a> | 41,00-030 | 10 | <a href="#">38803.041.001</a> |
| 3,17MM   | 50 | <a href="#">38803.003.171</a> | 14,00-015 | 50 | <a href="#">38803.014.001</a> | 44,17-031 | 10 | <a href="#">38803.044.171</a> |
| 3,68-007 | 50 | <a href="#">38803.003.681</a> | 15,60-016 | 25 | <a href="#">38803.015.601</a> | 47,37-032 | 10 | <a href="#">38803.047.371</a> |
| 3,69-007 | 50 | <a href="#">38803.003.691</a> | 17,16-017 | 25 | <a href="#">38803.017.161</a> | 50,52-033 | 10 | <a href="#">38803.050.521</a> |
| 4,48-008 | 50 | <a href="#">38803.004.481</a> | 18,77-018 | 25 | <a href="#">38803.018.771</a> | 53,67-034 | 5  | <a href="#">38803.053.671</a> |
| 4,76MM   | 50 | <a href="#">38803.004.761</a> | 20,35-019 | 25 | <a href="#">38803.020.351</a> | 56,87-035 | 5  | <a href="#">38803.056.871</a> |
| 5,28-009 | 50 | <a href="#">38803.005.281</a> | 21,95-020 | 25 | <a href="#">38803.021.951</a> | 60,04MM   | 5  | <a href="#">38803.060.041</a> |
| 6,07-010 | 50 | <a href="#">38803.006.071</a> | 25,12-022 | 10 | <a href="#">38803.025.121</a> | 63,22-037 | 5  | <a href="#">38803.063.221</a> |
| 6,35MM   | 50 | <a href="#">38803.006.351</a> | 26,70-023 | 10 | <a href="#">38803.026.701</a> | 66,40-038 | 5  | <a href="#">38803.066.401</a> |
| 6,75MM   | 50 | <a href="#">38803.006.751</a> | 28,30-024 | 10 | <a href="#">38803.028.301</a> | 69,57-039 | 5  | <a href="#">38803.069.571</a> |
| 7,66-011 | 50 | <a href="#">38803.007.661</a> | 29,87-025 | 10 | <a href="#">38803.029.871</a> | 72,76-040 | 5  | <a href="#">38803.072.761</a> |
| 7,94MM   | 50 | <a href="#">38803.007.941</a> | 31,47-026 | 10 | <a href="#">38803.031.471</a> | 82,28-042 | 5  | <a href="#">38803.082.281</a> |
| 8,73MM   | 50 | <a href="#">38803.008.731</a> | 33,05-027 | 10 | <a href="#">38803.033.051</a> |           |    |                               |
| 9,25-012 | 50 | <a href="#">38803.009.251</a> | 34,65-028 | 10 | <a href="#">38803.034.651</a> |           |    |                               |

|                  |                                    |  |
|------------------|------------------------------------|--|
| <b>38805</b>     | <b>O-ring, d<sub>2</sub>=2,0mm</b> | <b>W05A</b>  |
| <b>Material</b>  | Rubber NBR 70°shore                |  |
| <b>Colour</b>    | Black                              |  |
| <b>Packaging</b> | Standard                           |  |

| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 4,0MM  | 50 | <a href="#">38805.004.001</a> | 18,0MM | 25 | <a href="#">38805.018.001</a> | 36,0MM | 10 | <a href="#">38805.036.001</a> |
| 5,0MM  | 50 | <a href="#">38805.005.001</a> | 19,0MM | 25 | <a href="#">38805.019.001</a> | 37,0MM | 10 | <a href="#">38805.037.001</a> |
| 5,5MM  | 50 | <a href="#">38805.005.501</a> | 20,0MM | 10 | <a href="#">38805.020.001</a> | 38,0MM | 10 | <a href="#">38805.038.001</a> |
| 6,0MM  | 50 | <a href="#">38805.006.001</a> | 21,0MM | 10 | <a href="#">38805.021.001</a> | 40,0MM | 10 | <a href="#">38805.040.001</a> |
| 7,0MM  | 50 | <a href="#">38805.007.001</a> | 22,0MM | 10 | <a href="#">38805.022.001</a> | 42,0MM | 10 | <a href="#">38805.042.001</a> |
| 8,0MM  | 50 | <a href="#">38805.008.001</a> | 23,0MM | 10 | <a href="#">38805.023.001</a> | 43,0MM | 10 | <a href="#">38805.043.001</a> |
| 9,0MM  | 50 | <a href="#">38805.009.001</a> | 24,0MM | 10 | <a href="#">38805.024.001</a> | 45,0MM | 10 | <a href="#">38805.045.001</a> |
| 10,0MM | 50 | <a href="#">38805.010.001</a> | 25,0MM | 10 | <a href="#">38805.025.001</a> | 46,0MM | 10 | <a href="#">38805.046.001</a> |
| 11,0MM | 50 | <a href="#">38805.011.001</a> | 26,0MM | 10 | <a href="#">38805.026.001</a> | 47,0MM | 10 | <a href="#">38805.047.001</a> |
| 12,0MM | 50 | <a href="#">38805.012.001</a> | 27,0MM | 10 | <a href="#">38805.027.001</a> | 50,0MM | 10 | <a href="#">38805.050.001</a> |
| 13,0MM | 25 | <a href="#">38805.013.001</a> | 28,0MM | 10 | <a href="#">38805.028.001</a> | 53,0MM | 5  | <a href="#">38805.053.001</a> |
| 14,0MM | 25 | <a href="#">38805.014.001</a> | 30,0MM | 10 | <a href="#">38805.030.001</a> | 55,0MM | 5  | <a href="#">38805.055.001</a> |
| 15,0MM | 25 | <a href="#">38805.015.001</a> | 32,0MM | 10 | <a href="#">38805.032.001</a> | 56,0MM | 5  | <a href="#">38805.056.001</a> |
| 16,0MM | 25 | <a href="#">38805.016.001</a> | 33,0MM | 10 | <a href="#">38805.033.001</a> | 58,0MM | 5  | <a href="#">38805.058.001</a> |
| 17,0MM | 25 | <a href="#">38805.017.001</a> | 35,0MM | 10 | <a href="#">38805.035.001</a> |        |    |                               |

|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>38806</b>     | <b>O-ring, d<sub>2</sub>=2,4mm</b> | <b>W05A</b>   |
| <b>Material</b>  | Rubber NBR 70°shore                |  |
| <b>Colour</b>    | Black                              |   |
| <b>Packaging</b> | Standard                           |   |

| d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 5,3MM | 50 | <a href="#">38806.005.301</a> | 9,3MM  | 50 | <a href="#">38806.009.301</a> | 14,3MM | 25 | <a href="#">38806.014.301</a> |
| 6,3MM | 50 | <a href="#">38806.006.301</a> | 10,3MM | 50 | <a href="#">38806.010.301</a> | 16,3MM | 25 | <a href="#">38806.016.301</a> |
| 7,3MM | 50 | <a href="#">38806.007.301</a> | 11,3MM | 50 | <a href="#">38806.011.301</a> | 17,3MM | 25 | <a href="#">38806.017.301</a> |
| 8,0MM | 50 | <a href="#">38806.008.001</a> | 12,3MM | 50 | <a href="#">38806.012.301</a> | 20,3MM | 25 | <a href="#">38806.020.301</a> |
| 8,3MM | 50 | <a href="#">38806.008.301</a> | 13,3MM | 50 | <a href="#">38806.013.301</a> | 25,3MM | 25 | <a href="#">38806.025.301</a> |

|                  |                                    |   |
|------------------|------------------------------------|---|
| <b>38807</b>     | <b>O-ring, d<sub>2</sub>=2,5mm</b> | <b>W05A</b>   |
| <b>Material</b>  | Rubber NBR 70°shore                |  |
| <b>Colour</b>    | Black                              |   |
| <b>Packaging</b> | Standard                           |   |

| d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 5,0MM | 50 | <a href="#">38807.005.001</a> | 8,0MM  | 50 | <a href="#">38807.008.001</a> | 11,0MM | 50 | <a href="#">38807.011.001</a> |
| 6,0MM | 50 | <a href="#">38807.006.001</a> | 9,0MM  | 50 | <a href="#">38807.009.001</a> | 12,0MM | 50 | <a href="#">38807.012.001</a> |
| 7,0MM | 50 | <a href="#">38807.007.001</a> | 10,0MM | 50 | <a href="#">38807.010.001</a> | 13,0MM | 50 | <a href="#">38807.013.001</a> |

| 38807 O-ring, d |    |                               |        |    |                               |        |    |                               |
|-----------------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| d1              | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
| 14,0MM          | 25 | <a href="#">38807.014.001</a> | 23,0MM | 10 | <a href="#">38807.023.001</a> | 32,0MM | 10 | <a href="#">38807.032.001</a> |
| 15,0MM          | 25 | <a href="#">38807.015.001</a> | 24,0MM | 10 | <a href="#">38807.024.001</a> | 35,0MM | 10 | <a href="#">38807.035.001</a> |
| 16,0MM          | 25 | <a href="#">38807.016.001</a> | 25,0MM | 10 | <a href="#">38807.025.001</a> | 36,0MM | 10 | <a href="#">38807.036.001</a> |
| 17,0MM          | 25 | <a href="#">38807.017.001</a> | 26,0MM | 10 | <a href="#">38807.026.001</a> | 38,0MM | 10 | <a href="#">38807.038.001</a> |
| 18,0MM          | 10 | <a href="#">38807.018.001</a> | 27,0MM | 10 | <a href="#">38807.027.001</a> | 39,0MM | 10 | <a href="#">38807.039.001</a> |
| 19,0MM          | 10 | <a href="#">38807.019.001</a> | 28,0MM | 10 | <a href="#">38807.028.001</a> | 40,0MM | 10 | <a href="#">38807.040.001</a> |
| 20,0MM          | 10 | <a href="#">38807.020.001</a> | 29,0MM | 10 | <a href="#">38807.029.001</a> | 44,0MM | 10 | <a href="#">38807.044.001</a> |
| 21,0MM          | 10 | <a href="#">38807.021.001</a> | 30,0MM | 10 | <a href="#">38807.030.001</a> |        |    |                               |
| 22,0MM          | 10 | <a href="#">38807.022.001</a> | 31,0MM | 10 | <a href="#">38807.031.001</a> |        |    |                               |

| 38808 O-ring, AS 568A d <sub>2</sub> =2,62mm |                     | W05A |
|--|---------------------|------|
| <b>Material</b>                              | Rubber NBR 70°shore |      |
| <b>Colour</b>                                | Black               |      |
| <b>Packaging</b>                             | Standard            |      |

| d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒ | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|---|-------------------------------|
| 9,19-110  | 50 | <a href="#">38808.009.191</a> | 22,22MM   | 10 | <a href="#">38808.022.221</a> | 50,47-136 | 5 | <a href="#">38808.050.471</a> |
| 9,92MM    | 50 | <a href="#">38808.009.921</a> | 23,47-119 | 10 | <a href="#">38808.023.471</a> | 52,07-137 | 5 | <a href="#">38808.052.071</a> |
| 10,78-111 | 50 | <a href="#">38808.010.781</a> | 23,81MM   | 10 | <a href="#">38808.023.811</a> | 55,25-139 | 5 | <a href="#">38808.055.251</a> |
| 11,91MM   | 50 | <a href="#">38808.011.911</a> | 25,07-120 | 10 | <a href="#">38808.025.071</a> | 56,82-140 | 5 | <a href="#">38808.056.821</a> |
| 12,37-112 | 50 | <a href="#">38808.012.371</a> | 26,64MM   | 10 | <a href="#">38808.026.641</a> | 58,42-141 | 5 | <a href="#">38808.058.421</a> |
| 12,70MM   | 50 | <a href="#">38808.012.701</a> | 29,82-123 | 10 | <a href="#">38808.029.821</a> | 60,00-142 | 5 | <a href="#">38808.060.001</a> |
| 13,10MM   | 25 | <a href="#">38808.013.101</a> | 31,42-124 | 10 | <a href="#">38808.031.421</a> | 61,60-143 | 5 | <a href="#">38808.061.601</a> |
| 13,95-113 | 25 | <a href="#">38808.013.951</a> | 33,00-125 | 10 | <a href="#">38808.033.001</a> | 63,17-144 | 5 | <a href="#">38808.063.171</a> |
| 15,08MM   | 25 | <a href="#">38808.015.081</a> | 34,59-126 | 10 | <a href="#">38808.034.591</a> | 64,77-145 | 5 | <a href="#">38808.064.771</a> |
| 15,54-114 | 25 | <a href="#">38808.015.541</a> | 36,17-127 | 10 | <a href="#">38808.036.171</a> | 67,95-147 | 5 | <a href="#">38808.067.951</a> |
| 15,88MM   | 25 | <a href="#">38808.015.881</a> | 37,77-128 | 10 | <a href="#">38808.037.771</a> | 69,52-148 | 5 | <a href="#">38808.069.521</a> |
| 17,13-115 | 25 | <a href="#">38808.017.131</a> | 39,34-129 | 10 | <a href="#">38808.039.341</a> | 71,12-149 | 5 | <a href="#">38808.071.121</a> |
| 17,86MM   | 25 | <a href="#">38808.017.861</a> | 40,95-130 | 10 | <a href="#">38808.040.951</a> | 74,30MM   | 5 | <a href="#">38808.074.301</a> |
| 18,72-116 | 25 | <a href="#">38808.018.721</a> | 44,12-132 | 10 | <a href="#">38808.044.121</a> | 80,60MM   | 5 | <a href="#">38808.080.601</a> |
| 20,29-117 | 10 | <a href="#">38808.020.291</a> | 45,69-133 | 10 | <a href="#">38808.045.691</a> | 82,22-152 | 5 | <a href="#">38808.082.221</a> |
| 20,63MM   | 10 | <a href="#">38808.020.631</a> | 47,29-134 | 10 | <a href="#">38808.047.291</a> | 83,80MM   | 5 | <a href="#">38808.083.801</a> |
| 21,89-118 | 10 | <a href="#">38808.021.891</a> | 48,90-135 | 10 | <a href="#">38808.048.901</a> | 94,93MM   | 5 | <a href="#">38808.094.931</a> |

| 38810 O-ring, d <sub>2</sub> =3,0mm |                     | W05A |
|-------------------------------------|---------------------|------|
| <b>Material</b>                     | Rubber NBR 70°shore |      |
| <b>Colour</b>                       | Black               |      |
| <b>Packaging</b>                    | Standard            |      |

| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1      | ☒ | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|---------|---|-------------------------------|
| 5,0MM  | 50 | <a href="#">38810.005.001</a> | 26,0MM | 10 | <a href="#">38810.026.001</a> | 52,0MM  | 5 | <a href="#">38810.052.001</a> |
| 6,0MM  | 50 | <a href="#">38810.006.001</a> | 26,2MM | 10 | <a href="#">38810.026.201</a> | 54,5MM  | 5 | <a href="#">38810.054.501</a> |
| 7,0MM  | 50 | <a href="#">38810.007.001</a> | 27,0MM | 10 | <a href="#">38810.027.001</a> | 56,0MM  | 5 | <a href="#">38810.056.001</a> |
| 8,0MM  | 50 | <a href="#">38810.008.001</a> | 28,0MM | 10 | <a href="#">38810.028.001</a> | 58,0MM  | 5 | <a href="#">38810.058.001</a> |
| 9,0MM  | 50 | <a href="#">38810.009.001</a> | 29,0MM | 10 | <a href="#">38810.029.001</a> | 59,0MM  | 5 | <a href="#">38810.059.001</a> |
| 10,0MM | 50 | <a href="#">38810.010.001</a> | 30,0MM | 10 | <a href="#">38810.030.001</a> | 62,0MM  | 5 | <a href="#">38810.062.001</a> |
| 11,0MM | 50 | <a href="#">38810.011.001</a> | 31,0MM | 10 | <a href="#">38810.031.001</a> | 64,5MM  | 5 | <a href="#">38810.064.501</a> |
| 12,0MM | 50 | <a href="#">38810.012.001</a> | 32,0MM | 10 | <a href="#">38810.032.001</a> | 66,0MM  | 5 | <a href="#">38810.066.001</a> |
| 13,0MM | 50 | <a href="#">38810.013.001</a> | 33,0MM | 10 | <a href="#">38810.033.001</a> | 72,0MM  | 5 | <a href="#">38810.072.001</a> |
| 14,0MM | 25 | <a href="#">38810.014.001</a> | 34,0MM | 10 | <a href="#">38810.034.001</a> | 74,5MM  | 5 | <a href="#">38810.074.501</a> |
| 15,0MM | 25 | <a href="#">38810.015.001</a> | 35,0MM | 10 | <a href="#">38810.035.001</a> | 78,0MM  | 5 | <a href="#">38810.078.001</a> |
| 16,0MM | 25 | <a href="#">38810.016.001</a> | 36,0MM | 10 | <a href="#">38810.036.001</a> | 79,5MM  | 5 | <a href="#">38810.079.501</a> |
| 17,0MM | 25 | <a href="#">38810.017.001</a> | 37,0MM | 10 | <a href="#">38810.037.001</a> | 84,5MM  | 5 | <a href="#">38810.084.501</a> |
| 18,0MM | 25 | <a href="#">38810.018.001</a> | 38,0MM | 10 | <a href="#">38810.038.001</a> | 89,5MM  | 5 | <a href="#">38810.089.501</a> |
| 19,0MM | 25 | <a href="#">38810.019.001</a> | 39,0MM | 10 | <a href="#">38810.039.001</a> | 108,0MM | 5 | <a href="#">38810.108.001</a> |
| 20,0MM | 25 | <a href="#">38810.020.001</a> | 40,0MM | 10 | <a href="#">38810.040.001</a> | 119,5MM | 5 | <a href="#">38810.119.501</a> |
| 20,2MM | 10 | <a href="#">38810.020.201</a> | 41,0MM | 10 | <a href="#">38810.041.001</a> | 175,0MM | 5 | <a href="#">38810.175.001</a> |
| 21,0MM | 10 | <a href="#">38810.021.001</a> | 42,0MM | 10 | <a href="#">38810.042.001</a> | 180,0MM | 5 | <a href="#">38810.180.001</a> |
| 22,0MM | 10 | <a href="#">38810.022.001</a> | 43,0MM | 10 | <a href="#">38810.043.001</a> | 195,0MM | 5 | <a href="#">38810.195.001</a> |
| 22,2MM | 10 | <a href="#">38810.022.201</a> | 44,0MM | 10 | <a href="#">38810.044.001</a> | 210,0MM | 5 | <a href="#">38810.210.001</a> |
| 23,0MM | 10 | <a href="#">38810.023.001</a> | 45,0MM | 10 | <a href="#">38810.045.001</a> | 220,0MM | 5 | <a href="#">38810.220.001</a> |
| 24,0MM | 10 | <a href="#">38810.024.001</a> | 46,0MM | 10 | <a href="#">38810.046.001</a> | 245,0MM | 5 | <a href="#">38810.245.001</a> |
| 24,2MM | 10 | <a href="#">38810.024.201</a> | 47,0MM | 10 | <a href="#">38810.047.001</a> | 250,0MM | 5 | <a href="#">38810.250.001</a> |
| 25,0MM | 10 | <a href="#">38810.025.001</a> | 48,0MM | 10 | <a href="#">38810.048.001</a> | 300,0MM | 5 | <a href="#">38810.300.001</a> |


| 38812 O-ring, AS 568A d <sub>2</sub> =3,53mm |                     | W05A |
|--|---------------------|------|
| <b>Material</b>                              | Rubber NBR 70°shore |      |
| <b>Colour</b>                                | Black               |      |
| <b>Packaging</b>                             | Standard            |      |

| d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 18,64-210 | 25 | <a href="#">38812.018.641</a> | 20,22-211 | 10 | <a href="#">38812.020.221</a> | 21,82-212 | 10 | <a href="#">38812.021.821</a> |

**38812 O-ring, AS 568A d**


| d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1         | ☒ | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|------------|---|-------------------------------|
| 23,40-213 | 10 | <a href="#">38812.023.401</a> | 47,22-225 | 10 | <a href="#">38812.047.221</a> | 74,60MM    | 5 | <a href="#">38812.074.601</a> |
| 24,99-214 | 10 | <a href="#">38812.024.991</a> | 49,21MM   | 10 | <a href="#">38812.049.211</a> | 78,97-235  | 5 | <a href="#">38812.078.971</a> |
| 25,80MM   | 10 | <a href="#">38812.025.801</a> | 50,40MM   | 5  | <a href="#">38812.050.401</a> | 82,14-236  | 5 | <a href="#">38812.082.141</a> |
| 26,58-215 | 10 | <a href="#">38812.026.581</a> | 50,80-226 | 5  | <a href="#">38812.050.801</a> | 85,32-237  | 5 | <a href="#">38812.085.321</a> |
| 28,17-216 | 10 | <a href="#">38812.028.171</a> | 52,39MM   | 5  | <a href="#">38812.052.391</a> | 91,67-238  | 5 | <a href="#">38812.091.671</a> |
| 29,75-217 | 10 | <a href="#">38812.029.751</a> | 53,57-227 | 5  | <a href="#">38812.053.571</a> | 94,84-240  | 5 | <a href="#">38812.094.841</a> |
| 31,34-218 | 10 | <a href="#">38812.031.341</a> | 53,98MM   | 5  | <a href="#">38812.053.981</a> | 98,02-241  | 5 | <a href="#">38812.098.021</a> |
| 32,92-219 | 10 | <a href="#">38812.032.941</a> | 55,56MM   | 5  | <a href="#">38812.055.561</a> | 101,20-242 | 5 | <a href="#">38812.101.201</a> |
| 34,52-220 | 10 | <a href="#">38812.034.521</a> | 57,15MM   | 5  | <a href="#">38812.057.151</a> | 104,37-243 | 5 | <a href="#">38812.104.371</a> |
| 36,10-221 | 10 | <a href="#">38812.036.101</a> | 58,74MM   | 5  | <a href="#">38812.058.741</a> | 107,54-244 | 5 | <a href="#">38812.107.541</a> |
| 37,69-222 | 10 | <a href="#">38812.037.691</a> | 59,92-229 | 5  | <a href="#">38812.059.921</a> | 110,72-245 | 5 | <a href="#">38812.110.721</a> |
| 39,69MM   | 10 | <a href="#">38812.039.691</a> | 60,33MM   | 5  | <a href="#">38812.060.331</a> | 117,07-247 | 5 | <a href="#">38812.117.071</a> |
| 40,87-223 | 10 | <a href="#">38812.040.871</a> | 66,27-231 | 5  | <a href="#">38812.066.271</a> | 123,42-249 | 5 | <a href="#">38812.123.421</a> |
| 41,28MM   | 10 | <a href="#">38812.041.281</a> | 68,26MM   | 5  | <a href="#">38812.068.261</a> | 132,94-252 | 5 | <a href="#">38812.132.941</a> |
| 42,86MM   | 10 | <a href="#">38812.042.861</a> | 69,44-232 | 5  | <a href="#">38812.069.441</a> | 136,12-253 | 5 | <a href="#">38812.136.121</a> |
| 44,04-224 | 10 | <a href="#">38812.044.041</a> | 69,85MM   | 5  | <a href="#">38812.069.851</a> | 142,47-255 | 5 | <a href="#">38812.142.471</a> |
| 44,45MM   | 10 | <a href="#">38812.044.451</a> | 71,44MM   | 5  | <a href="#">38812.071.441</a> | 151,99-258 | 5 | <a href="#">38812.151.991</a> |
| 46,04MM   | 10 | <a href="#">38812.046.041</a> | 72,62-233 | 5  | <a href="#">38812.072.621</a> |            |   |                               |

**38814 O-ring, d<sub>2</sub>=4,0mm** W05A

|                  |                     |   |
|------------------|---------------------|---|
| <b>Material</b>  | Rubber NBR 70°shore |  |
| <b>Colour</b>    | Black               |   |
| <b>Packaging</b> | Standard            |   |


| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1      | ☒ | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|---------|---|-------------------------------|
| 9,0MM  | 50 | <a href="#">38814.009.001</a> | 30,0MM | 10 | <a href="#">38814.030.001</a> | 58,0MM  | 5 | <a href="#">38814.058.001</a> |
| 10,0MM | 50 | <a href="#">38814.010.001</a> | 32,0MM | 10 | <a href="#">38814.032.001</a> | 59,0MM  | 5 | <a href="#">38814.059.001</a> |
| 12,0MM | 25 | <a href="#">38814.012.001</a> | 34,0MM | 10 | <a href="#">38814.034.001</a> | 60,0MM  | 5 | <a href="#">38814.060.001</a> |
| 14,0MM | 25 | <a href="#">38814.014.001</a> | 35,0MM | 10 | <a href="#">38814.035.001</a> | 64,0MM  | 5 | <a href="#">38814.064.001</a> |
| 16,0MM | 25 | <a href="#">38814.016.001</a> | 36,0MM | 10 | <a href="#">38814.036.001</a> | 65,0MM  | 5 | <a href="#">38814.065.001</a> |
| 18,0MM | 25 | <a href="#">38814.018.001</a> | 38,0MM | 10 | <a href="#">38814.038.001</a> | 66,0MM  | 5 | <a href="#">38814.066.001</a> |
| 19,0MM | 25 | <a href="#">38814.019.001</a> | 40,0MM | 10 | <a href="#">38814.040.001</a> | 70,0MM  | 5 | <a href="#">38814.070.001</a> |
| 20,0MM | 25 | <a href="#">38814.020.001</a> | 42,0MM | 10 | <a href="#">38814.042.001</a> | 72,0MM  | 5 | <a href="#">38814.072.001</a> |
| 21,0MM | 25 | <a href="#">38814.021.001</a> | 43,0MM | 10 | <a href="#">38814.043.001</a> | 75,0MM  | 5 | <a href="#">38814.075.001</a> |
| 22,0MM | 25 | <a href="#">38814.022.001</a> | 44,0MM | 10 | <a href="#">38814.044.001</a> | 78,0MM  | 5 | <a href="#">38814.078.001</a> |
| 23,0MM | 25 | <a href="#">38814.023.001</a> | 48,0MM | 10 | <a href="#">38814.048.001</a> | 80,0MM  | 5 | <a href="#">38814.080.001</a> |
| 24,0MM | 25 | <a href="#">38814.024.001</a> | 49,0MM | 10 | <a href="#">38814.049.001</a> | 87,0MM  | 5 | <a href="#">38814.087.001</a> |
| 25,0MM | 10 | <a href="#">38814.025.001</a> | 50,0MM | 10 | <a href="#">38814.050.001</a> | 125,0MM | 5 | <a href="#">38814.125.001</a> |
| 26,0MM | 10 | <a href="#">38814.026.001</a> | 52,0MM | 5  | <a href="#">38814.052.001</a> |         |   |                               |
| 28,0MM | 10 | <a href="#">38814.028.001</a> | 55,0MM | 5  | <a href="#">38814.055.001</a> |         |   |                               |

**38816 O-ring, d<sub>2</sub>=5,0mm** W05A

|                  |                     |   |
|------------------|---------------------|---|
| <b>Material</b>  | Rubber NBR 70°shore |  |
| <b>Colour</b>    | Black               |   |
| <b>Packaging</b> | Standard            |   |

| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 12,0MM | 25 | <a href="#">38816.012.001</a> | 22,0MM | 10 | <a href="#">38816.022.001</a> | 48,0MM | 10 | <a href="#">38816.048.001</a> |
| 15,0MM | 25 | <a href="#">38816.015.001</a> | 23,0MM | 10 | <a href="#">38816.023.001</a> | 50,0MM | 10 | <a href="#">38816.050.001</a> |
| 16,0MM | 25 | <a href="#">38816.016.001</a> | 25,0MM | 10 | <a href="#">38816.025.001</a> | 55,0MM | 5  | <a href="#">38816.055.001</a> |
| 17,0MM | 25 | <a href="#">38816.017.001</a> | 27,0MM | 10 | <a href="#">38816.027.001</a> | 65,0MM | 5  | <a href="#">38816.065.001</a> |
| 18,0MM | 25 | <a href="#">38816.018.001</a> | 30,0MM | 10 | <a href="#">38816.030.001</a> | 70,0MM | 5  | <a href="#">38816.070.001</a> |
| 19,0MM | 25 | <a href="#">38816.019.001</a> | 35,0MM | 10 | <a href="#">38816.035.001</a> | 75,0MM | 5  | <a href="#">38816.075.001</a> |
| 20,0MM | 10 | <a href="#">38816.020.001</a> | 40,0MM | 10 | <a href="#">38816.040.001</a> |        |    |                               |
| 21,0MM | 10 | <a href="#">38816.021.001</a> | 45,0MM | 10 | <a href="#">38816.045.001</a> |        |    |                               |

**38869 O-ring (Viton), d<sub>2</sub>=1,6mm** W07A

|                  |                     |   |
|------------------|---------------------|---|
| <b>Material</b>  | Rubber FPM 80°shore |  |
| <b>Colour</b>    | Black               |   |
| <b>Packaging</b> | Standard            |   |


| d1    | ☒  | Art.number                    | d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|--------|----|-------------------------------|
| 2,2MM | 50 | <a href="#">38869.002.201</a> | 4,7MM | 50 | <a href="#">38869.004.701</a> | 10,1MM | 25 | <a href="#">38869.010.101</a> |
| 2,8MM | 50 | <a href="#">38869.002.801</a> | 5,1MM | 50 | <a href="#">38869.005.101</a> | 11,1MM | 25 | <a href="#">38869.011.101</a> |
| 3,1MM | 50 | <a href="#">38869.003.101</a> | 6,1MM | 50 | <a href="#">38869.006.101</a> | 12,1MM | 25 | <a href="#">38869.012.101</a> |
| 3,7MM | 50 | <a href="#">38869.003.701</a> | 7,1MM | 50 | <a href="#">38869.007.101</a> | 13,1MM | 25 | <a href="#">38869.013.101</a> |
| 4,1MM | 50 | <a href="#">38869.004.101</a> | 9,1MM | 50 | <a href="#">38869.009.101</a> |        |    |                               |

| 38871 O-ring (Viton), AS 568A d <sub>2</sub> =1,78mm |                     | W07A  |
|--|---------------------|---|
| <b>Material</b>                                      | Rubber FPM 80°shore |  |
| <b>Colour</b>  | Black               |   |
| <b>Packaging</b>                                     | Standard            |   |

| d1       | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    |
|----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 2,90-006 | 50 | <a href="#">38871.002.901</a> | 6,07-010  | 50 | <a href="#">38871.006.071</a> | 12,42-014 | 25 | <a href="#">38871.012.421</a> |
| 3,69-007 | 50 | <a href="#">38871.003.691</a> | 7,65MM    | 50 | <a href="#">38871.007.651</a> | 14,00MM   | 25 | <a href="#">38871.014.001</a> |
| 4,48-008 | 50 | <a href="#">38871.004.481</a> | 9,25-012  | 50 | <a href="#">38871.009.251</a> | 15,60-016 | 25 | <a href="#">38871.015.601</a> |
| 5,28-009 | 50 | <a href="#">38871.005.281</a> | 10,82-013 | 25 | <a href="#">38871.010.821</a> | 17,17MM   | 25 | <a href="#">38871.017.171</a> |

| 38873 O-ring (Viton), d <sub>2</sub> =1,9mm |                     | W07A  |
|---|---------------------|---|
| <b>Material</b>                             | Rubber FPM 80°shore |  |
| <b>Colour</b>                               | Black               |   |
| <b>Packaging</b>                            | Standard            |   |

| d1    | ☒  | Art.number                    | d1    | ☒  | Art.number                    | d1    | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| 2,4MM | 50 | <a href="#">38873.002.401</a> | 4,2MM | 50 | <a href="#">38873.004.201</a> | 7,2MM | 50 | <a href="#">38873.007.201</a> |
| 2,6MM | 50 | <a href="#">38873.002.601</a> | 4,9MM | 50 | <a href="#">38873.004.901</a> | 8,9MM | 50 | <a href="#">38873.008.901</a> |
| 3,4MM | 50 | <a href="#">38873.003.401</a> | 5,7MM | 50 | <a href="#">38873.005.701</a> |       |    |                               |

| 38874 O-ring (Viton), d <sub>2</sub> =2,0mm |                     | W07A  |
|---|---------------------|---|
| <b>Material</b>                             | Rubber FPM 80°shore |  |
| <b>Colour</b>                               | Black               |   |
| <b>Packaging</b>                            | Standard            |   |

| d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 4,0MM | 50 | <a href="#">38874.004.001</a> | 10,0MM | 25 | <a href="#">38874.010.001</a> | 16,0MM | 25 | <a href="#">38874.016.001</a> |
| 6,0MM | 50 | <a href="#">38874.006.001</a> | 12,0MM | 25 | <a href="#">38874.012.001</a> | 18,0MM | 25 | <a href="#">38874.018.001</a> |
| 8,0MM | 50 | <a href="#">38874.008.001</a> | 14,0MM | 25 | <a href="#">38874.014.001</a> | 20,0MM | 10 | <a href="#">38874.020.001</a> |

7

| 38875 O-ring (Viton), d <sub>2</sub> =2,4mm |                     | W07A  |
|---|---------------------|---|
| <b>Material</b>                             | Rubber FPM 80°shore |  |
| <b>Colour</b>                               | Black               |   |
| <b>Packaging</b>                            | Standard            |   |

| d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 3,3MM | 50 | <a href="#">38875.003.301</a> | 8,3MM  | 50 | <a href="#">38875.008.301</a> | 13,3MM | 25 | <a href="#">38875.013.301</a> |
| 4,3MM | 50 | <a href="#">38875.004.301</a> | 9,3MM  | 50 | <a href="#">38875.009.301</a> | 14,3MM | 25 | <a href="#">38875.014.301</a> |
| 5,3MM | 50 | <a href="#">38875.005.301</a> | 10,3MM | 25 | <a href="#">38875.010.301</a> | 15,3MM | 25 | <a href="#">38875.015.301</a> |
| 6,3MM | 50 | <a href="#">38875.006.301</a> | 11,3MM | 25 | <a href="#">38875.011.301</a> |        |    |                               |
| 7,3MM | 50 | <a href="#">38875.007.301</a> | 12,3MM | 50 | <a href="#">38875.012.301</a> |        |    |                               |

| 38877 O-ring (Viton), AS 568A d <sub>2</sub> =2,62mm |                     | W07A  |
|--|---------------------|---|
| <b>Material</b>                                      | Rubber FPM 80°shore |  |
| <b>Colour</b>  | Black               |   |
| <b>Packaging</b>                                     | Standard            |   |

| d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 9,20MM    | 50 | <a href="#">38877.009.201</a> | 15,54-114 | 25 | <a href="#">38877.015.541</a> | 21,90MM   | 10 | <a href="#">38877.021.901</a> |
| 10,78-111 | 25 | <a href="#">38877.010.781</a> | 17,12MM   | 25 | <a href="#">38877.017.121</a> | 23,47-119 | 10 | <a href="#">38877.023.471</a> |
| 12,37-112 | 25 | <a href="#">38877.012.371</a> | 18,72-116 | 25 | <a href="#">38877.018.721</a> |           |    |                               |
| 13,95-113 | 25 | <a href="#">38877.013.951</a> | 20,30MM   | 10 | <a href="#">38877.020.301</a> |           |    |                               |

|                  |   |  |   |
|------------------|---|--|---|
| <b>38883</b>     | <b>O-ring (Viton), AS 568A d<sub>2</sub>=3,53mm</b> |  | <b>W07A</b>   |
| <b>Material</b>  | Rubber FPM 80°shore                                 |  |  |
| <b>Colour</b>    | Black   |  |   |
| <b>Packaging</b> | Standard  |  |   |

| d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    | d1        | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 18,64-210 | 25 | <a href="#">38883.018.641</a> | 26,57MM   | 10 | <a href="#">38883.026.571</a> | 34,52-220 | 10 | <a href="#">38883.034.521</a> |
| 20,22-211 | 10 | <a href="#">38883.020.221</a> | 28,17-216 | 10 | <a href="#">38883.028.171</a> | 36,09MM   | 10 | <a href="#">38883.036.091</a> |
| 21,82-212 | 10 | <a href="#">38883.021.821</a> | 29,74MM   | 10 | <a href="#">38883.029.741</a> | 37,69MM   | 10 | <a href="#">38883.037.691</a> |
| 23,39MM   | 10 | <a href="#">38883.023.391</a> | 31,34-218 | 10 | <a href="#">38883.031.341</a> | 40,87-223 | 10 | <a href="#">38883.040.871</a> |
| 24,99-214 | 10 | <a href="#">38883.024.991</a> | 32,92MM   | 10 | <a href="#">38883.032.921</a> |           |    |                               |

|                  |  |  |   |
|------------------|--|--|---|
| <b>38885</b>     | <b>O-ring (Viton), d<sub>2</sub>=4,0mm</b> |  | <b>W07A</b>   |
| <b>Material</b>  | Rubber FPM 80°shore                        |  |  |
| <b>Colour</b>    | Black                                      |  |   |
| <b>Packaging</b> | Standard                                   |  |   |











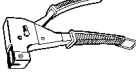











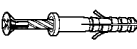

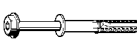






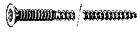





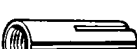







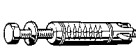

| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 30,0MM | 10 | <a href="#">38885.030.001</a> | 34,0MM | 10 | <a href="#">38885.034.001</a> | 38,0MM | 10 | <a href="#">38885.038.001</a> |
| 32,0MM | 10 | <a href="#">38885.032.001</a> | 35,0MM | 10 | <a href="#">38885.035.001</a> | 40,0MM | 10 | <a href="#">38885.040.001</a> |

|                  |  |  |   |
|------------------|--|--|---|
| <b>38887</b>     | <b>O-ring (Viton), d<sub>2</sub>=5,0mm</b> |  | <b>W07A</b>   |
| <b>Material</b>  | Rubber FPM 80°shore                        |  |  |
| <b>Colour</b>    | Black                                      |  |   |
| <b>Packaging</b> | Standard                                   |  |   |

| d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1 | ☒ | Art.number |
|--------|----|-------------------------------|--------|----|-------------------------------|----|---|------------|
| 35,0MM | 10 | <a href="#">38887.035.001</a> | 45,0MM | 10 | <a href="#">38887.045.001</a> |    |   |            |
| 40,0MM | 10 | <a href="#">38887.040.001</a> | 50,0MM | 10 | <a href="#">38887.050.001</a> |    |   |            |



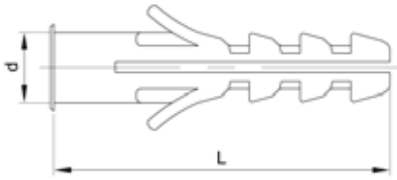
## Anchoring products/plugs 8

|  |   |   |   |  |
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| <p>Page 8-9</p>  <p><b>FISCHER Type SX</b></p>        | <p>Page 8-11</p>  <p><b>MAXXFAST MultiFast</b></p>               | <p>Page 8-12</p>  <p><b>FISCHER Type UX/UX-R</b></p>   | <p>Page 8-13</p>  <p><b>MAXXFAST 4Fast</b></p>                | <p>Page 8-14</p>  <p><b>FISCHER Universal type FU</b></p>           |
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| <p>Page 8-20</p>  <p><b>FISCHER Type GB</b></p>       | <p>Page 8-21</p>  <p><b>FISCHER Type GK/GKS</b></p>              | <p>Page 8-22</p>  <p><b>FISCHER Type FTP Steel</b></p> | <p>Page 8-22</p>  <p><b>FISCHER Type FTP Plastic</b></p>      | <p>Page 8-23</p>  <p><b>FISCHER Installation tool FTP</b></p>       |
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| <p>Page 8-30</p>  <p><b>FISCHER Type N-FZ</b></p>   | <p>Page 8-31</p>  <p><b>FISCHER Type N-D</b></p>               | <p>Page 8-32</p>  <p><b>FISCHER Type SXS</b></p>     | <p>Page 8-34</p>  <p><b>FISCHER Type F-S</b></p>            | <p>Page 8-35</p>  <p><b>FISCHER Type F-M</b></p>                  |
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| <p>Page 8-41</p>  <p><b>FISCHER Type S/J/S</b></p>  | <p>Page 8-42</p>  <p><b>FISCHER Cover cap</b></p>              | <p>Page 8-43</p>  <p><b>Expanding plug</b></p>       | <p>Page 8-44</p>  <p><b>FISCHER Type M</b></p>              | <p>Page 8-45</p>  <p><b>FISCHER Type PA</b></p>                   |
| <p>Page 8-46</p>  <p><b>SPIT Type SA</b></p>        | <p>Page 8-47</p>  <p><b>Installation tool SA</b></p>           | <p>Page 8-48</p>  <p><b>FISCHER Type EA II</b></p>   | <p>Page 8-50</p>  <p><b>Installation tool for EA II</b></p> | <p>Page 8-51</p>  <p><b>FISCHER Type FHY</b></p>                  |
| <p>Page 8-52</p>  <p><b>FISCHER Type FSA-S</b></p>  | <p>Page 8-53<br/>NEN ≈2316</p>  <p><b>With conical nut</b></p> | <p>Page 8-54</p>  <p><b>With projecting bolt</b></p> | <p>Page 8-55</p>  <p><b>With hexagon screw</b></p>          | <p>Page 8-56</p>  <p><b>Self tapping screw anchor type BT</b></p> |

## Anchoring products/plugs 8

|   |  |  |  |  |
|---|--|--|--|--|
| <br>Page 8-58<br><b>MAXXFAST ThruFast-ThruMaxx</b> | <br>Page 8-61<br><b>SPIT Type FIX II</b>                    | <br>Page 8-63<br><b>FISCHER Type FBN II</b>                 | <br>Page 8-66<br><b>FISCHER Type FAZ II</b>     | <br>Page 8-68<br><b>FISCHER Type FH II-B</b>            |
| <br>Page 8-70<br><b>FISCHER Type FH II-S</b>       | <br>Page 8-72<br><b>FISCHER Type FZA</b>                    | <br>Page 8-73<br><b>FISCHER Tool</b>                        | <br>Page 8-75<br><b>LIEBIG Type B</b>           | <br>Page 8-77<br><b>LIEBIG Type S</b>                   |
| <br>Page 8-78<br><b>LIEBIG Type AB</b>             | <br>Page 8-79<br><b>MAXXFAST Chemical fixing</b>            | <br>Page 8-80<br><b>SPIT Type Maxima</b>                    | <br>Page 8-82<br><b>FISCHER Type RG M</b>       | <br>Page 8-83<br><b>FISCHER Setting tool</b>            |
| <br>Page 8-84<br><b>Capsule</b>                    | <br>Page 8-86<br><b>Injection cartridge</b>                 | <br>Page 8-88<br><b>Injection tool</b>                      | <br>Page 8-89<br><b>MAXXFAST Anchoring</b>      | <br>Page 8-91<br><b>FISCHER Injection anchor sleeve</b> |
| <br>Page 8-92<br><b>FISCHER Type RG MI</b>       | <br>Page 8-93<br>DIN 529 A<br>NEN 2328 A<br><b>Type A</b> | <br>Page 8-94<br>DIN 529 E<br>NEN 2328 E<br><b>Type E</b> | <br>Page 8-95<br><b>With hook 50 or 100mm</b> | <br>Page 8-97<br><b>Shuttering</b>                    |
| <br>Page 8-97<br><b>Shuttering</b>               | <br>Page 8-99<br><b>VEMO Type 1550</b>                    | <br>Page 8-100<br><b>VEMO Type 995G</b>                   | <br>Page 8-101<br><b>VEMO Type 1036</b>       | <br>Page 8-102<br><b>VEMO Type 1130</b>               |
| <br>Page 8-103<br><b>VEMO Type 1551</b>          | <br>Page 8-103<br><b>VEMO Type 2244</b>                   |  |  |  |

## Wall plug UniFast



### Technical data

| d                                   | 5     | 6     | 7     | 8     | 10   | 12   |
|-------------------------------------|-------|-------|-------|-------|------|------|
| L                                   | 25    | 30    | 30    | 40    | 50   | 60   |
| Drill ø                             | 5     | 6     | 7     | 8     | 10   | 12   |
| Drill depth (min.)                  | 35    | 40    | 40    | 50    | 60   | 70   |
| Application in combination with:    |       |       |       |       |      |      |
| Chipboard screws                    | 2,5-4 | 3,5-4 | 4-4,5 | 4,5-6 | 6-8  | 8-10 |
| Pull-out force for wood screw in kN |       |       |       |       |      |      |
| Concrete ≥ C20/25                   | 0,42  | 0,64  | 0,76  | 0,90  | 1,80 | 2,10 |
| Brick ≥ Mz12                        | 0,36  | 0,50  | 0,64  | 0,80  | 0,88 | 0,90 |

### 30500 MAXXFAST Wall plug UniFast

MF50

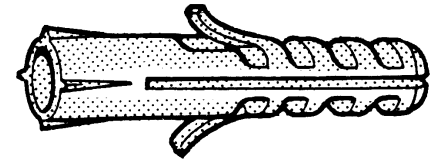
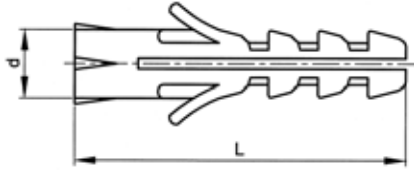
**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d    | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|------|----|-------------------------------|
| 5MM | 100 | <a href="#">30500.050.001</a> | 7MM | 100 | <a href="#">30500.070.001</a> | 10MM | 50 | <a href="#">30500.100.001</a> |
| 6MM | 100 | <a href="#">30500.060.001</a> | 8MM | 100 | <a href="#">30500.080.001</a> | 12MM | 25 | <a href="#">30500.120.001</a> |

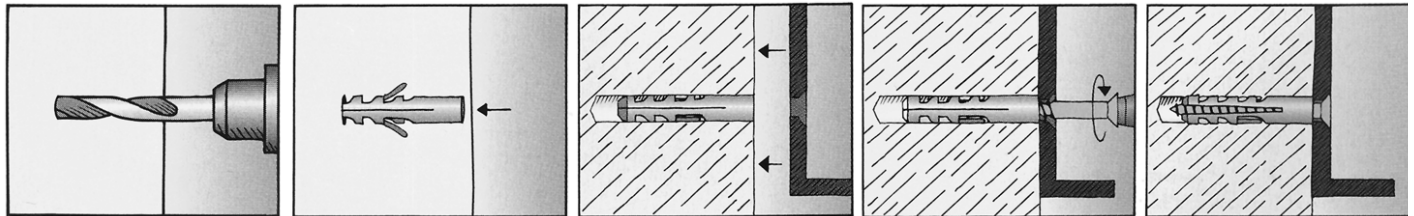
## Wall plug



### Technical data

|                                  |     |       |       |         |     |     |      |       |
|----------------------------------|-----|-------|-------|---------|-----|-----|------|-------|
| d                                | 4   | 5     | 6     | 7       | 8   | 10  | 12   | 14    |
| L                                | 20  | 25    | 30    | 37      | 40  | 50  | 60   | 80    |
| Drill ø                          | 4   | 5     | 6     | 7       | 8   | 10  | 12   | 14    |
| Drill depth (min.)               | 25  | 35    | 40    | 45      | 55  | 70  | 80   | 100   |
| Application in combination with: |     |       |       |         |     |     |      |       |
| Wood-/Hexagon head wood screws ø | 2-3 | 3-4,5 | 4,5-5 | 4,5-5,5 | 5-6 | 6-8 | 8-10 | 10-12 |

### Assembly sequence



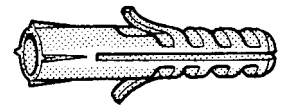
### Article groups

| Material      | Colour | Packaging | Code  | Page |
|---------------|--------|-----------|-------|------|
| Plastic Nylon | Grey   | Standard  | 63158 | 8-4  |
| Plastic Nylon | Grey   | Large     | 63159 | 8-4  |

#### 63158 Wall plug

N05A

**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Standard

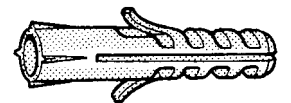


| d   | ☒   | Art.number                    | d    | ☒   | Art.number                    | d    | ☒  | Art.number                    |
|-----|-----|-------------------------------|------|-----|-------------------------------|------|----|-------------------------------|
| 4MM | 200 | <a href="#">63158.040.001</a> | 7MM  | 100 | <a href="#">63158.070.001</a> | 12MM | 25 | <a href="#">63158.120.001</a> |
| 5MM | 100 | <a href="#">63158.050.001</a> | 8MM  | 100 | <a href="#">63158.080.001</a> | 14MM | 20 | <a href="#">63158.140.001</a> |
| 6MM | 100 | <a href="#">63158.060.001</a> | 10MM | 50  | <a href="#">63158.100.001</a> |      |    |                               |

#### 63159 Wall plug

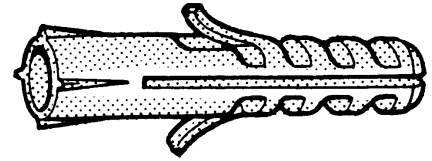
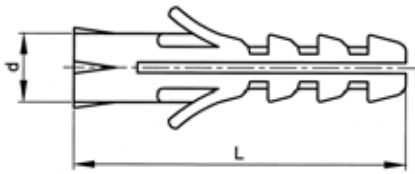
N05A

**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Large



| d   | ☒    | Art.number                    | d    | ☒   | Art.number                    | d    | ☒   | Art.number                    |
|-----|------|-------------------------------|------|-----|-------------------------------|------|-----|-------------------------------|
| 5MM | 1000 | <a href="#">63159.050.001</a> | 8MM  | 250 | <a href="#">63159.080.001</a> | 12MM | 100 | <a href="#">63159.120.001</a> |
| 6MM | 500  | <a href="#">63159.060.001</a> | 10MM | 200 | <a href="#">63159.100.001</a> |      |     |                               |

## Wall plug type S

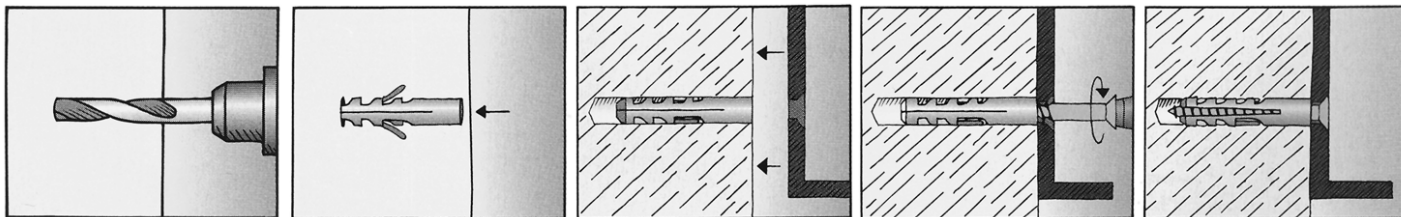


### Technical data

| Type                                       | S4  | S5  | S6   | S7    | S8    | S10 | S12  | S14   | S16    | S20  |
|--|-----|-----|------|-------|-------|-----|------|-------|--------|------|
| <b>d</b>                                   | 4   | 5   | 6    | 7     | 8     | 10  | 12   | 14    | 16     | 20   |
| <b>L</b>                                   | 20  | 25  | 30   | 30    | 40    | 50  | 60   | 75    | 80     | 90   |
| <b>Drill ø</b>                             | 4   | 5   | 6    | 7     | 8     | 10  | 12   | 14    | 16     | 20   |
| <b>Drill depth (min.)</b>                  | 25  | 35  | 40   | 40    | 55    | 70  | 80   | 90    | 100    | 120  |
| <b>Application in combination with:</b>    |     |     |      |       |       |     |      |       |        |      |
| <b>Chipboard screws</b>                    | 2-3 | 3-4 | 4-5  | 4-5,5 | 4,5-6 | 6-8 | 8-10 | 10-12 | 12-1/2 | 16   |
| <b>Pull-out force for wood screw in kN</b> |     |     |      |       |       |     |      |       |        |      |
| <b>Concrete ≥ C12/15</b>                   | 0,8 | 1,4 | 2    | 2,3   | 3,0   | 5,5 | 7,7  | 9,25  | 11,3   | 19,4 |
| <b>Brick ≥ Mz12</b>                        | 0,7 | 1,2 | 1,4  | 2,2   | 2,5   | -   | -    | -     | -      | -    |
| <b>Sandlime brick ≥ KS12</b>               | 0,7 | 1,2 | 1,4  | -     | 2,75  | -   | -    | -     | -      | -    |
| <b>Cellular concrete ≥ G2</b>              | -   | -   | 0,25 | -     | 0,35  | 0,8 | 1,35 | 2     | -      | -    |

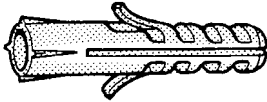
- Pull-out force in kN at the largest possible screw diameter, (values in bold print), and a correct mounting of the wall plug in a supporting surface.
- It is advised to take a safetyfactor of ≥ 5.
- When using chipboard screws, the values should be reduced by 30%.
- Because of the possible variation in joint quality, the values apply only to fixing operations in brick.

### Assembly sequence



### Article groups

| Material      | Colour | Packaging | Code  | Page |
|---------------|--------|-----------|-------|------|
| Plastic Nylon | Grey   | Standard  | 63100 | 8-5  |
| Plastic Nylon | Grey   | Large     | 63110 | 8-6  |

| 63100 FISCHER Wall plug type S   |                           | N01A  |
|--|---------------------------|---|
| <b>Material</b>  | Plastic Nylon (polyamide) |   |
| <b>Colour</b>  | Grey                      |   |
| <b>Packaging</b>   | Standard                  |   |
|  |                           |  |

| Type | ☒   | Art.number                    | Type | ☒   | Art.number                    | Type | ☒  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|------|----|-------------------------------|
| S 4  | 200 | <a href="#">63100.040.001</a> | S 8  | 100 | <a href="#">63100.080.001</a> | S 16 | 10 | <a href="#">63100.160.001</a> |
| S 5  | 100 | <a href="#">63100.050.001</a> | S 10 | 50  | <a href="#">63100.100.001</a> | S 20 | 5  | <a href="#">63100.200.001</a> |
| S 6  | 100 | <a href="#">63100.060.001</a> | S 12 | 25  | <a href="#">63100.120.001</a> |      |    |                               |
| S 7  | 100 | <a href="#">63100.070.001</a> | S 14 | 20  | <a href="#">63100.140.001</a> |      |    |                               |

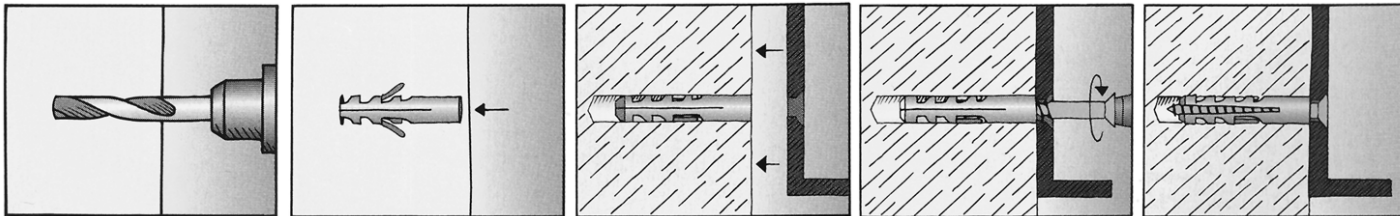
|                                       |  |   |
|---------------------------------------|--|---|
| <b>63110 FISCHER Wall plug type S</b> |  | <b>N01A</b>   |
| <b>Material</b>                       | Plastic Nylon (polyamide)  |   |
| <b>Colour</b>                         | Grey   |   |
| <b>Packaging</b>                      | Large  |   |
|                                       |  |  |

| Type | ☒    | Art.number                    | Type | ☒   | Art.number                    | Type | ☒   | Art.number                    |
|------|------|-------------------------------|------|-----|-------------------------------|------|-----|-------------------------------|
| S 5  | 1000 | <a href="#">63110.050.001</a> | S 6  | 500 | <a href="#">63110.060.001</a> | S 8  | 250 | <a href="#">63110.080.001</a> |

## Assortment box wall plugs



### Assembly sequence



63150 FISCHER Assortment box wall plugs type S

N03B

Packaging Standard



Type  [Art.number](#)

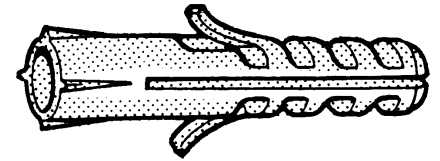
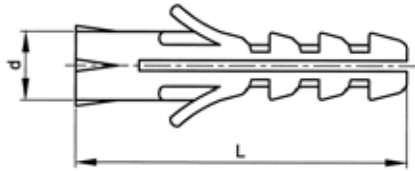
BOX S-5/6/8

1

[63150.568.001](#)

- Packed in a red plastic box with transparent window
- Contents:
- 100 nylon wall plugs type S 5
- 100 nylon wall plugs type S 6
- 100 nylon wall plugs type S 8

## Wall plug type MS

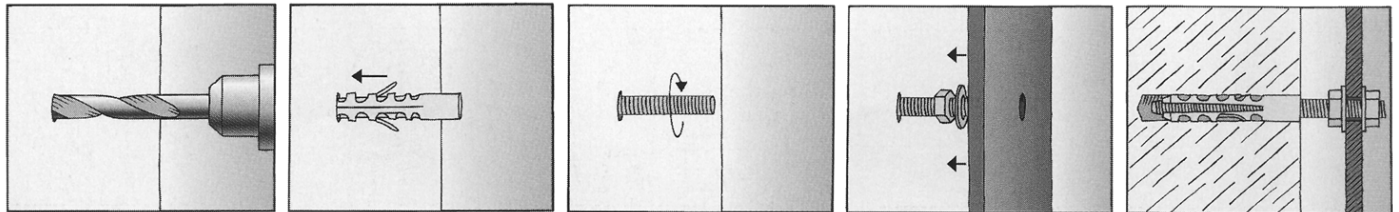


### Technical data

| Type                        | M6-S | M8-S | M10-S | M12-S |
|-----------------------------|------|------|-------|-------|
| d                           | 8    | 10   | 14    | 16    |
| L                           | 40   | 50   | 70    | 80    |
| Drill ø                     | 8    | 10   | 14    | 16    |
| Drill depth (min.)          | 55   | 70   | 90    | 100   |
| <b>Pull-out force in kN</b> |      |      |       |       |
| Concrete C12/15             | 2,1  | 3,8  | 4,6   | 7,4   |
| Brick Mz12                  | 1,7  | 2,3  | 3,2   | 5,5   |
| Sandlime brick ≥ KS12       | 1,7  | 2,3  | 3     | 5     |

- Wall plug type MS is applicable with metric threaded fasteners.
- It is advised to take a safetyfactor:  $\geq 7$ .

### Assembly sequence

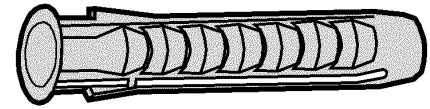
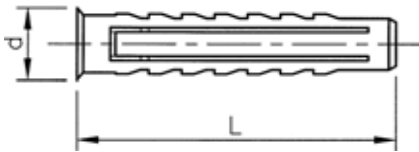


| 63160 FISCHER Wall plug type MS  |                           | N03B  |
|--|---------------------------|---|
| Thread   | Metric thread             |   |
| Material   | Plastic Nylon (polyamide) |   |
| Colour   | Beige                     |   |
| Packaging  | Standard                  |   |
|  |                           |  |

| Type | ☒   | Art.number                    | Type  | ☒  | Art.number                    | Type | ☒ | Art.number |
|------|-----|-------------------------------|-------|----|-------------------------------|------|---|------------|
| M6 S | 100 | <a href="#">63160.060.001</a> | M10 S | 20 | <a href="#">63160.100.001</a> |      |   |            |
| M8 S | 50  | <a href="#">63160.080.001</a> | M12 S | 10 | <a href="#">63160.120.001</a> |      |   |            |



## Wall plug type SX

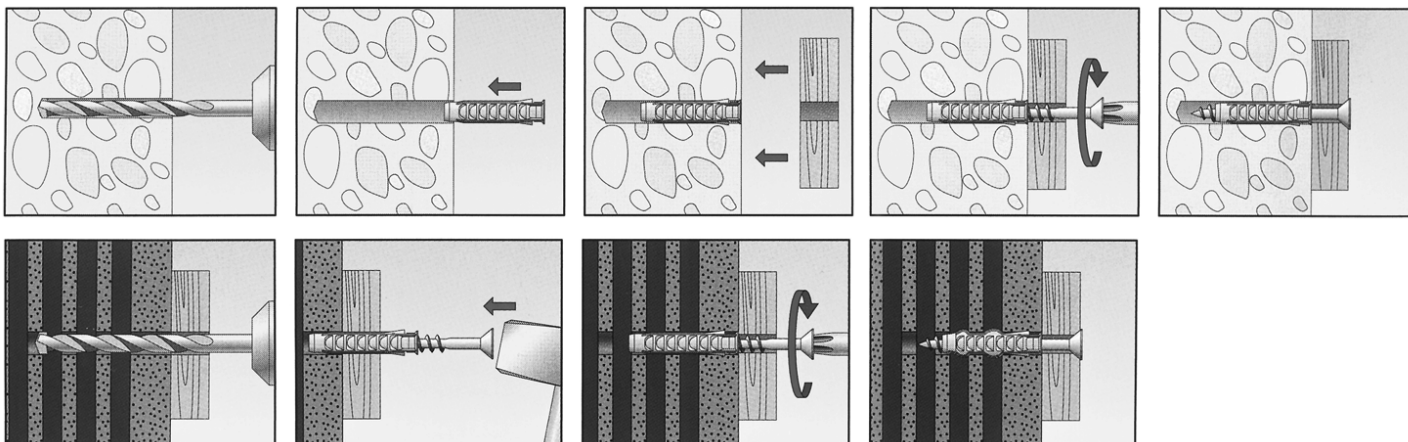


### Technical data

| Type  | SX 4 | SX 5 | SX 6 | SX 6-L | SX 8  | SX 8-L | SX 10 | SX 12 | SX 14 | SX 16  |
|---|------|------|------|--------|-------|--------|-------|-------|-------|--------|
| d   | 4    | 5    | 6    | 6      | 8     | 8      | 10    | 12    | 14    | 16     |
| L   | 20   | 25   | 30   | 50     | 40    | 65     | 50    | 60    | 70    | 80     |
| Drill ø   | 4    | 5    | 6    | 6      | 8     | 8      | 10    | 12    | 14    | 16     |
| Drill depth (min.)                                    | 25   | 35   | 40   | 60     | 50    | 75     | 70    | 80    | 90    | 100    |
| Application in combination with:                      |      |      |      |        |       |        |       |       |       |        |
| Chipboard screws                                      | 2-3  | 3-4  | 4-5  | 4-5    | 4,5-6 | 4,5-6  | 6-8   | 8-10  | 10-12 | 12-1/2 |
| Allowable load in kN                                  |      |      |      |        |       |        |       |       |       |        |
| Concrete ≥ C20/25                                     | -    | 0,29 | 0,7  | 0,7    | 0,71  | 0,71   | 1,21  | 1,71  | 2,01  | 2,01   |
| Brick ≥ Mz12  | -    | 0,23 | 0,31 | 0,31   | 0,59  | 0,59   | 0,64  | 0,71  | 0,8   | 0,8    |
| Sandlime brick ≥ KS12                                 | -    | 0,29 | 0,5  | 0,5    | 0,6   | 0,6    | 1,21  | 1,71  | 2,01  | 2,01   |
| Cellular concrete ≥ G2                                | -    | 0,03 | 0,03 | 0,03   | 0,04  | 0,04   | 0,09  | 0,14  | 0,31  | 0,31   |
| Cellular concrete ≥ G4                                | -    | 0,09 | 0,09 | 0,09   | 0,14  | 0,14   | 0,29  | 0,44  | 0,49  | 0,49   |
| Ventilation stone ≥ Hlz12, ρ ≥ 1,0 kg/dm <sup>3</sup> | -    | 0,07 | 0,07 | 0,07   | 0,17  | 0,17   | 0,17  | 0,26  | 0,44  | 0,44   |
| Hollow sandlime brick KSL12                           | -    | 0,17 | 0,3  | 0,3    | 0,33  | 0,33   | 0,29  | 0,35  | 0,31  | 0,31   |

- Allowable load in kN at the largest possible screw diameter, (values in bold print), and a correct mounting of the wall plug in a supporting surface.
- When using chipboard screws, the values should be reduced by 30%.
- Because of the possible variation in joint quality, the values apply only to fixing operations in brick.

### Assembly sequence



8

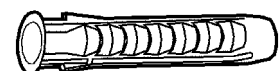
### Article groups

| Material      | Colour |      | Packaging | Code  | Page |
|---------------|--------|------|-----------|-------|------|
| Plastic Nylon | Grey   | SX   | Standard  | 63120 | 8-9  |
| Plastic Nylon | Grey   | SX-L | Standard  | 63121 | 8-10 |

#### 63120 FISCHER Wall plug type SX

N01A

Material Plastic Nylon (polyamide)  
 Colour Grey  
 Packaging Standard

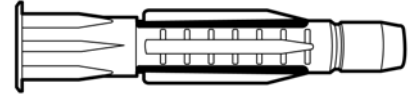
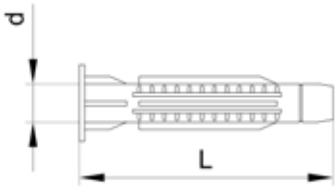


| Type | ☒   | Art.number                    | Type | ☒   | Art.number                    | Type | ☒  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|------|----|-------------------------------|
| SX4  | 200 | <a href="#">63120.040.001</a> | SX8  | 100 | <a href="#">63120.080.001</a> | SX14 | 20 | <a href="#">63120.140.001</a> |
| SX5  | 100 | <a href="#">63120.050.001</a> | SX10 | 50  | <a href="#">63120.100.001</a> | SX16 | 10 | <a href="#">63120.160.001</a> |
| SX6  | 100 | <a href="#">63120.060.001</a> | SX12 | 25  | <a href="#">63120.120.001</a> |      |    |                               |

|                  |                                    |  |   |
|------------------|------------------------------------|--|---|
| <b>63121</b>     | <b>FISCHER Wall plug type SX-L</b> |  | <b>N01A</b>   |
| <b>Material</b>  | Plastic Nylon (polyamide)          |  |  |
| <b>Colour</b>    | Grey                               |  |   |
| <b>Packaging</b> | Standard                           |  |   |

| Type | ☒   | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------|-----|-------------------------------|------|---|------------|------|---|------------|
| SXL6 | 100 | <a href="#">63121.060.002</a> |      |   |            |      |   |            |
| SXL8 | 50  | <a href="#">63121.080.002</a> |      |   |            |      |   |            |

## Wall plug MultiFast



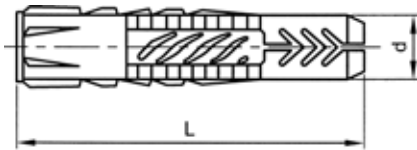
### Technical data

|  |          |          |           |
|--|----------|----------|-----------|
| <b>d</b>                                   | <b>6</b> | <b>8</b> | <b>10</b> |
| <b>L</b>                                   | 35       | 50       | 60        |
| <b>Drill ø</b>                             | 6        | 8        | 10        |
| <b>Drill depth (min.)</b>                  | 45       | 60       | 70        |
| <b>Application in combination with:</b>    |          |          |           |
| <b>Chipboard screws</b>                    | 4x45     | 4,5x60   | 5x70      |
| <b>Pull-out force for wood screw in kN</b> |          |          |           |
| <b>Concrete ≥ C20/25</b>                   | 0,65     | 0,80     | 0,95      |
| <b>Brick ≥ Mz12</b>                        | 0,20     | 0,32     | 0,38      |

| 30502 MAXXFAST Wall plug MultiFast       |                           | MF50 |
|--|---------------------------|------|
| <b>Material</b>                          | Plastic Nylon (polyamide) |      |
| <b>Colour</b>                            | Grey                      |      |
| <b>Packaging</b>                         | Standard                  |      |
| <b>MAXXFAST</b><br>PROFESSIONAL HARDWARE |                           |      |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d    | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|------|----|-------------------------------|
| 6MM | 100 | <a href="#">30502.060.001</a> | 8MM | 100 | <a href="#">30502.080.001</a> | 10MM | 50 | <a href="#">30502.100.001</a> |

**Plug universal UX/UX-R**



**Technical data**

| Type                      | UX (R) 6 | UX (R) 8 | UX (R) 10 | UX 12 | UX 14 |
|---------------------------|----------|----------|-----------|-------|-------|
| Drill ø                   | 6        | 8        | 10        | 12    | 14    |
| Drill depth (min.)        | 45       | 60       | 75        | 85    | 95    |
| Material thickness (min.) | 9,5      | 9,5      | 12,5      | -     | -     |
| Plug length               | 35       | 50       | 60        | 70    | 75    |
| Chipboard screws ø        | 4-5      | 4,5-6    | 6-8       | 8-10  | 10-12 |

**Article groups**

| Material     | Packaging | Code  | Page |
|--------------|-----------|-------|------|
| Plastic UX   | Standard  | 63276 | 8-12 |
| Plastic UX-R | Standard  | 63277 | 8-12 |

**63276 FISCHER Plug universal UX** N03A

Material: Plastic  
Packaging: Standard




| Type | ☒   | Art.number                    | Type  | ☒  | Art.number                    | Type  | ☒  | Art.number                    |
|------|-----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| UX 6 | 100 | <a href="#">63276.060.001</a> | UX 10 | 50 | <a href="#">63276.100.001</a> | UX 14 | 20 | <a href="#">63276.140.001</a> |
| UX 8 | 100 | <a href="#">63276.080.001</a> | UX 12 | 25 | <a href="#">63276.120.001</a> |       |    |                               |

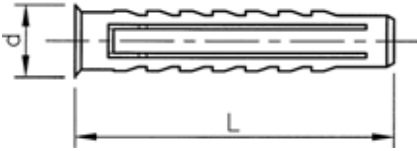
**63277 FISCHER Plug universal UX-R** N03A

Material: Plastic  
Packaging: Standard




| Type   | ☒   | Art.number                    | Type   | ☒   | Art.number                    | Type    | ☒  | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| 6 UX-R | 100 | <a href="#">63277.060.001</a> | 8 UX-R | 100 | <a href="#">63277.080.001</a> | 10 UX-R | 50 | <a href="#">63277.100.001</a> |

## Wall plug 4Fast



### Technical data

| d                                   | 5    | 6      | 8    | 10   | 12    |
|-------------------------------------|------|--------|------|------|-------|
| L                                   | 25   | 30     | 40   | 50   | 60    |
| Drill ø                             | 5    | 6      | 8    | 10   | 12    |
| Drill depth (min.)                  | 30   | 50     | 50   | 60   | 70    |
| Application in combination with:    |      |        |      |      |       |
| Chipboard screws                    | 4x30 | 4,5x50 | 5x50 | 6x60 | 10x70 |
| Pull-out force for wood screw in kN |      |        |      |      |       |
| Concrete ≥ C20/25                   | 0,80 | 1,10   | 1,20 | 1,86 | 2,60  |
| Brick ≥ Mz12                        | 0,46 | 0,90   | 1,00 | 1,10 | 1,20  |

### 30505 MAXXFAST Wall plug 4Fast

MF50

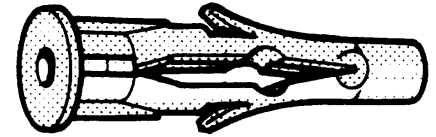
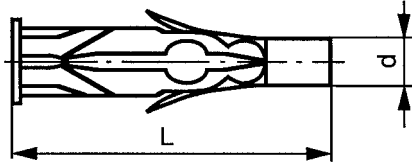
**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d   | ☒   | Art.number                    | d    | ☒   | Art.number                    | d    | ☒  | Art.number                    |
|-----|-----|-------------------------------|------|-----|-------------------------------|------|----|-------------------------------|
| 5MM | 100 | <a href="#">30505.050.001</a> | 8MM  | 100 | <a href="#">30505.080.001</a> | 12MM | 25 | <a href="#">30505.120.001</a> |
| 6MM | 100 | <a href="#">30505.060.001</a> | 10MM | 50  | <a href="#">30505.100.001</a> |      |    |                               |

## Universal fixing

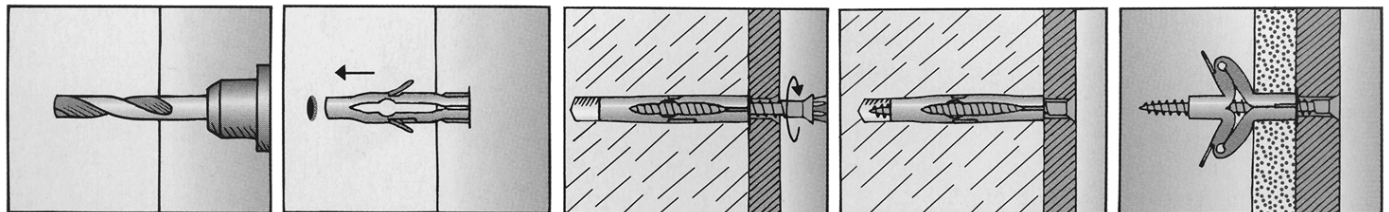


### Technical data

| Type                                | FU 6x35  | FU 6x45  | FU 8x50  | FU 10x60 |
|-------------------------------------|----------|----------|----------|----------|
| d                                   | 6        | 6        | 8        | 10       |
| L                                   | 35       | 45       | 50       | 60       |
| Drill ø                             | 6        | 6        | 8        | 10       |
| Drill depth (min.)                  | 45       | 55       | 60       | 70       |
| Material thickness (min.)           | 6        | 6        | 6        | 6        |
| Application in combination with:    |          |          |          |          |
| Chipboard screws                    | 3-3,5    | 3-3,5    | 4-4,5    | 5-6      |
| Pull-out force for wood screw/      |          |          |          |          |
| Pull-out force for chipboard screws |          |          |          |          |
| Concrete C20/25                     | 2/1      | 2/1      | 4/2      | 6/3      |
| Brick Mz12                          | 1,8/0,6  | 1,8/0,6  | 3,5/1,4  | 5,5/1,7  |
| Sandlime brick KS12                 | 1,8/0,8  | 1,8/0,8  | 3,5/1,7  | 5,5/2,1  |
| Pumice grit V2                      | 0,75/0,2 | 0,75/0,2 | 1,5/0,45 | 1,6/0,65 |
| Cellular concrete PB2, PP2 (G2)     | 0,25/0,2 | 0,25/0,2 | 0,65/0,6 | 0,9/0,8  |
| Cellular concrete PB4, PP4 (G4)     | 0,9/0,5  | 0,9/0,5  | 1,6/1,1  | 1,9/1,7  |
| Ventilation stone Hlz12             | -/0,9    | -/0,9    | -/1,1    | -/1,5    |
| Hollow sandlime brick KSL6          | -/1      | -/1      | -/1,5    | -/2      |
| Plasterboard 10mm                   | -/0,4    | -/0,4    | -/0,45   | -/0,45   |
| Chipboard 10mm                      | -/1,2    | -/1,2    | -/1,4    | -/2      |

- Pull-out force in kN at the largest possible screw diameter, (values in bold print), and a correct mounting of the plug in a supporting surface.
- It is advised to take a safetyfactor of  $\geq 7$ .

### Assembly sequence

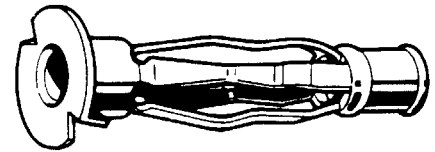
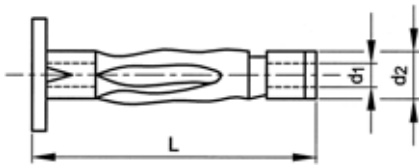


8

|  |   |   |
|--|---|---|
| <b>63270</b>   | <b>FISCHER Universal fixing type FU</b> | <b>N03A</b>   |
| Material   | Plastic Nylon (polyamide)               |   |
| Colour   | Grey                                    |   |
| Packaging  | Standard                                |   |
|  |   |  |

| Type    | ☒  | Art.number                    | Type     | ☒  | Art.number                    | Type | ☒ | Art.number |
|---------|----|-------------------------------|----------|----|-------------------------------|------|---|------------|
| FU 6X35 | 50 | <a href="#">63270.060.035</a> | FU 8X50  | 50 | <a href="#">63270.080.050</a> |      |   |            |
| FU 6X45 | 50 | <a href="#">63270.060.045</a> | FU 10X60 | 25 | <a href="#">63270.100.060</a> |      |   |            |

## Screw anchor



### Technical data

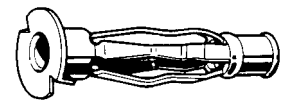
| Type    | d <sub>1</sub> | L  | d <sub>2</sub> | Drill ø | Grip range | Screwlength (min.) |
|---------|----------------|----|----------------|---------|------------|--------------------|
| 40S4SV  | M4             | 33 | 8              | 8       | 6-13       | 40                 |
| 40SL4SV | M4             | 46 | 8              | 8       | 10-24      | 50                 |
| 40XL4SV | M4             | 59 | 8              | 8       | 32-38      | 65                 |
| 6E5SV   | M5             | 36 | 11             | 11      | 3-13       | 40                 |
| 6S5SV   | M5             | 50 | 11             | 11      | 3-16       | 55                 |
| 6SL5SV  | M5             | 75 | 11             | 11      | 16-45      | 80                 |
| 8E6SV   | M6             | 34 | 13             | 13      | 3-13       | 40                 |
| 8S6SV   | M6             | 50 | 13             | 13      | 3-16       | 55                 |
| 8SL6SV  | M6             | 75 | 13             | 13      | 16-45      | 80                 |

- Special features of MOLLY screw anchors:
- Ideally suited for cavity materials e.g. walls, building bricks, soft materials e.g. plasterboard, wood, chipboard, etc.
- Blind installation from one side with a screwdriver and key type MJ68 or handplier type BT2000.
- Permanent anchoring which can be used unlimitedly.
- Provided with pointed hooks preventing turning.
- Large contact area by spreaded wings.

#### 65110 MOLLY Screw anchor

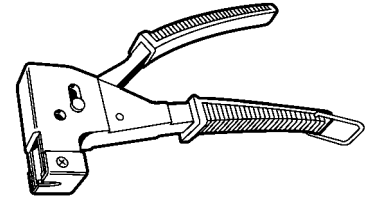
N07C

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| Type = d1 x L   | ☒   | Art.number                    | Type = d1 x L  | ☒   | Art.number                    | Type = d1 x L  | ☒   | Art.number                    |
|-----------------|-----|-------------------------------|----------------|-----|-------------------------------|----------------|-----|-------------------------------|
| 40 S 4SV=M4X33  | 100 | <a href="#">65110.040.033</a> | 6 E 5SV=M5X36  | 100 | <a href="#">65110.050.036</a> | 8 E 6SV=M6X34  | 100 | <a href="#">65110.060.034</a> |
| 40 SL 4SV=M4X46 | 100 | <a href="#">65110.040.046</a> | 6 S 5SV=M5X50  | 100 | <a href="#">65110.050.050</a> | 8 S 6SV=M6X50  | 100 | <a href="#">65110.060.050</a> |
| 40 XL 4SV=M4X59 | 100 | <a href="#">65110.040.059</a> | 6 SL 5SV=M5X75 | 100 | <a href="#">65110.050.075</a> | 8 SL 6SV=M6X75 | 100 | <a href="#">65110.060.075</a> |

**Hand plier**

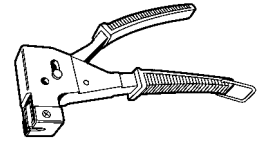


**65210 MOLLY Hand plier** **N07C**

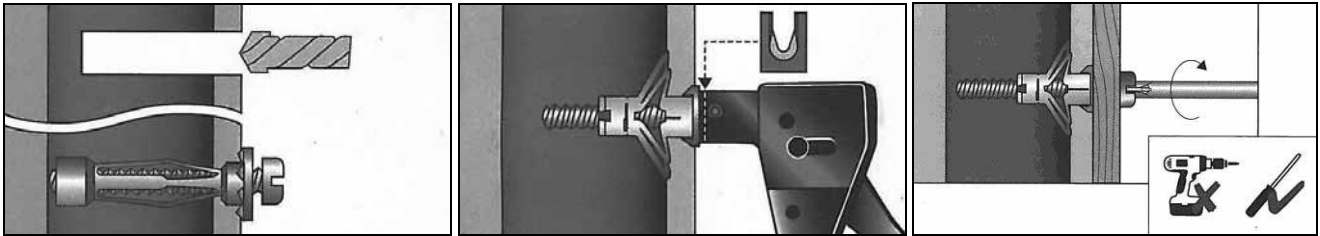
Packaging Standard



**MOLLY**



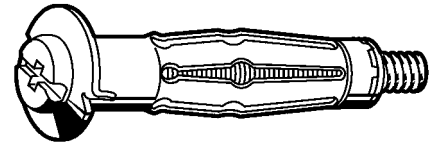
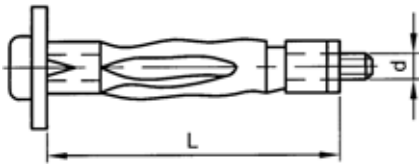
**Assembly sequence**



| Type    | ☒ | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|---------|---|-------------------------------|------|---|------------|------|---|------------|
| MT 2000 | 1 | <a href="#">65210.001.775</a> |      |   |            |      |   |            |



## Cavity fixing

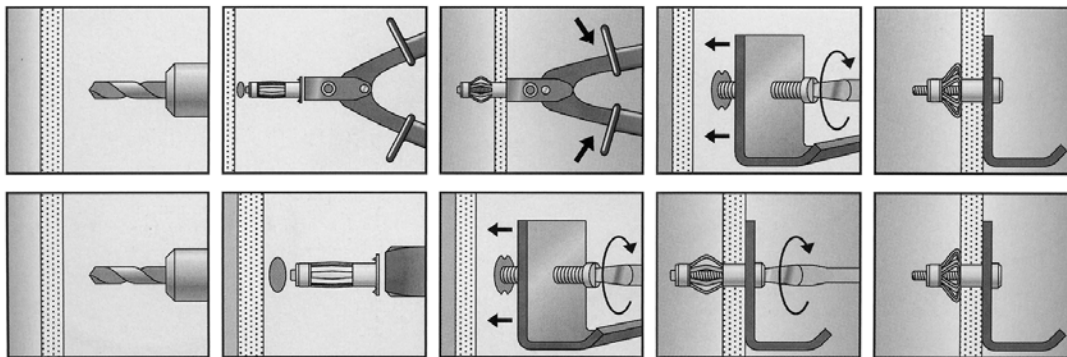


### Technical data

| Type       | d  | L  | Screw size | Drill ø | Drill depth (min.) | Material thickness (max.) | Structural part thickness (max.) |
|------------|----|----|------------|---------|--------------------|---------------------------|----------------------------------|
| HM 4x32    | M4 | 32 | -          | 8       | 42                 | 3-13                      | 16                               |
| HM 4x32 S  | M4 | 32 | M4X40      | 8       | 42                 | 3-13                      | 16                               |
| HM 4x46 S  | M4 | 46 | M4X2       | 8       | 56                 | 5-18                      | 23                               |
| HM 4x59 S  | M4 | 59 | M4X66      | 8       | 69                 | 35-42                     | 16                               |
| HM 5x37 S  | M5 | 37 | M5X45      | 11      | 47                 | 6-15                      | 19                               |
| HM 5x52 S  | M5 | 52 | M5X60      | 11      | 62                 | 7-21                      | 24                               |
| HM 5x65 S  | M5 | 65 | M5X73      | 11      | 75                 | 20-34                     | 24                               |
| HM 6x37    | M6 | 37 | -          | 13      | 47                 | 6-15                      | 14                               |
| HM 6x37 S  | M6 | 50 | M6X60      | 13      | 62                 | 10-21                     | 24                               |
| HM 6x52 S  | M6 | 52 | M6X60      | 13      | 62                 | 10-21                     | 24                               |
| HM 6x65 S  | M6 | 65 | M6X70      | 13      | 75                 | 20-34                     | 24                               |
| HM 6x80    | M6 | 80 | -          | 13      | 90                 | 38-50                     | 24                               |
| HM 6x80 S  | M6 | 80 | M6X88      | 13      | 90                 | 38-50                     | 24                               |
| HM 8x55 SS | M8 | 55 | M8X60      | 13      | 65                 | 10-21                     | 24                               |

- HM4x32/ HM5x37/ HM6x37/ HM6x80 delivered without screw.
- HM8x55SS With hexagon head screw, assembly only by using professional nippers HM Z 1.

### Assembly sequence

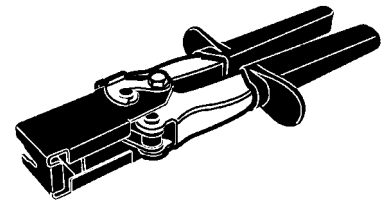



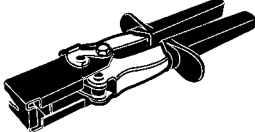
8

|  |               |   |
|--|---------------|---|
| <b>63240 FISCHER Cavity fixing type HM/HM-S</b>                                      |               | <b>N03A</b>   |
| <b>Thread</b>  | Metric thread |   |
| <b>Material</b>  | Steel         |   |
| <b>Surface treatment</b>   | Zinc plated   |   |
| <b>Packaging</b>   | Standard      |   |
|  |               |  |

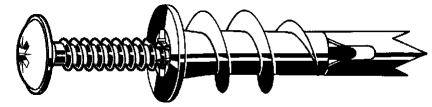
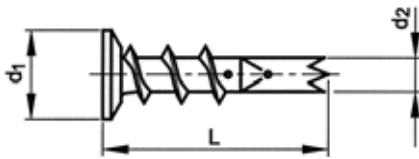
| Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| HM4X32S | 50 | <a href="#">63240.040.132</a> | HM5X37S | 50 | <a href="#">63240.050.137</a> | HM6X52S | 50 | <a href="#">63240.060.152</a> |
| HM4X46S | 50 | <a href="#">63240.040.146</a> | HM5X52S | 50 | <a href="#">63240.050.152</a> | HM6X65S | 50 | <a href="#">63240.060.165</a> |
| HM4X54S | 50 | <a href="#">63240.040.154</a> | HM5X65S | 50 | <a href="#">63240.050.165</a> | HM6X80S | 50 | <a href="#">63240.060.180</a> |
| HM4X59S | 50 | <a href="#">63240.040.159</a> | HM6X37S | 50 | <a href="#">63240.060.137</a> | HM8X55S | 50 | <a href="#">63240.080.155</a> |

**Cavity fixing installation tool**



| 63248 FISCHER Installation tool |          | N03A   |
|---------------------------------|----------|--|
| Packaging                       | Standard |     |
| Type                            | ✉        | Art.number   |
| HMZ 2                           | 1        | <a href="#">63248.000.100</a> <ul style="list-style-type: none"> <li>• DIY nipper</li> <li>• Suitable for the installation of FISCHER cavity fixings</li> </ul>          |
| HMZ 1                           | 1        | <a href="#">63248.000.105</a> <ul style="list-style-type: none"> <li>• Professional nipper</li> <li>• Suitable for the installation of FISCHER cavity fixings</li> </ul> |

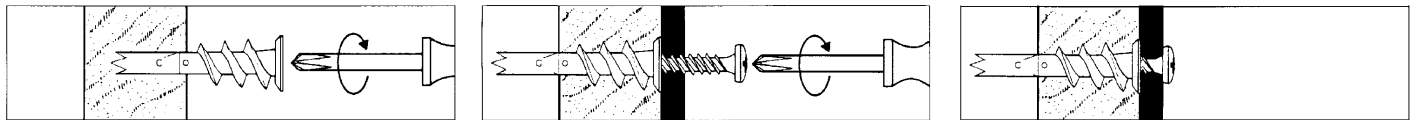
## Self-drilling anchor for plasterboard



### Technical data

| Type                                       | TP 12       | TP 12-PLUS | TP 27       | TP 30-PLUS |
|--|-------------|------------|-------------|------------|
| L  | 31          | 39         | 31          | 39         |
| d <sub>1</sub>                             | 13          | 10,5       | 13          | 10,5       |
| d <sub>2</sub>                             | 6           | 15,5       | 6           | 15,5       |
| Grip range                                 | 0-12        | 0-12       | 12-27       | 5-30       |
| Material thickness (min.)                  | 10          | 10-13      | 10          | 10-13      |
| Screw size                                 | 4,5x35      | 4,5x45     | 4,5x50      | 4,5x60     |
| No. Pozidriv (Z)                           | 2           | 2          | 2           | 2          |
| <b>Assembly data</b>                       |             |            |             |            |
| Pull-out force in N                        | 300/400/350 | 600        | 300/400/350 | 600        |
| Shear strength min. in N                   | 900         | 1400       | 900         | 1400       |
| Edge distance tensile in cm                | 2,5/2,5/3,5 | -          | 2,5/2,5/3,5 | -          |
| Edge distance shear in cm                  | 3,5/3,5/5   | -          | 3,5/3,5/5   | -          |
| Distance between centrelines tensile in cm | 3,5/3,5/5   | -          | 3,5/3,5/5   | -          |
| Distance between centrelines shear in cm   | 4,5/4,5/7   | -          | 4,5/4,5/7   | -          |

### Assembly sequence



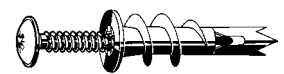
### Article groups

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| Zamac 3  | Zipl              | Standard  | 70880 | 8-19 |
| Zamac 3  | Zipl              | PLUS      | 70882 | 8-19 |

#### 70880 DRIVA Self-drilling anchor for plasterboard

N05A

**Material** Zamac 3  
**Surface treatment** Zinc plated  
**Packaging** Standard



8

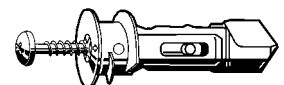
| Type  | ☒   | Art.number                    | Type  | ☒   | Art.number                    | Type | ☒ | Art.number |
|-------|-----|-------------------------------|-------|-----|-------------------------------|------|---|------------|
| TP 12 | 100 | <a href="#">70880.120.001</a> | TF 27 | 100 | <a href="#">70880.270.001</a> |      |   |            |

- DRIVA self-drilling anchors are made of Zamac 3 (zinc alloy), type TP 12 with zinc plated screws for back panels and type TF 27 with zinc plated countersunk screw.
- The named values are successively applicable for plasterboard 10 mm, plasterboard 13 mm and cellular concrete (6 mm pre-drill).
- It is advised to take a safetyfactor  $\geq 5$ , due to the many different qualities of plasterboards.

#### 70882 DRIVA PLUS Self-drilling anchor for plasterboard

N05A

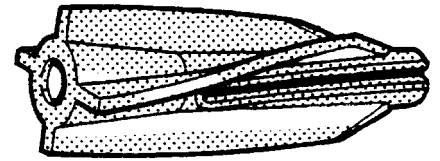
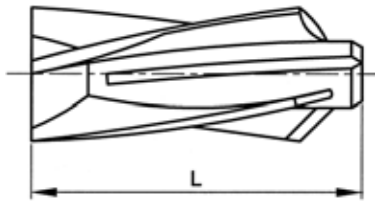
**Material** Zamac 3  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type       | ☒   | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------------|-----|-------------------------------|------|---|------------|------|---|------------|
| TP 12-PLUS | 100 | <a href="#">70882.120.001</a> |      |   |            |      |   |            |

- DRIVA PLUS self-drilling self-setting toggle anchors are made of Zamac 3 (zinc alloy). Delivered with zinc plated screws, specially developed for DRIVA PLUS self-drilling anchors.
- It is advised to take a safetyfactor  $\geq 5$ , due to the many different qualities of plasterboards.

## Aircrete anchor

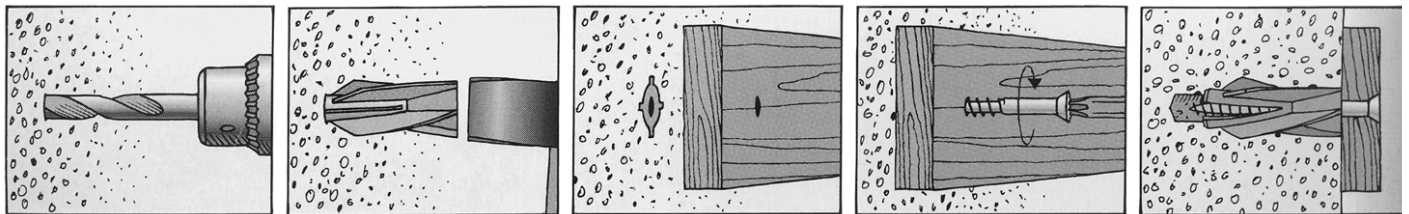


### Technical data

| Type                                   | GB8 | GB10 | GB14 |
|--|-----|------|------|
| L                                      | 50  | 55   | 75   |
| Drill $\phi$                           | 8   | 10   | 14   |
| Drill depth (min.)                     | 60  | 65   | 90   |
| Screw $\phi$                           | 5   | 7    | 10   |
| Allowable load in kN                   |     |      |      |
| Cellular concrete $\geq$ PB2, PP2 (G2) | 0,2 | 0,25 | 0,4  |
| Cellular concrete $\geq$ PB4, PP4 (G4) | 0,4 | 0,6  | 0,9  |
| Cellular concrete $\geq$ PB3,3 (GB3,3) | 0,3 | 0,5  | 0,8  |
| Cellular concrete $\geq$ P4,4 (GB4,4)  | 0,4 | 0,6  | 0,9  |
| Cellular concrete $\geq$ P3,3 (GB3,3)  | -   | -    | 0,3  |

- Allowable load in tensile zone in roof- and ceiling panels.

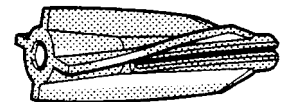
### Assembly sequence



### 63300 FISCHER Aircrete anchor type GB

N03B

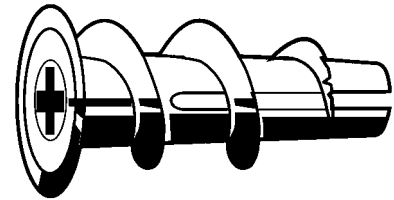
Material Plastic Nylon (polyamide)  
Colour Grey  
Packaging Standard



8

| Type | ☒  | Art.number                    | Type  | ☒  | Art.number                    | Type  | ☒  | Art.number                    |
|------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| GB 8 | 25 | <a href="#">63300.080.001</a> | GB 10 | 20 | <a href="#">63300.100.001</a> | GB 14 | 10 | <a href="#">63300.140.001</a> |

## Plasterboard fixing

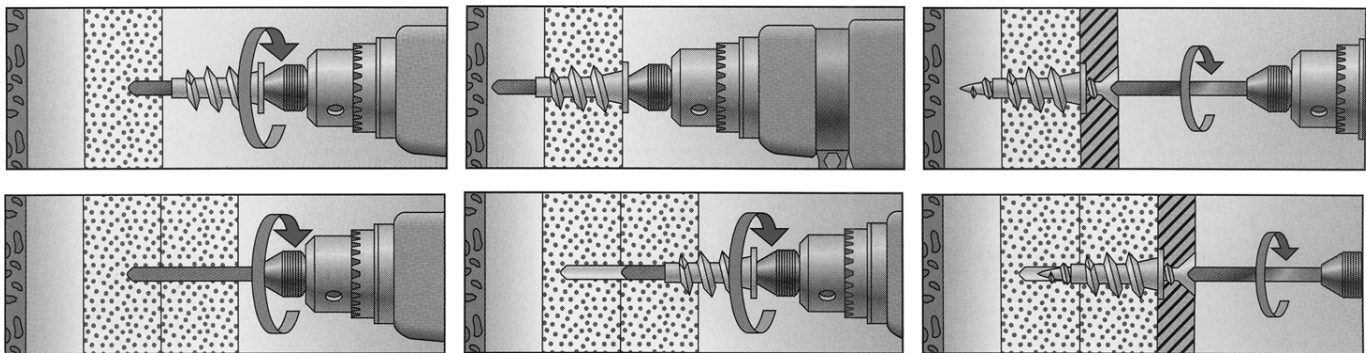


### Technical data

| Type                    | GK   | GKS    |
|-------------------------|------|--------|
| L                       | 22   | 22     |
| Cavity depth (min.)     | 25   | 25     |
| Screw ø                 | 4-5  | 4,5x35 |
| Grip range              | -    | 13     |
| Allowable load in kN    |      |        |
| Plasterboard 9,5mm      | 0,07 | 0,07   |
| Plasterboard 12,5mm     | 0,08 | 0,08   |
| Plasterboard ≥ 2x12,5mm | 0,11 | 0,11   |

- GKS Supplied with installation tool and plasterboard screws.
- GK Min. screw length = length of plug 22 mm + thickness of building component.

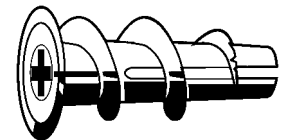
### Assembly sequence



### 63261 FISCHER Plasterboard fixing type GK/GKS

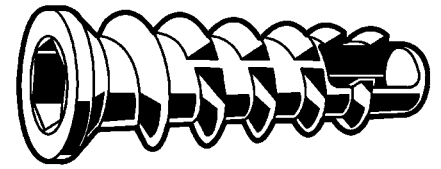
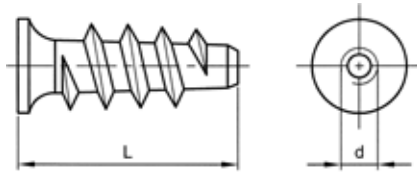
N03A

**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Standard



| Type       | ☒   | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------------|-----|-------------------------------|------|---|------------|------|---|------------|
| GK 4,0X35  | 100 | <a href="#">63261.040.035</a> |      |   |            |      |   |            |
| GKS 4,5X35 | 50  | <a href="#">63261.045.035</a> |      |   |            |      |   |            |

## Turbo anchor FTP steel



### Technical data

| Type                                   | M6 | M8 | M10 |
|--|----|----|-----|
| Screw-in depth max.                    | 20 | 25 | 30  |
| Overall length                         | 50 | 60 | 70  |
| Depth of drilled hole to deepest point | 60 | 70 | 80  |
| Drill $\varnothing$                    | 8  | 10 | 12  |
| Screw $\varnothing$                    | M6 | M8 | M10 |

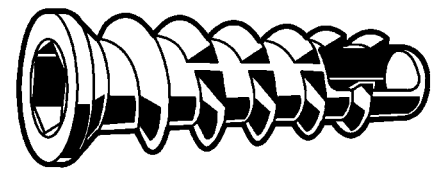
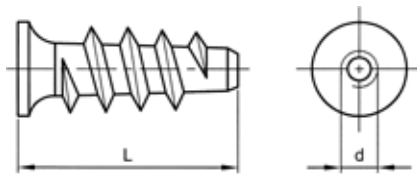
63309 FISCHER Turbo anchor FTP steel N03A

Material Steel  
Packaging Standard



| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒  | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| M6   | 25 | <a href="#">63309.060.001</a> | M8   | 25 | <a href="#">63309.080.001</a> | M10  | 25 | <a href="#">63309.100.001</a> |

## Turbo anchor FTP plastic



### Technical data

| Type                                   | K4    | K6   | K8  | K10   |
|--|-------|------|-----|-------|
| Screw-in depth max.                    | 35    | 40   | 45  | 50    |
| Overall length                         | 50    | 50   | 60  | 70    |
| Depth of drilled hole to deepest point | 60    | 60   | 70  | 80    |
| Drill $\varnothing$                    | 8     | 8    | 10  | 12    |
| Wood screws $\varnothing$              | 4-4,5 | 5-6  | 7-8 | 9-10  |
| Screw $\varnothing$                    | M4    | M5-6 | M8  | M8-10 |

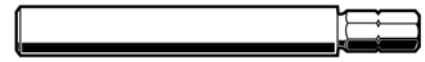
63310 FISCHER Turbo anchor FTP plastic N03A

Material Plastic  
Packaging Standard



| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒ | Art.number |
|------|----|-------------------------------|------|----|-------------------------------|------|---|------------|
| K4   | 25 | <a href="#">63310.040.001</a> | K8   | 25 | <a href="#">63310.080.001</a> |      |   |            |
| K6   | 25 | <a href="#">63310.060.001</a> | K10  | 10 | <a href="#">63310.100.001</a> |      |   |            |

## Installation tool FTP



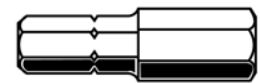
### Article groups

|         | Packaging | Code  | Page |
|---------|-----------|-------|------|
| steel   | Standard  | 63312 | 8-23 |
| plastic | Standard  | 63313 | 8-23 |

#### 63312 FISCHER Installation tool FTP steel

N03A

Packaging Standard



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| EM6  | 1 | <a href="#">63312.060.001</a> | EM8  | 1 | <a href="#">63312.080.001</a> | EM10 | 1 | <a href="#">63312.100.001</a> |

#### 63313 FISCHER Installation tool FTP plastic

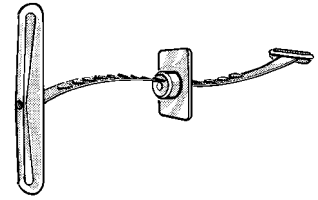
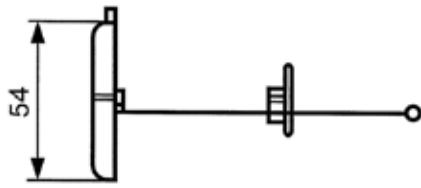
N03A

Packaging Standard



| Type  | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|-------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| EK4/6 | 1 | <a href="#">63313.040.001</a> | EK8  | 1 | <a href="#">63313.080.001</a> | EK10 | 1 | <a href="#">63313.100.001</a> |

## Toggle

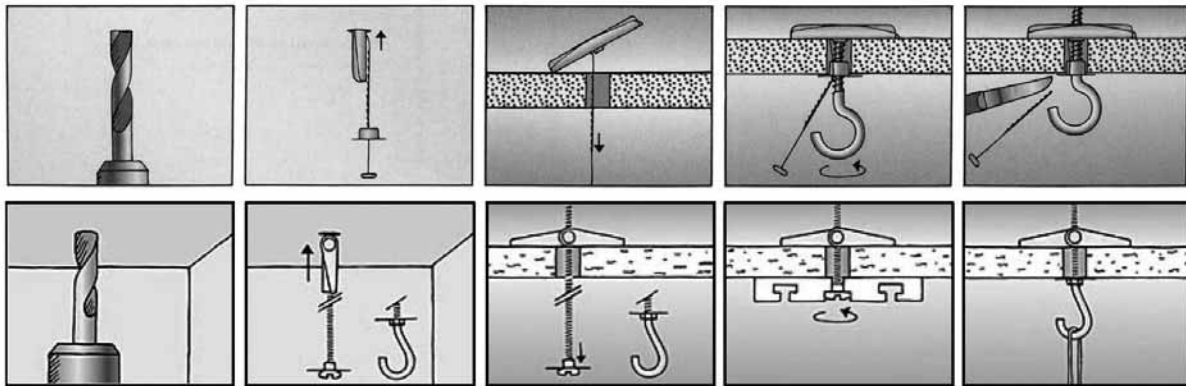


### Technical data

| Type         | d      | L   | Drill ø | Material thickness (min.) | Cavity depth (min.) | Wood screws ø | Pull-out force in kN |
|--------------|--------|-----|---------|---------------------------|---------------------|---------------|----------------------|
| <b>K 54</b>  | -      | 125 | 10      | 65                        | 58                  | 4             | 0,8                  |
| <b>KD 3</b>  | M3x90  | 95  | 12      | 65                        | 27                  | -             | 1                    |
| <b>KD 4</b>  | M4x100 | 105 | 14      | 69                        | 34                  | -             | 2                    |
| <b>KD 5</b>  | M5x100 | 100 | 16      | 63                        | 70                  | -             | 3                    |
| <b>KD 6</b>  | M6x100 | 100 | 16      | 63                        | 70                  | -             | 3,5                  |
| <b>KD 8</b>  | M8x100 | 100 | 20      | 55                        | 75                  | -             | 13,5                 |
| <b>KDH 3</b> | M3x80  | 105 | 12      | 51                        | 27                  | -             | 0,1                  |
| <b>KDH 4</b> | M4x80  | 95  | 14      | 35                        | 34                  | -             | 0,4                  |
| <b>KDH 5</b> | M5x90  | 130 | 16      | 60                        | 70                  | -             | 0,6                  |
| <b>KDH 8</b> | M8x100 | 130 | 20      | 55                        | 75                  | -             | 1,5                  |

- It is advised to take a safetyfactor:  $\geq 7$ , (the load-bearing behaviour of the anchor base is not taken into account).
- KDH Hook bends open.

### Assembly sequence



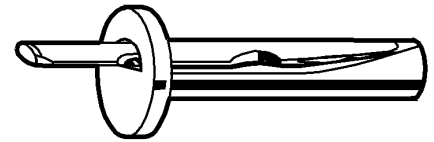
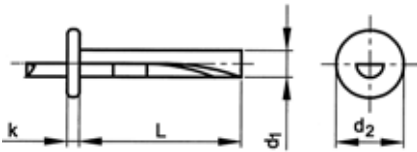
8

|  |                              |   |
|--|------------------------------|---|
| <b>63260</b>   | <b>FISCHER Toggle type K</b> | <b>N03B</b>   |
| <b>Material</b>  | Plastic Nylon (polyamide)    |   |
| <b>Surface treatment</b>   | Zinc plated                  |   |
| <b>Packaging</b>   | Standard                     |   |
|  |                              |  |

| Type | ☒  | Art.number                    | Type  | ☒  | Art.number                    | Type  | ☒  | Art.number                    |
|------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| K-54 | 25 | <a href="#">63260.000.054</a> | KD-6  | 25 | <a href="#">63260.001.006</a> | KDH-5 | 20 | <a href="#">63260.002.005</a> |
| KD-3 | 50 | <a href="#">63260.001.003</a> | KD-8  | 20 | <a href="#">63260.001.008</a> | KDH-8 | 20 | <a href="#">63260.002.008</a> |
| KD-4 | 25 | <a href="#">63260.001.004</a> | KDH-3 | 25 | <a href="#">63260.002.003</a> |       |    |                               |
| KD-5 | 25 | <a href="#">63260.001.005</a> | KDH-4 | 25 | <a href="#">63260.002.004</a> |       |    |                               |



## Hammer-in anchor

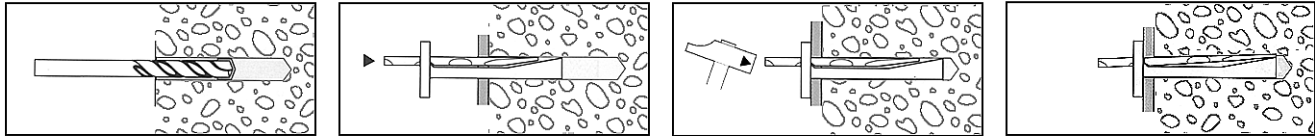


### Technical data

|                      |       |
|----------------------|-------|
| Type                 | SDA 6 |
| d <sub>1</sub>       | 5,8   |
| d <sub>2</sub>       | 15    |
| k                    | 2,5   |
| L                    | 35    |
| Drill ø              | 6     |
| Drill depth (min.)   | 40    |
| Grip range (max.)    | 4,5   |
| Allowable load in kN |       |
| Concrete ≥ C20/25    | 0,5   |

- Loads are valid in the pressure zone.

### Assembly sequence

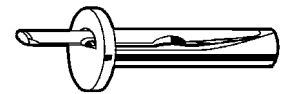


70665 SPIT Hammer-in anchor type SDA

P03A

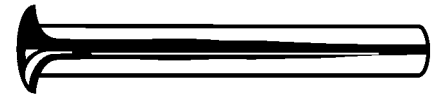
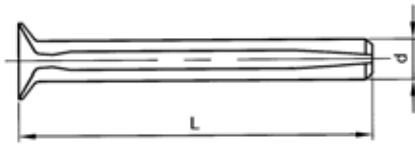
Material Steel  
Surface treatment Zinc plated yellow passivated  
Packaging Standard

**spit**



| Type  | ✉ | Art.number | Type                          | ✉ | Art.number | Type | ✉ | Art.number |
|-------|---|------------|-------------------------------|---|------------|------|---|------------|
| SDA 6 |   | 100        | <a href="#">70665.060.001</a> |   |            |      |   |            |

## Nail sleeve

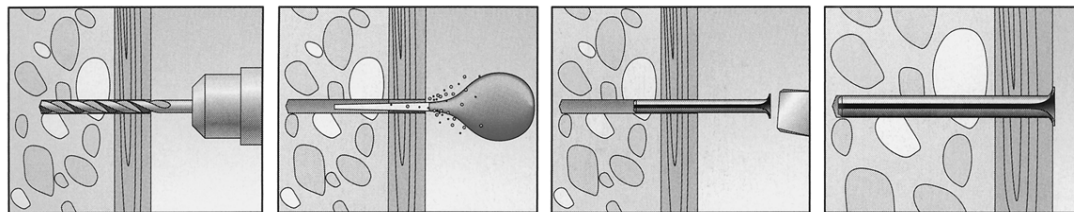


### Technical data

| Type                 | FNH 5/50 | FNH 6/40 | FNH 6/50 | FNH 6/60 | FNH 6/80 | FNH 8/70 | FNH 8/90 | FNH 8/110 | FNH 8/130 | FNH 8/150 |
|----------------------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| d                    | 5        | 6        | 6        | 6        | 6        | 8        | 8        | 8         | 8         | 8         |
| L                    | 50       | 40       | 50       | 60       | 80       | 70       | 90       | 110       | 130       | 150       |
| Drill ø              | 5        | 6        | 6        | 6        | 6        | 8        | 8        | 8         | 8         | 8         |
| Drill depth (min.)   | 30       | 40       | 40       | 40       | 40       | 50       | 50       | 50        | 50        | 50        |
| Grip range (max.)    | 30       | 10       | 20       | 30       | 50       | 30       | 50       | 70        | 90        | 110       |
| Allowable load in kN |          |          |          |          |          |          |          |           |           |           |
| Concrete ≥ C20/25    | 0,2      | 0,55     | 0,55     | 0,55     | 0,55     | 1,1      | 1,1      | 1,1       | 1,1       | 1,1       |

- A DACROMET® surface coating eliminates the possibilities of damage which can arise due to hydrogen embrittlement.
- Drill depth (min.) For through fixing.
- Concrete ≥ B25 Recommended load for non-cracked concrete.

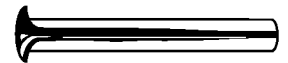
### Assembly sequence



### 63223 FISCHER Nail sleeve type FNH

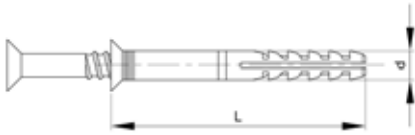
N03A

**Material** Steel  
**Surface treatment** Dacromet 500 LC Grade A  
**Packaging** Standard



| Type     | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type      | ☒   | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| FNH 5/50 | 100 | <a href="#">63223.050.050</a> | FNH 6/80  | 100 | <a href="#">63223.060.080</a> | FNH 8/130 | 100 | <a href="#">63223.080.130</a> |
| FNH 6/40 | 100 | <a href="#">63223.060.040</a> | FNH 8/70  | 100 | <a href="#">63223.080.070</a> | FNH 8/150 | 50  | <a href="#">63223.080.150</a> |
| FNH 6/50 | 100 | <a href="#">63223.060.050</a> | FNH 8/90  | 50  | <a href="#">63223.080.090</a> |           |     |                               |
| FNH 6/60 | 100 | <a href="#">63223.060.060</a> | FNH 8/110 | 50  | <a href="#">63223.080.110</a> |           |     |                               |

## Wall plug HammerFast



### Technical data

| d x L                | 5x30 | 5x35 | 5x50 | 6x40 | 6x50 | 6x60 | 8x60 | 8x80 | 8x100 | 8x120 |
|----------------------|------|------|------|------|------|------|------|------|-------|-------|
| Drill ø              | 5    | 5    | 5    | 6    | 6    | 6    | 8    | 8    | 8     | 8     |
| Drill depth (min.)   | 50   | 55   | 70   | 60   | 70   | 80   | 80   | 100  | 120   | 140   |
| Grip range           | 5    | 10   | 25   | 10   | 20   | 30   | 20   | 40   | 60    | 80    |
| Pull-out force in kN |      |      |      |      |      |      |      |      |       |       |
| Concrete ≥ C20/25    | 0,32 | 0,32 | 0,32 | 0,36 | 0,36 | 0,36 | 0,44 | 0,44 | 0,44  | 0,44  |
| Brick ≥ Mz12         | 0,20 | 0,20 | 0,20 | 0,28 | 0,28 | 0,28 | 0,36 | 0,36 | 0,36  | 0,36  |

### 30510 MAXXFAST Wall plug HammerFast

MF50

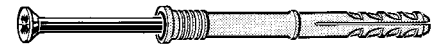
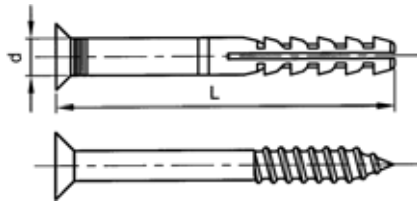
|                   |                           |
|-------------------|---------------------------|
| Material          | Plastic Nylon (polyamide) |
| Surface treatment | Zinc plated               |
| Colour            | Grey                      |
| Packaging         | Standard                  |

**MAXXFAST**  
PROFESSIONAL HARDWARE



| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|----|-------------------------------|
| 5X30MM | 100 | <a href="#">30510.050.030</a> | 6X50MM | 100 | <a href="#">30510.060.050</a> | 8X100MM | 50 | <a href="#">30510.080.100</a> |
| 5X35MM | 100 | <a href="#">30510.050.035</a> | 6X60MM | 100 | <a href="#">30510.060.060</a> | 8X120MM | 50 | <a href="#">30510.080.120</a> |
| 5X50MM | 100 | <a href="#">30510.050.050</a> |        |     |                               |         |    |                               |
| 6X40MM | 100 | <a href="#">30510.060.040</a> | 8X60MM | 100 | <a href="#">30510.080.060</a> |         |    |                               |
|        |     |                               | 8X80MM | 50  | <a href="#">30510.080.080</a> |         |    |                               |

## Hammerfix type N-Z

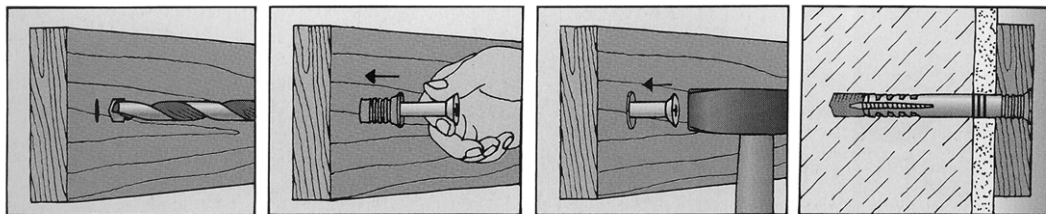


### Technical data

| Type                 | N5x30 Z | N5x40 Z | N5x50 Z | N6x40 Z | N6x60 Z | N6x80 Z | N8x60 Z | N8x80 Z | N8x100 Z | N8x120 Z | N10x100 Z | N10x135 Z | N10x160 Z |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|
| d                    | 5       | 5       | 5       | 6       | 6       | 6       | 8       | 8       | 8        | 8        | 10        | 10        | 10        |
| L                    | 30      | 40      | 50      | 40      | 60      | 80      | 60      | 80      | 100      | 120      | 100       | 135       | 160       |
| Nail dimension       | 3,5x38  | 3,5x48  | 3,5x58  | 4x48    | 4x64    | 4x88    | 5x65    | 5x85    | 5x105    | 5x120    | 7x110     | 7x145     | 7x170     |
| Drill ø              | 5       | 5       | 5       | 6       | 6       | 6       | 8       | 8       | 8        | 8        | 10        | 10        | 10        |
| Drill depth (min.)   | 45      | 55      | 65      | 55      | 75      | 95      | 75      | 95      | 115      | 135      | 115       | 150       | 175       |
| Grip range (max.)    | 5       | 15      | 25      | 10      | 30      | 50      | 20      | 40      | 60       | 80       | 50        | 85        | 110       |
| Pull-out force in kN |         |         |         |         |         |         |         |         |          |          |           |           |           |
| Concrete C20/25      | 1,1     | 1,1     | 1,1     | 1,4     | 1,4     | 1,4     | 1,9     | 1,9     | 1,9      | 1,9      | 3,4       | 3,4       | 3,4       |
| Brick Mz12           | 1       | 1       | 1       | 1,2     | 1,2     | 1,2     | 1,7     | 1,7     | 1,7      | 1,7      | 3         | 3         | 3         |
| Pumice grit V4       | 0,2     | 0,2     | 0,2     | 0,8     | 0,8     | 0,8     | 0,9     | 0,9     | 0,9      | 0,9      | 1,1       | 1,1       | 1,1       |
| Sandlime brick KS12  | 1       | 1       | 1       | 1,2     | 1,2     | 1,2     | 1,7     | 1,7     | 1,7      | 1,7      | 3         | 3         | 3         |
| Cellular concrete G2 | 0,2     | 0,2     | 0,2     | 0,25    | 0,25    | 0,25    | 0,5     | 0,5     | 0,5      | 0,5      | 0,7       | 0,7       | 0,7       |
| Cellular concrete G4 | 0,5     | 0,5     | 0,5     | 0,65    | 0,65    | 0,65    | 0,8     | 0,8     | 0,8      | 0,8      | 1,2       | 1,2       | 1,2       |

- With pre-assembled steel zinc plated, yellow passivated nail or stainless steel A2 nail with Pozidriv (Z) cross recessed head.
- It is advised to take a safety factor:  $\geq 7$ .

### Assembly sequence



### Article groups

| Material      | Surface treatment | Colour | Packaging | Code  | Page |
|---------------|-------------------|--------|-----------|-------|------|
| Plastic Nylon | Zipl              | Grey   | Standard  | 63611 | 8-28 |
| Plastic Nylon |                   | Grey   | Standard  | 63616 | 8-29 |

### 63611 FISCHER Hammerfix type N-Z

N03C

|                   |                           |
|-------------------|---------------------------|
| Material          | Plastic Nylon (polyamide) |
| Surface treatment | Zinc plated               |
| Colour            | Grey                      |
| Packaging         | Standard                  |

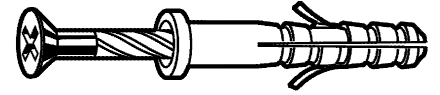
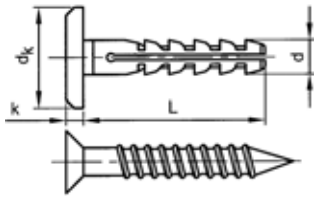


| Type      | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type       | ☒  | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|----|-------------------------------|
| N 5X30MM  | 100 | <a href="#">63611.050.030</a> | N 5X50 WT | 100 | <a href="#">63611.050.511</a> | N 8X100MM  | 50 | <a href="#">63611.080.100</a> |
| N 5X30 BR | 100 | <a href="#">63611.050.031</a> | N 6X40MM  | 50  | <a href="#">63611.060.040</a> | N 8X120MM  | 50 | <a href="#">63611.080.120</a> |
| N 5X40 BR | 100 | <a href="#">63611.050.040</a> | N 6X60MM  | 50  | <a href="#">63611.060.060</a> | N 10X100MM | 50 | <a href="#">63611.100.100</a> |
| N5X40Z    | 100 | <a href="#">63611.050.041</a> | N 6X80MM  | 50  | <a href="#">63611.060.080</a> | N 10X135MM | 50 | <a href="#">63611.100.135</a> |
| N 5X50MM  | 100 | <a href="#">63611.050.050</a> | N 8X60MM  | 50  | <a href="#">63611.080.060</a> | N 10X160MM | 50 | <a href="#">63611.100.160</a> |
| N 5X40 WT | 100 | <a href="#">63611.050.411</a> | N 8X80MM  | 50  | <a href="#">63611.080.080</a> |            |    |                               |

|   |                           |  |
|---|---------------------------|--|
| <b>63616 FISCHER Hammerfix type N-Z St.st. A2</b> |                           | <b>N03C</b>  |
| <b>Material</b>                                   | Plastic Nylon (polyamide) |   |
| <b>Colour</b>                                     | Grey                      |  |
| <b>Packaging</b>                                  | Standard                  |  |

| Type   | ☒   | Art.number                    | Type   | ☒  | Art.number                    | Type    | ☒  | Art.number                    |
|--------|-----|-------------------------------|--------|----|-------------------------------|---------|----|-------------------------------|
| 5X30MM | 100 | <a href="#">63616.050.030</a> | 6X60MM | 50 | <a href="#">63616.060.060</a> | 8X80MM  | 50 | <a href="#">63616.080.080</a> |
| 6X40MM | 50  | <a href="#">63616.060.040</a> | 8X60MM | 50 | <a href="#">63616.080.060</a> | 8X100MM | 50 | <a href="#">63616.080.100</a> |

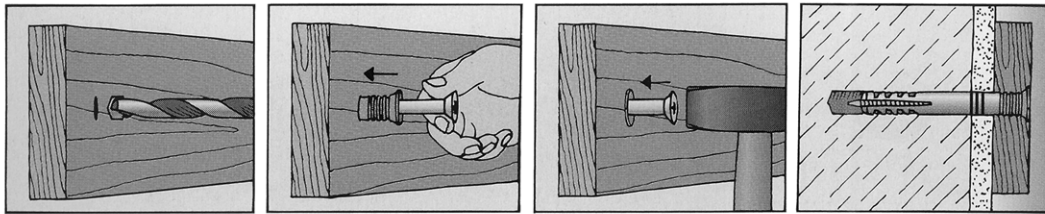
## Hammerfix type N-FZ



### Technical data

| Type                 | N6x40 FZ | N8x40 FZ |
|----------------------|----------|----------|
| d                    | 6        | 8        |
| L                    | 40       | 40       |
| dk                   | 13       | 20       |
| Nail dimension       | 4x48     | 5x45     |
| Drill ø              | 6        | 8        |
| Drill depth (min.)   | 55       | 55       |
| Grip range (max.)    | 7        | 0,5      |
| Pull-out force in kN |          |          |
| Concrete C20/25      | 1,4      | 1,9      |
| Brick Mz12           | 1,2      | 1,7      |
| Pumice grit V4       | 0,8      | 0,9      |
| Sandlime brick KS12  | 1,2      | 1,7      |
| Cellular concrete G2 | 0,25     | 0,5      |
| Cellular concrete G4 | 0,65     | 0,8      |

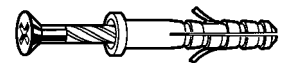
### Assembly sequence



63615 FISCHER Hammerfix type N-FZ

N03C

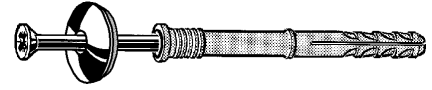
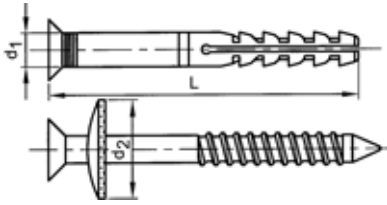
Material Plastic Nylon (polyamide)  
Colour Grey  
Packaging Standard



8

| Type      | ☒  | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|-----------|----|-------------------------------|------|---|------------|------|---|------------|
| N 6X40 FZ | 50 | <a href="#">63615.060.040</a> |      |   |            |      |   |            |
| N 8X40 FZ | 50 | <a href="#">63615.080.040</a> |      |   |            |      |   |            |

## Hammerfix with isolating washer



### Technical data

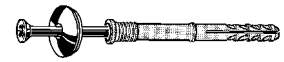
| Type                 | N6x40 D | N6x60 D |
|----------------------|---------|---------|
| d <sub>1</sub>       | 6       | 6       |
| L                    | 40      | 60      |
| d <sub>2</sub>       | 19      | 19      |
| Nail dimension       | 4x48    | 4x64    |
| Drill ø              | 6       | 6       |
| Drill depth (min.)   | 55      | 75      |
| Grip range (max.)    | 10      | 30      |
| Pull-out force in kN |         |         |
| Concrete C20/25      | 1,4     | 1,4     |
| Brick Mz12           | 1,2     | 1,2     |
| Pumice grit V4       | 0,8     | 0,8     |
| Sandlime brick KS12  | 1,2     | 1,2     |
| Cellular concrete G2 | 0,25    | 0,25    |
| Cellular concrete G4 | 0,65    | 0,65    |

- Pull-out force in kN.
- It is advised to take a safety factor  $\geq 7$ .

### 63617 FISCHER Hammerfix with isolating washer type N-D

N03C

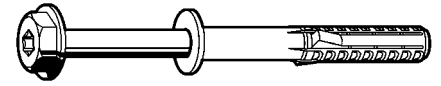
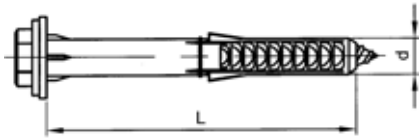
**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Standard



| Type   | ✉  | Art.number                    | Type | ✉ | Art.number | Type | ✉ | Art.number |
|--------|----|-------------------------------|------|---|------------|------|---|------------|
| 6X40MM | 50 | <a href="#">63617.060.040</a> |      |   |            |      |   |            |
| 6X60MM | 50 | <a href="#">63617.060.060</a> |      |   |            |      |   |            |

- With pre-assembled stainless steel A2 nail with Pozidriv (Z) cross recess and with stainless steel A2/elastomer isolating washer.

## Long-shaft fixing

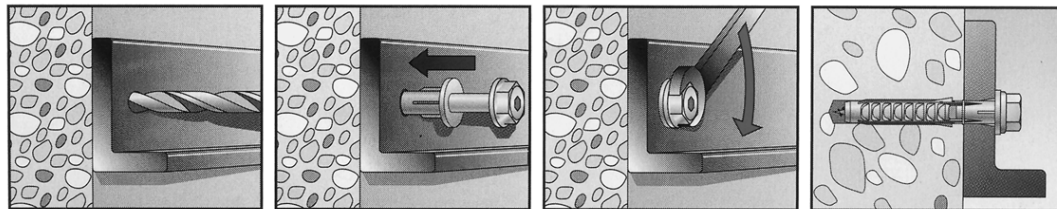


### Technical data

| Type                  | SX<br>10x80 T   | SX<br>10x100 T  | SX<br>10x140 T  | SX<br>10x160 T  | SXS<br>10x60<br>F US A4 | SXS<br>10x80<br>F US A4 | SXS<br>10x100<br>F US A4 | SXS<br>10x120<br>F US A4 | SXS<br>10x140<br>F US A4 | SXS<br>10x160<br>F US A4 | SXS<br>10x200<br>SS A4 | SXS<br>10x260<br>SS A4 |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------------|------------------------|
| d                     | 10              | 10              | 10              | 10              | 10                      | 10                      | 10                       | 10                       | 10                       | 10                       | 10                     | 10                     |
| L                     | 80              | 100             | 140             | 160             | 60                      | 80                      | 100                      | 120                      | 140                      | 160                      | 200                    | 260                    |
| Screw size            | 7x87            | 7X107           | 7X147           | 7x167           | 7x69                    | 7x89                    | 7x109                    | 7x129                    | 7x149                    | 7x169                    | 7x207                  | 7x267                  |
| Socket                | No.40           | No.40           | No.40           | No.40           | No.40                   | No.40                   | No.40                    | No.40                    | No.40                    | No.40                    | No.40                  | No.40                  |
| Drill ø               | 10              | 10              | 10              | 10              | 10                      | 10                      | 10                       | 10                       | 10                       | 10                       | 10                     | 10                     |
| Drill depth (min.)    | 90              | 110             | 150             | 170             | 70                      | 90                      | 110                      | 130                      | 150                      | 170                      | 210                    | 270                    |
| Grip range (max.)     | 30              | 50              | 90              | 110             | 10                      | 30                      | 50                       | 70                       | 90                       | 110                      | 150                    | 210                    |
| Allowable load in kN  |                 |                 |                 |                 |                         |                         |                          |                          |                          |                          |                        |                        |
| Concrete ≥ C12/15     | 0,8/1,2/<br>1,6 | 0,8/1,2/<br>1,6 | 0,8/1,2/<br>1,6 | 0,8/1,2/<br>1,6 | 0,8/1,2/<br>1,6         | 0,8/1,2/<br>1,6         | 0,8/1,2/<br>1,6          | 0,8/1,2/<br>1,6          | 0,8/1,2/<br>1,6          | 0,8/1,2/<br>1,6          | 0,8/1,2/<br>1,6        | 0,8/1,2/<br>1,6        |
| Brick ≥ Mz12          | 0,6             | 0,6             | 0,6             | 0,6             | 0,6                     | 0,6                     | 0,6                      | 0,6                      | 0,6                      | 0,6                      | 0,6                    | 0,6                    |
| Sandlime brick ≥ KS12 | 0,6             | 0,6             | 0,6             | 0,6             | 0,6                     | 0,6                     | 0,6                      | 0,6                      | 0,6                      | 0,6                      | 0,6                    | 0,6                    |
| Hollow block ≥ Hbl2   | 0,25            | 0,25            | 0,25            | 0,25            | 0,25                    | 0,25                    | 0,25                     | 0,25                     | 0,25                     | 0,25                     | 0,25                   | 0,25                   |

- Load varies with the edge distance, see the approval.
- For further technical data the approval is available on request.

### Assembly sequence



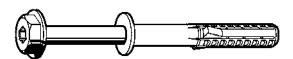
### Article groups

| Material | Colour |             | Packaging | Code  | Page |
|----------|--------|-------------|-----------|-------|------|
| Plastic  | Grey   | SXS-F US A4 | Standard  | 63174 | 8-32 |
| Plastic  | Grey   | SXS-T       | Standard  | 63298 | 8-33 |

#### 63174 FISCHER Long-shaft fixing type SXS-F US A4

N03A

Material Plastic  
Colour Grey  
Packaging Standard



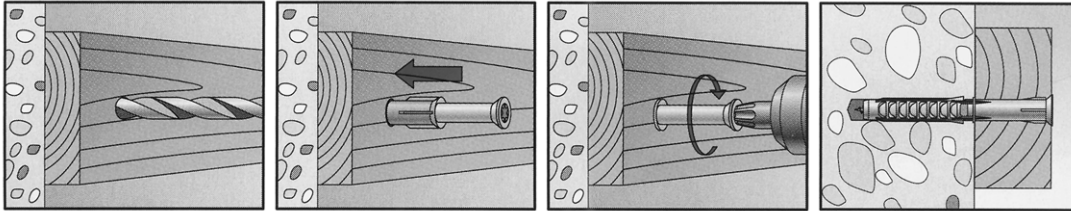
| Type   | ☒  | Art.number                    | Type   | ☒  | Art.number                    | Type | ☒ | Art.number |
|--------|----|-------------------------------|--------|----|-------------------------------|------|---|------------|
| 10X60  | 50 | <a href="#">63174.100.060</a> | 10X120 | 50 | <a href="#">63174.100.120</a> |      |   |            |
| 10X80  | 50 | <a href="#">63174.100.080</a> | 10X140 | 50 | <a href="#">63174.100.140</a> |      |   |            |
| 10X100 | 50 | <a href="#">63174.100.100</a> | 10X160 | 50 | <a href="#">63174.100.160</a> |      |   |            |

- Fixing with collar ø 18 x 2 mm, with pre-assembled stainless steel A4 hexagon head screw with hexalobular and with integrated washer.



|   |          |  |
|---|----------|--|
| <b>63298 FISCHER Long-shaft fixing type SXS-T</b> |          | <b>N03A</b>  |
| <b>Material</b>                                   | Plastic  |   |
| <b>Colour</b>                                     | Grey     |  |
| <b>Packaging</b>                                  | Standard |  |

**Assembly sequence**



| Type        | ☒  | Art.number                    | Type        | ☒  | Art.number                    | Type        | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| SXS 10X80T  | 50 | <a href="#">63298.100.080</a> | SXS 10X140T | 50 | <a href="#">63298.100.140</a> | SXS 10X160T | 50 | <a href="#">63298.100.160</a> |
| SXS 10X100T | 50 | <a href="#">63298.100.100</a> |             |    |                               |             |    |                               |

- With pre-assembled steel zinc plated countersunk head screw with hexalobular.

## Frame fixing type F-S

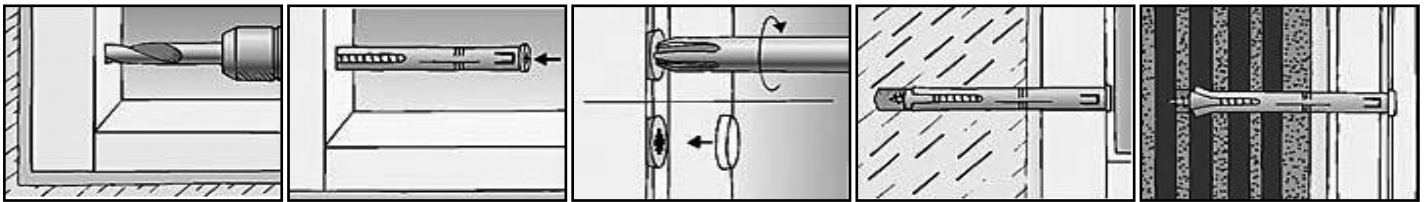


### Technical data

| Type       | F 10 S 75 | F 10 S 100 | F 10 S 120 | F 10 S 140 | F 10 S 165 |
|------------|-----------|------------|------------|------------|------------|
| $d_o$      | 10        | 10         | 10         | 10         | 10         |
| L          | 75        | 100        | 120        | 140        | 165        |
| Min. $t_d$ | 90        | 115        | 135        | 155        | 180        |
| $h_{ef}$   | 50        | 50         | 50         | 50         | 50         |
| $t_{fix}$  | 15        | 40         | 60         | 80         | 105        |

- $d_o$  = Nominal diameter of drill bit
- Min.  $t_d$  = Recommended drilling depth
- $h_{ef}$  = Effective anchorage depth
- $t_{fix}$  = Grip range

### Assembly sequence



### 63191 FISCHER Frame fixing type F-S

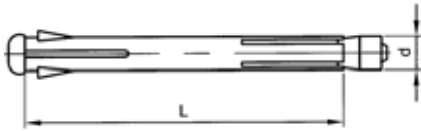
N03A

Material Plastic Nylon (polyamide)  
Colour Grey  
Packaging Standard



| Type       | ☒  | Art.number                    | Type       | ☒  | Art.number                    | Type       | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| F 10 S 75  | 50 | <a href="#">63191.100.075</a> | F 10 S 120 | 50 | <a href="#">63191.100.120</a> | F 10 S 165 | 50 | <a href="#">63191.100.165</a> |
| F 10 S 100 | 50 | <a href="#">63191.100.100</a> | F 10 S 140 | 50 | <a href="#">63191.100.140</a> |            |    |                               |

## Frame fixing type F-M

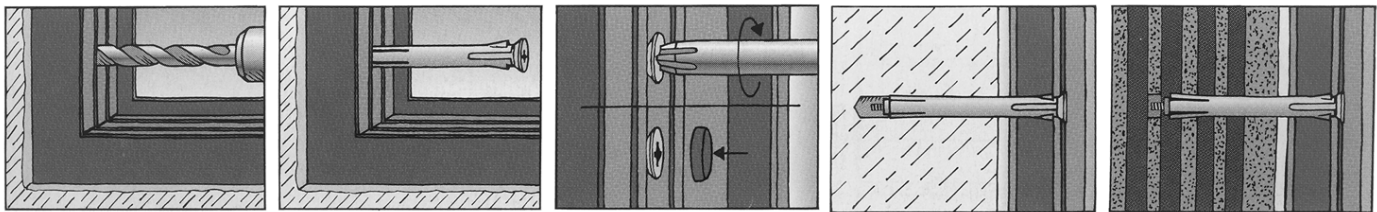


### Technical data

| Type                                | F 8 M 72 | F 8 M 92 | F 8 M 112 | F 8 M 132 | F 10 M 72 | F 10 M 92 | F 10 M 112 | F 10 M 132 | F 10 M 152 | F 10 M 182 | F 10 M 202 |
|-------------------------------------|----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|
| <b>d</b>                            | 8        | 8        | 8         | 8         | 10        | 10        | 10         | 10         | 10         | 10         | 10         |
| <b>L</b>                            | 72       | 92       | 112       | 132       | 72        | 92        | 112        | 132        | 152        | 182        | 202        |
| <b>Drill ø</b>                      | 8        | 8        | 8         | 8         | 10        | 10        | 10         | 10         | 10         | 10         | 10         |
| <b>Drill depth (min.)</b>           | 90       | 110      | 130       | 150       | 90        | 110       | 130        | 150        | 170        | 200        | 220        |
| <b>Grip range (max.)</b>            | 42       | 62       | 82        | 102       | 42        | 62        | 82         | 102        | 122        | 152        | 172        |
| <b>Pull-out force in kN</b>         |          |          |           |           |           |           |            |            |            |            |            |
| <b>Concrete ≥ C20/25</b>            | -        | -        | -         | -         | 5,5       | 5,5       | 5,5        | -          | 5,5        | 5,5        | 5,5        |
| <b>Brick ≥ Mz12</b>                 | -        | -        | -         | -         | 5,1       | 5,1       | 5,1        | 5,1        | 5,1        | 5,1        | 5,1        |
| <b>Sandlime brick ≥ KSV12</b>       | -        | -        | -         | -         | 5,1       | 5,1       | 5,1        | 5,1        | 5,1        | 5,1        | 5,1        |
| <b>Pumice grit ≥ V2</b>             | -        | -        | -         | -         | 1,9       | 1,9       | 1,9        | 1,9        | 1,9        | 1,9        | 1,9        |
| <b>Hollow sandlime brick ≥ KSL6</b> | -        | -        | -         | -         | 2,2       | 2,2       | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        |

- Fixing sleeve aluminium-zinc coated with steel zinc plated, yellow passivated screw with Pozidriv (Z) cross recessed head.
- It is advised to take a safety factor: 4.

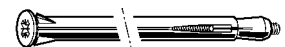
### Assembly sequence



### 63190 FISCHER Frame fixing type F-M

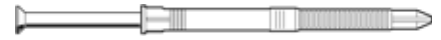
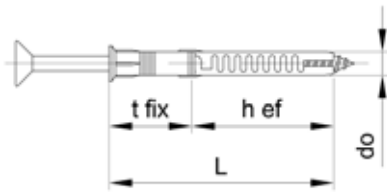
N03A

**Material** Steel  
**Packaging** Standard



| Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    | Type       | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| F 8 M 72  | 100 | <a href="#">63190.080.072</a> | F 10 M 72  | 100 | <a href="#">63190.100.072</a> | F 10 M 152 | 100 | <a href="#">63190.100.152</a> |
| F 8 M 92  | 100 | <a href="#">63190.080.092</a> | F 10 M 92  | 100 | <a href="#">63190.100.092</a> | F 10 M 182 | 50  | <a href="#">63190.100.182</a> |
| F 8 M 112 | 100 | <a href="#">63190.080.112</a> | F 10 M 112 | 100 | <a href="#">63190.100.112</a> | F 10 M 202 | 50  | <a href="#">63190.100.202</a> |
| F 8 M 132 | 100 | <a href="#">63190.080.132</a> | F 10 M 132 | 100 | <a href="#">63190.100.132</a> |            |     |                               |

**Frame fixing type FUR-T**

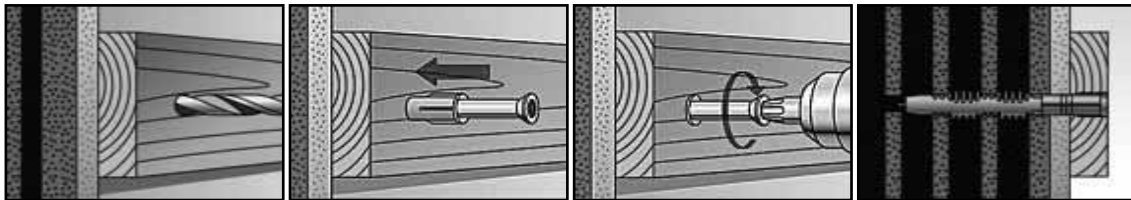


**Technical data**

| do x L | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> | Socket |
|--------|---------------------|-----------------|------------------|--------|
| 8x100  | 110                 | 70              | 30               | T30    |
| 8x120  | 130                 | 70              | 50               | T30    |
| 10x100 | 110                 | 70              | 30               | T40    |
| 10x115 | 125                 | 70              | 45               | T40    |
| 10x135 | 145                 | 70              | 65               | T40    |

- d<sub>o</sub> = Nominal diameter of drill bit
- Min. t<sub>d</sub> = Recommended drilling depth
- h<sub>ef</sub> = Effective anchorage depth
- t<sub>fix</sub> = Grip range

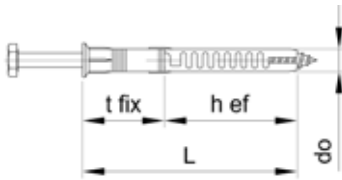
**Assembly sequence**



|  |                           |  |
|--|---------------------------|--|
| <b>63195 FISCHER Frame fixing type FUR-T</b> |                           | <b>N03A</b>  |
| <b>Material</b>                              | Plastic Nylon (polyamide) |   |
| <b>Colour</b>                                | Grey                      |  |
| <b>Packaging</b>                             | Standard                  |  |

| Drill ø x L | ☒  | Art.number                    | Drill ø x L | ☒  | Art.number                    | Drill ø x L | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 8X100MM     | 50 | <a href="#">63195.080.100</a> | 10X100MM    | 50 | <a href="#">63195.100.100</a> | 10X135MM    | 50 | <a href="#">63195.100.135</a> |
| 8X120MM     | 50 | <a href="#">63195.080.120</a> | 10X115MM    | 50 | <a href="#">63195.100.115</a> |             |    |                               |

**Frame fixing type FUR-SS**



**Technical data**

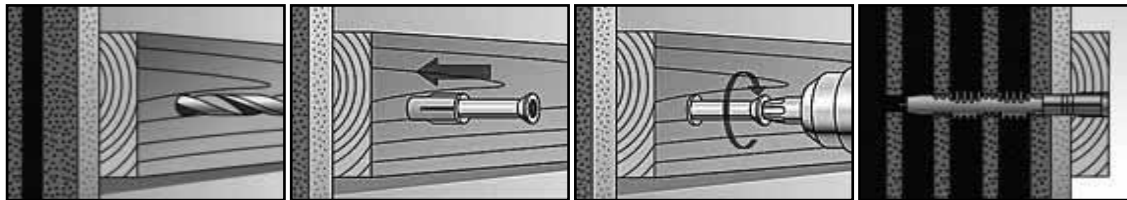
| do x L | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> |
|--------|---------------------|-----------------|------------------|
| 8x80   | 90                  | 70              | 10               |
| 8x100  | 110                 | 70              | 30               |
| 8x120  | 130                 | 70              | 50               |
| 10x80  | 90                  | 70              | 10               |

| do x L | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> |
|--------|---------------------|-----------------|------------------|
| 10x100 | 110                 | 70              | 30               |
| 10x115 | 125                 | 70              | 45               |
| 10x135 | 145                 | 70              | 65               |
| 10x160 | 170                 | 70              | 90               |

| do x L | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> |
|--------|---------------------|-----------------|------------------|
| 10x185 | 195                 | 70              | 115              |
| 10x200 | 210                 | 70              | 130              |
| 10x230 | 240                 | 70              | 160              |

- d<sub>0</sub> = Nominal diameter of drill bit
- Min. t<sub>d</sub> = Recommended drilling depth
- h<sub>ef</sub> = Effective anchorage depth
- t<sub>fix</sub> = Grip range

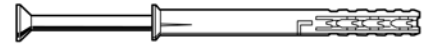
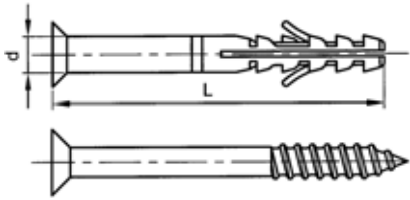
**Assembly sequence**



|  |                           |   |
|--|---------------------------|---|
| <b>63196 FISCHER Frame fixing type FUR-SS</b>  |                           | <b>N03A</b>   |
| <b>Material</b>  | Plastic Nylon (polyamide) |   |
| <b>Colour</b>  | Grey                      |   |
| <b>Packaging</b>   | Standard                  |   |
|  |                           |  |

| Drill ø x L | ☒  | Art.number                    | Drill ø x L | ☒  | Art.number                    | Drill ø x L | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 8X80MM      | 50 | <a href="#">63196.080.080</a> | 10X100MM    | 50 | <a href="#">63196.100.100</a> | 10X185MM    | 50 | <a href="#">63196.100.185</a> |
| 8X100MM     | 50 | <a href="#">63196.080.100</a> | 10X115MM    | 50 | <a href="#">63196.100.115</a> | 10X200MM    | 50 | <a href="#">63196.100.200</a> |
| 8X120MM     | 50 | <a href="#">63196.080.120</a> | 10X135MM    | 50 | <a href="#">63196.100.135</a> | 10X230MM    | 50 | <a href="#">63196.100.230</a> |
| 10X80MM     | 50 | <a href="#">63196.100.080</a> | 10X160MM    | 50 | <a href="#">63196.100.160</a> |             |    |                               |

## Frame fixing type SXR-T

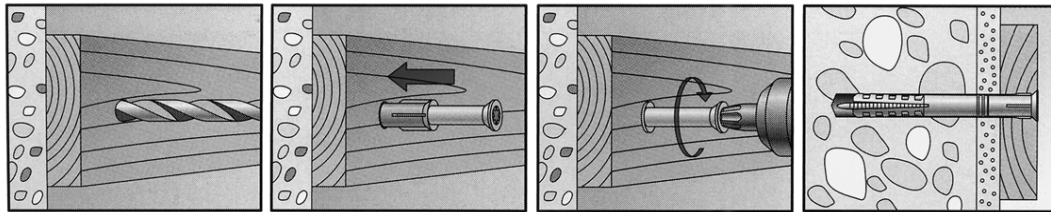


### Technical data

| do x L | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> | Socket |
|--------|---------------------|-----------------|------------------|--------|
| 80x60  | 70                  | 50              | 10               | T30    |
| 80x80  | 90                  | 50              | 30               | T30    |
| 80x100 | 110                 | 50              | 50               | T30    |
| 80x120 | 130                 | 50              | 70               | T30    |
| 10x80  | 90                  | 50              | 30               | No.40  |
| 10x100 | 110                 | 50              | 50               | No.40  |
| 10x120 | 130                 | 50              | 70               | No.40  |
| 10x140 | 150                 | 50              | 90               | No.40  |
| 10x160 | 170                 | 50              | 110              | No.40  |

- d<sub>0</sub> = Nominal diameter of drill bit.
- Min. t<sub>d</sub> = Recommended drilling depth.
- h<sub>ef</sub> = Effective anchorage depth.
- t<sub>fix</sub> = Grip range.

### Assembly sequence



### 63192 FISCHER Frame fixing type SXR-T

N03A

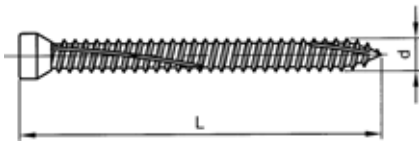
**Material** Plastic Nylon (polyamide)  
**Colour** Grey  
**Packaging** Standard



8

| Drill ø x L | ☒  | Art.number                    | Drill ø x L | ☒  | Art.number                    | Drill ø x L | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 8X60 T      | 50 | <a href="#">63192.080.060</a> | SXR 8X120 T | 50 | <a href="#">63192.080.120</a> | 10X120 T    | 50 | <a href="#">63192.100.120</a> |
| 8X80 T      | 50 | <a href="#">63192.080.080</a> | 10X80 T     | 50 | <a href="#">63192.100.080</a> | 10X140 T    | 50 | <a href="#">63192.100.140</a> |
| SXR 8X100 T | 50 | <a href="#">63192.080.100</a> | 10X100 T    | 50 | <a href="#">63192.100.100</a> | 10X160 T    | 50 | <a href="#">63192.100.160</a> |

## Window frame screw

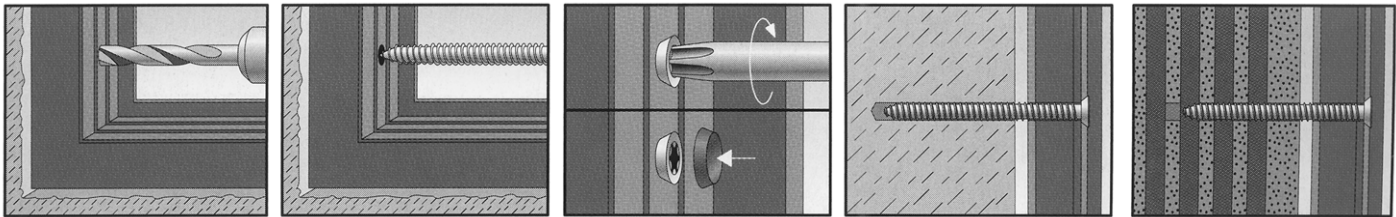


### Technical data

| Type    | d   | L   | Drill ø |
|---------|-----|-----|---------|
| 7,5x72  | 7,5 | 72  | 6       |
| 7,5x92  | 7,5 | 92  | 6       |
| 7,5x112 | 7,5 | 112 | 6       |
| 7,5x132 | 7,5 | 132 | 6       |
| 7,5x152 | 7,5 | 152 | 6       |
| 7,5x182 | 7,5 | 182 | 6       |
| 7,5x212 | 7,5 | 212 | 6       |

- Suitable for concrete, solid brick, sand lime solid bricks, perforated bricks, sand lime perforated bricks, hollow blocks, solid pumice, aircrete, natural stone etc.

### Assembly sequence



### Article groups

| Material | Surface treatment |      | Packaging | Code  | Page |
|----------|-------------------|------|-----------|-------|------|
| St       | Zipl              | FFSZ | Standard  | 63560 | 8-39 |
| St       | Zipl              | FFS  | Standard  | 63562 | 8-39 |

#### 63560 FISCHER Window frame screw type FFSZ - Head 7,5/TX 25

N03A

Material  
Surface treatment  
Packaging

Steel  
Zinc plated  
Standard



8

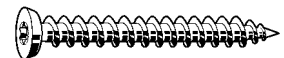
| Type        | ☒   | Art.number                    | Type         | ☒   | Art.number                    | Type         | ☒   | Art.number                    |
|-------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| FFSZ 7,5X72 | 100 | <a href="#">63560.075.072</a> | FFSZ 7,5X112 | 100 | <a href="#">63560.075.112</a> | FFSZ 7,5X212 | 100 | <a href="#">63560.075.212</a> |
| FFSZ 7,5X92 | 100 | <a href="#">63560.075.092</a> | FFSZ 7,5X132 | 100 | <a href="#">63560.075.132</a> |              |     |                               |

#### 63562 FISCHER Window frame screw type FFS - Head 11,5/TX 30

N03A

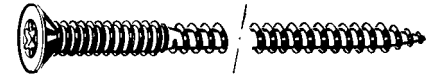
Material  
Surface treatment  
Packaging

Steel  
Zinc plated  
Standard



| Type        | ☒   | Art.number                    | Type        | ☒   | Art.number                    | Type        | ☒   | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|-----|-------------------------------|
| FFS 7,5X72  | 100 | <a href="#">63562.075.072</a> | FFS 7,5X132 | 100 | <a href="#">63562.075.132</a> | FFS 7,5X212 | 100 | <a href="#">63562.075.212</a> |
| FFS 7,5X92  | 100 | <a href="#">63562.075.092</a> | FFS 7,5X152 | 100 | <a href="#">63562.075.152</a> |             |     |                               |
| FFS 7,5X112 | 100 | <a href="#">63562.075.112</a> | FFS 7,5X182 | 100 | <a href="#">63562.075.182</a> |             |     |                               |

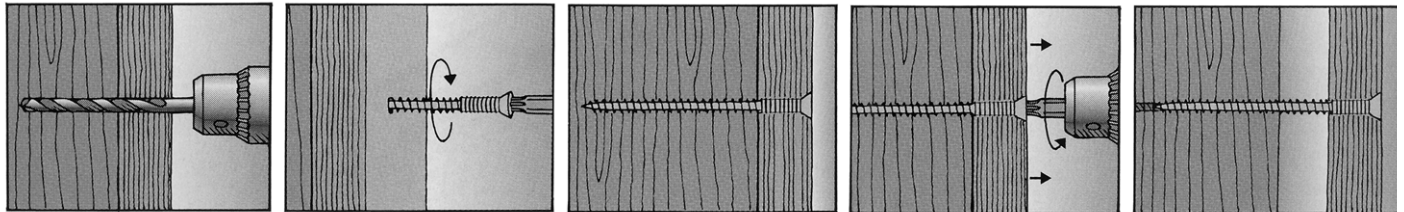
## Adjustable screw




### Technical data

|                       |          |
|-----------------------|----------|
| Type                  | JS 6x110 |
| Socket                | No.40    |
| Drill ø               | 5        |
| Drill depth (min.)    | 50-110   |
| Assembly depth (min.) | 30       |
| Stepless adjustment   | 0-55     |
| Wood thickness (max.) | 25       |

### Assembly sequence

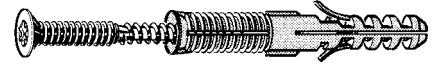


|  |   |   |
|--|---|---|
| <b>63601</b>   | <b>FISCHER Adjustable screw type JS</b> | <b>N03B</b>   |
| Material   | Steel                                   |   |
| Surface treatment  | Zinc plated                             |   |
| Packaging  | Standard                                |   |
|  |   |  |

| Type       | ✉ | Art.number | Type | ✉ | Art.number                    | Type | ✉ | Art.number |
|------------|---|------------|------|---|-------------------------------|------|---|------------|
| JS 6X110MM | ✉ | 50         |      | ✉ | <a href="#">63601.060.110</a> |      | ✉ |            |



## Adjustable fixing

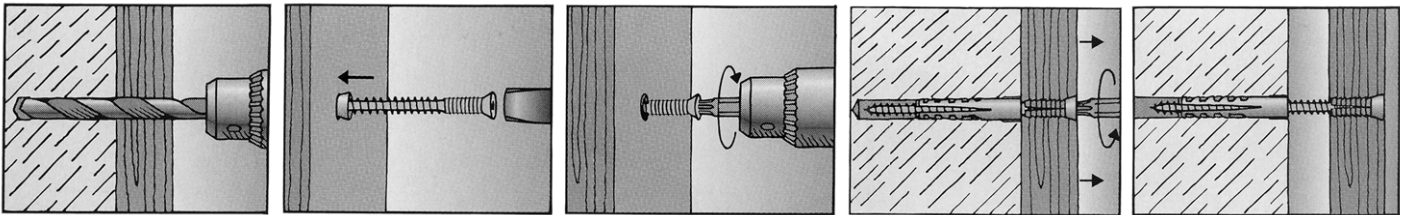



### Technical data

|                       |         |
|-----------------------|---------|
| Type                  | S10J75S |
| Plug length           | 75      |
| Socket                | No.40   |
| Drill ø               | 10      |
| Drill depth (min.)    | 115     |
| Assembly depth (min.) | 50      |
| Stepless adjustment   | 0-30    |
| Wood thickness (max.) | 25      |

- Adjustable fixing type S10J75S for assembly for wood on stone.
- With adjustable screw type JS 6 x 110, steel zinc plated, yellow passivated.

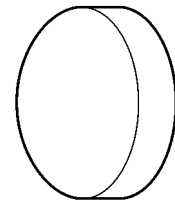
### Assembly sequence



|   |                           |   |
|---|---------------------------|---|
| <b>63600 FISCHER Adjustable fixing type S10J75S</b> |                           | <b>N03A</b>   |
| <b>Material</b>                                     | Plastic Nylon (polyamide) |   |
| <b>Colour</b>                                       | Grey                      |   |
| <b>Packaging</b>                                    | Standard                  |   |
|   |                           |  |

| Type        | ☒  | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|-------------|----|-------------------------------|------|---|------------|------|---|------------|
| S 10-J 75 S | 50 | <a href="#">63600.060.110</a> |      |   |            |      |   |            |

**Cover cap for window frame screws**



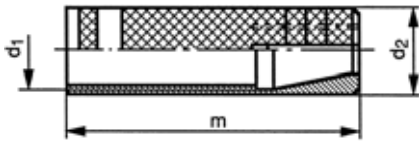
**Technical data**

| Type | FSS A-W | FSS A-BR |
|------|---------|----------|
| d    | 14      | 14       |
| h    | 4       | 4        |

|                  |  |   |
|------------------|--|---|
| <b>63590</b>     | <b>FISCHER Cover cap for window frame screws type FSS A</b>                        | <b>N03A</b>   |
| <b>Material</b>  | Plastic Polyamide (nylon)  |   |
| <b>Class</b>     | 6  |   |
| <b>Packaging</b> | Standard   |   |
|                  |  |  |

| Type       | ☒   | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------------|-----|-------------------------------|------|---|------------|------|---|------------|
| WHITE      | 100 | <a href="#">63590.000.011</a> |      |   |            |      |   |            |
| DARK BROWN | 100 | <a href="#">63590.000.019</a> |      |   |            |      |   |            |

## Expanding plug



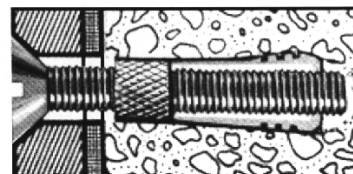
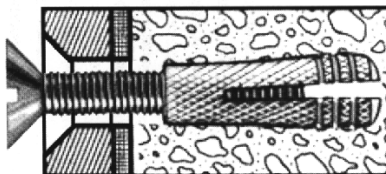
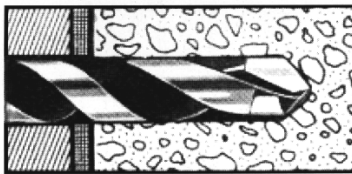
### Technical data

| d1                                       | M4   | M5   | M6   | M8   | M10 | M12  |
|--|------|------|------|------|-----|------|
| P  | 0,7  | 0,8  | 1    | 1,25 | 1,5 | 1,75 |
| d <sub>2</sub>                           | 5    | 6    | 7,5  | 10   | 12  | 15,5 |
| m  | 16   | 20   | 24   | 30   | 34  | 40   |
| Drill ø                                  | 5,5  | 6,5  | 8    | 11   | 13  | 18   |
| <b>Pull-out force in kN</b>              |      |      |      |      |     |      |
| Concrete ≥ C20/25                        | 0,25 | 0,4  | 0,65 | 1,1  | 1,6 | 2,2  |
| Stone ≥ 15 N/mm <sup>2</sup> (Mz/KS/HSV) | 0,2  | 3,35 | 0,55 | 0,9  | 1,3 | 1,6  |

- Drilling depth = fixing part + coating layer + length of plug + 10 mm.
- Length of screw = fixing part + coating layer + length of plug.
- It is advised to take a safetyfactor.

#### Special features of expanding plugs:

- provided with a conical inner side, expanding equally against the wall of the hole during tightening
- application for installation through the fixture hole
- they can be applied in concrete, stone, bricks, tiles and massive wood
- resistant against corrosion
- resistant against temperatures up to 200°C



#### 09610 Expanding plug

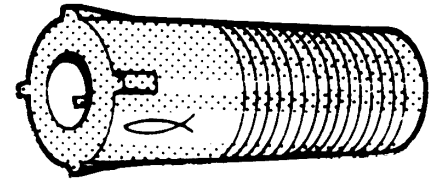
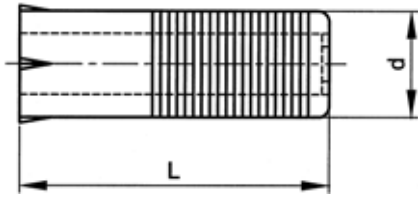
N07A

**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| d1 x m | ☒  | Art.number                    | d1 x m | ☒  | Art.number                    | d1 x m | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X16  | 50 | <a href="#">09610.040.016</a> | M6X24  | 50 | <a href="#">09610.060.024</a> | M10X34 | 25 | <a href="#">09610.100.034</a> |
| M5X20  | 50 | <a href="#">09610.050.020</a> | M8X30  | 25 | <a href="#">09610.080.030</a> | M12X40 | 25 | <a href="#">09610.120.040</a> |

## Expansion anchor with brass cone

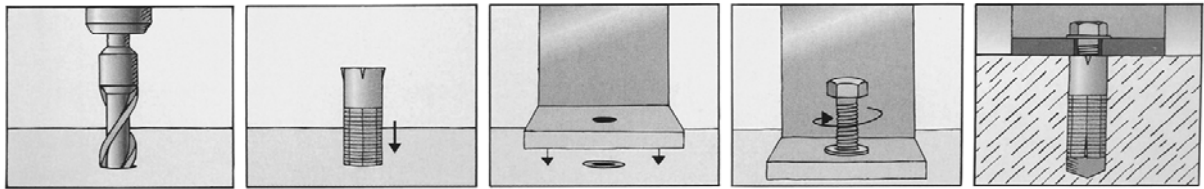


### Technical data

| Type                 | M5  | M6 | M8 | M10 | M12 | M16 |
|----------------------|-----|----|----|-----|-----|-----|
| d                    | 10  | 12 | 16 | 20  | 24  | 32  |
| L                    | 35  | 40 | 50 | 60  | 70  | 90  |
| Drill ø              | 10  | 12 | 16 | 20  | 24  | 32  |
| Drill depth (min.)   | 45  | 50 | 65 | 80  | 90  | 120 |
| Pull-out force in kN | -   |    |    |     |     |     |
| Concrete ≥ C20/25    | 5,5 | 9  | 13 | 22  | 25  | 43  |

- Pull-out force in kN.
- It is advised to take a safety factor ≥ 7.

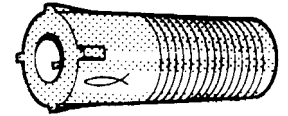
### Assembly sequence



63400 FISCHER Expansion anchor with brass cone type M

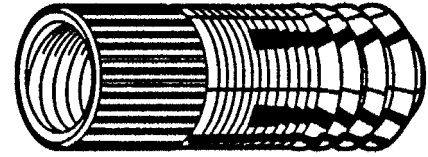
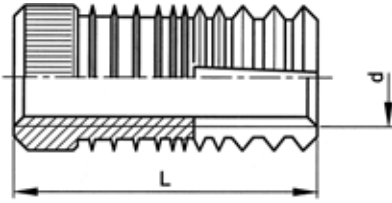
N03B

Thread Metric thread  
Material Glass-fibre reinforced plastic  
Packaging Standard



| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| M5   | 50 | <a href="#">63400.050.001</a> | M8   | 20 | <a href="#">63400.080.001</a> | M12  | 5 | <a href="#">63400.120.001</a> |
| M6   | 50 | <a href="#">63400.060.001</a> | M10  | 10 | <a href="#">63400.100.001</a> |      |   |                               |

## Anchor

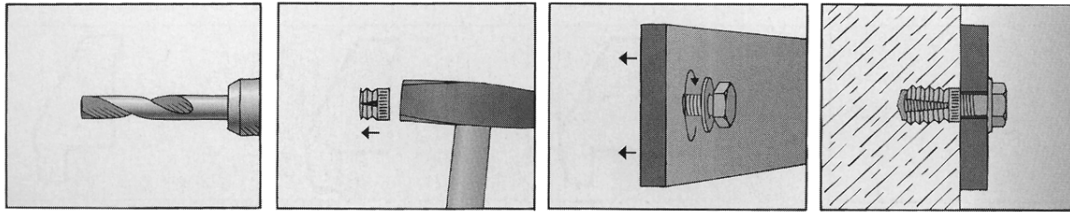


### Technical data

| Type                    | PA 4 M6/7,5 | PA 4 M6/13,5 | PA 4 M8/25 | PA 4 M10/25 |
|-------------------------|-------------|--------------|------------|-------------|
| d                       | M6          | M6           | M8         | M10         |
| P                       | 1           | 1            | 1,25       | 1,5         |
| L                       | 7,5         | 13,5         | 25         | 25          |
| Drill ø                 | 8           | 8            | 10         | 12          |
| Drill depth (min.)      | 7,5         | 13,5         | 25         | 25          |
| Drill ø in construction | 7,5         | 7,5          | 9,5        | 11,5        |
| Assembly depth (min.)   | 7,5         | 13,5         | 25         | 25          |
| Pull-out force in kN    |             |              |            |             |
| Chipboard               | 0,8         | 1,6          | -          | -           |
| Pine wood               | 0,7         | 1,5          | -          | -           |
| Beech wood              | 2           | 4            | -          | -           |
| Plastic                 | 3           | 8            | -          | -           |
| Brick Mz12              | -           | 3,2          | 7,8        | 9,2         |

- Length of screw min. = length of plug + thickness of fixing part.
- It is advised to take a safety factor:  $\geq 4$ .

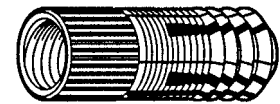
### Assembly sequence



### 63410 FISCHER Anchor type PA

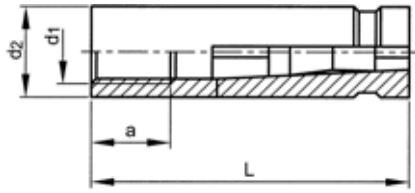
N03A

Thread Metric thread  
Material Brass  
Packaging Standard



| Type        | ☒   | Art.number                    | Type       | ☒  | Art.number                    | Type | ☒ | Art.number |
|-------------|-----|-------------------------------|------------|----|-------------------------------|------|---|------------|
| PA4 M6X7,5  | 200 | <a href="#">63410.060.007</a> | PA4 M8X25  | 50 | <a href="#">63410.080.025</a> |      |   |            |
| PA4 M6X13,5 | 100 | <a href="#">63410.060.013</a> | PA4 M10X25 | 25 | <a href="#">63410.100.025</a> |      |   |            |

**Female threaded hammer-in anchor SA**

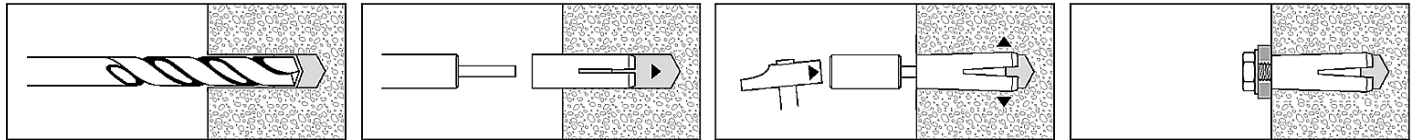


**Technical data**

|                         | M6 | M8  | M10 | M12 | M16 |
|-------------------------|----|-----|-----|-----|-----|
| d1                      | M6 | M8  | M10 | M12 | M16 |
| L                       | 30 | 30  | 40  | 50  | 65  |
| d <sub>2</sub>          | 8  | 10  | 12  | 15  | 20  |
| a                       | 13 | 13  | 15  | 18  | 23  |
| Drill ø                 | 8  | 10  | 12  | 15  | 20  |
| Drill depth (min.)      | 32 | 32  | 42  | 53  | 70  |
| Tightening torque in Nm | 4  | 8   | 15  | 35  | 60  |
| Allowable load in kN    |    |     |     |     |     |
| Concrete ≥ C20/25       | 1  | 1,8 | 3,6 | 5,7 | 7,4 |

- Female threaded hammer-in anchor type GRIP SA can be installed with setting tool type S (see article group 70967).

**Assembly sequence**



**70875 SPIT Female threaded hammer-in anchor type SA**

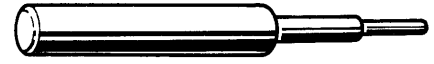
P03B

Thread Metric thread  
Material Stainless steel A4  
Packaging Standard



| d1 | ☒   | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    |
|----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M6 | 100 | <a href="#">70875.060.001</a> | M10 | 50 | <a href="#">70875.100.001</a> | M16 | 25 | <a href="#">70875.160.001</a> |
| M8 | 100 | <a href="#">70875.080.001</a> | M12 | 50 | <a href="#">70875.120.001</a> |     |    |                               |

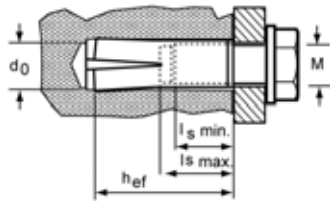
**Setting tool SA**



|                  |                          |  |
|------------------|--------------------------|--|
| <b>70967</b>     | <b>SPIT Setting tool</b> | <b>P03C</b>  |
| <b>Material</b>  | Steel                    |   |
| <b>Packaging</b> | Standard                 |  |

| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number |
|------|---|-------------------------------|------|---|-------------------------------|------|---|------------|
| S 6  | 1 | <a href="#">70967.000.006</a> | S 10 | 1 | <a href="#">70967.000.010</a> |      |   |            |
| S 8  | 1 | <a href="#">70967.000.008</a> | S 12 | 1 | <a href="#">70967.000.012</a> |      |   |            |

## Hammerset anchor EA II

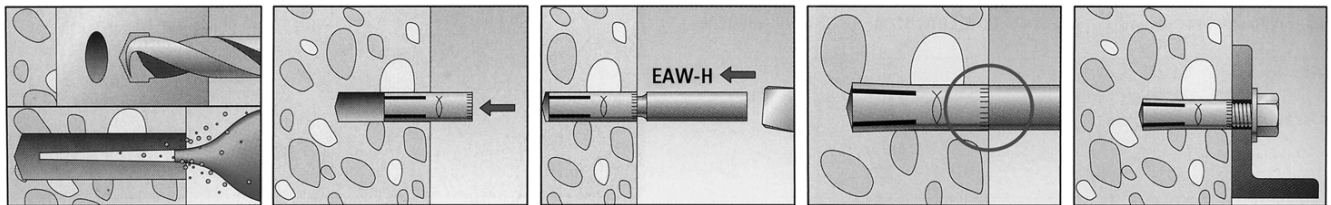


### Technical data

| Type                | EA II M6 | EA II M8 | EA II M10 | EA II M12 | EA II M16 | EA II M20 |
|---------------------|----------|----------|-----------|-----------|-----------|-----------|
| d                   | M6       | M8       | M10       | M12       | M16       | M20       |
| L                   | 30       | 30       | 40        | 50        | 65        | 80        |
| d <sub>0</sub>      | 8        | 10       | 12        | 15        | 20        | 25        |
| t                   | 32       | 33       | 43        | 54        | 70        | 85        |
| h <sub>ef</sub>     | 30       | 30       | 40        | 50        | 65        | 80        |
| l <sub>s min.</sub> | 6        | 8        | 10        | 12        | 16        | 20        |
| l <sub>s max.</sub> | 13       | 13       | 17        | 22        | 28        | 34        |
| k <sub>N</sub>      | 3,9      | 3,9      | 6,1       | 8,5       | 12,6      | 17,2      |



- d<sub>0</sub> = Nominal diameter of drill bit.
- t = Recommended drilling depth.
- h<sub>ef</sub> = Effective anchorage depth.
- l<sub>s min.</sub> = Screw-in depth min.
- l<sub>s max.</sub> = Screw-in depth max.
- k<sub>N</sub> = Load in kN in combination with 8.8 bolts.
- The cone must be installed with setting tool type EAW H (narrow end) into the anchor body (article group 63322).
- Only part of the approval for light suspended ceilings.
- For further technical data the approval is available on request.

### Assembly sequence



### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 63320 | 8-48 |
| M      | St.St. A4 |                   | Standard  | 63321 | 8-49 |

|                          |  |   |
|--------------------------|--|---|
| <b>63320</b>             | <b>FISCHER Hammerset anchor type EA II</b>   | <b>N03A</b>   |
| <b>Thread</b>            | Metric thread  |   |
| <b>Material</b>          | Steel  |   |
| <b>Surface treatment</b> | Zinc plated  |   |
| <b>Packaging</b>         | Standard   |   |
|                          |  |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type          | ✉   | Art.number                    | Type          | ✉   | Art.number                    | Type           | ✉  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|----------------|----|-------------------------------|
| EA II M6 (EV) | 100 | <a href="#">63320.060.001</a> | EA II M8 (EV) | 100 | <a href="#">63320.080.001</a> | EA II M10 (EV) | 50 | <a href="#">63320.100.001</a> |



| 63320 FISCHER Hammerset anchor type EA II |    |                               |                |    |                               |      |   |            |
|---|----|-------------------------------|----------------|----|-------------------------------|------|---|------------|
| Type                                      | ☒  | Art.number                    | Type           | ☒  | Art.number                    | Type | ☒ | Art.number |
| EA II M12 (EV)                            | 25 | <a href="#">63320.120.001</a> | EA II M16 (EV) | 20 | <a href="#">63320.160.001</a> |      |   |            |
| EA II M12 D (EV)                          | 25 | <a href="#">63320.120.005</a> | EA II M20 (EV) | 10 | <a href="#">63320.200.001</a> |      |   |            |

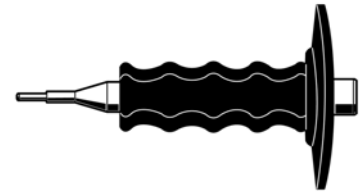
| 63321 FISCHER Hammerset anchor type EA II |  |  | N03A  |  |
|---|--|--|---|--|
| Thread                                    | Metric thread  |  |   |  |
| Material                                  | Stainless steel A4   |  |   |  |
| Packaging                                 | Standard   |  |   |  |
|   |  |  |  |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type        | ☒   | Art.number                    | Type         | ☒  | Art.number                    | Type         | ☒  | Art.number                    |
|-------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| EA II M6 A4 | 100 | <a href="#">63321.060.001</a> | EA II M10 A4 | 50 | <a href="#">63321.100.001</a> | EA II M16 A4 | 20 | <a href="#">63321.160.001</a> |
| EA II M8 A4 | 100 | <a href="#">63321.080.001</a> | EA II M12 A4 | 25 | <a href="#">63321.120.001</a> |              |    |                               |

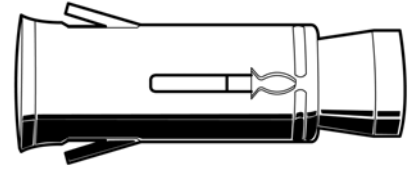
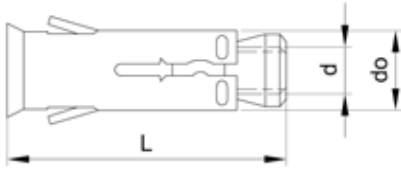
**Setting tool for EA II**



|  |             |   |
|--|-------------|---|
| <b>63322 Setting tool for EA II</b>  |             | <b>N03A</b>   |
| <b>Material</b>  | Steel       |   |
| <b>Surface treatment</b>   | Zinc plated |   |
| <b>Packaging</b>   | Standard    |   |
|  |             |  |

| Type         | ☒ | Art.number                    | Type          | ☒ | Art.number                    | Type          | ☒ | Art.number                    |
|--------------|---|-------------------------------|---------------|---|-------------------------------|---------------|---|-------------------------------|
| EAW H 6 PLUS | 1 | <a href="#">63322.060.001</a> | EAW H 10 PLUS | 1 | <a href="#">63322.100.001</a> | EAW H 16 PLUS | 1 | <a href="#">63322.160.001</a> |
| EAW H 8 PLUS | 1 | <a href="#">63322.080.001</a> | EAW H 12 PLUS | 1 | <a href="#">63322.120.001</a> | EAW H 20 PLUS | 1 | <a href="#">63322.200.001</a> |

## Hollow-ceiling anchor type FHY

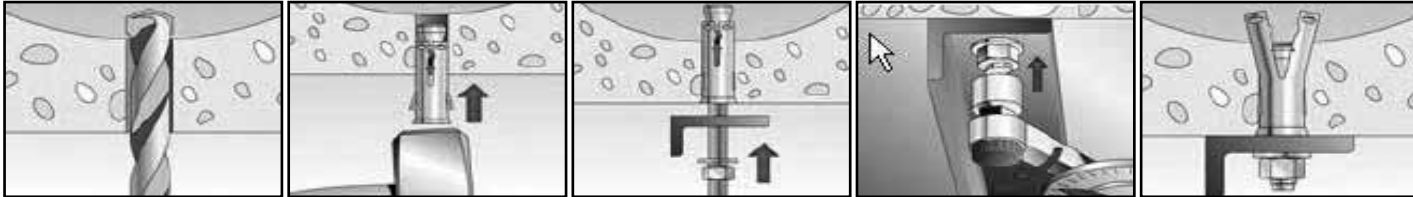


### Technical data

| Type / d                         | FHY M6 | FHY M8 | FHY M10 |
|----------------------------------|--------|--------|---------|
| $d_o$                            | 10     | 12     | 16      |
| L                                | 37     | 43     | 52      |
| Min. $t_d$                       | 50     | 60     | 65      |
| $h_{ef}$                         | 30     | 35     | 40      |
| Structural part thickness (min.) | 40mm   | 40mm   | 40mm    |
| Allowable load in kN             |        |        |         |
| Concrete $\geq$ C50/60           | 1,8    | 1,8    | 2,7     |

- $d_o$  = Nominal diameter of drill bit
- Min.  $t_d$  = Recommended drilling depth
- $h_{ef}$  = Effective anchorage depth

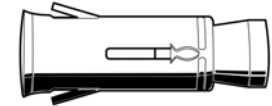
### Assembly sequence



### 63428 FISCHER Hollow-ceiling anchor type FHY

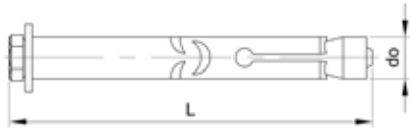
N03A

Thread: Metric thread  
 Material: Steel  
 Surface treatment: Zinc plated  
 Packaging: Standard



| Type / d | ☒  | Art.number                    | Type / d | ☒  | Art.number                    | Type / d | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| FHY M6   | 50 | <a href="#">63428.060.001</a> | FHY M8   | 25 | <a href="#">63428.080.001</a> | FHY M10  | 20 | <a href="#">63428.100.001</a> |

## Sleeve anchor FSA-S

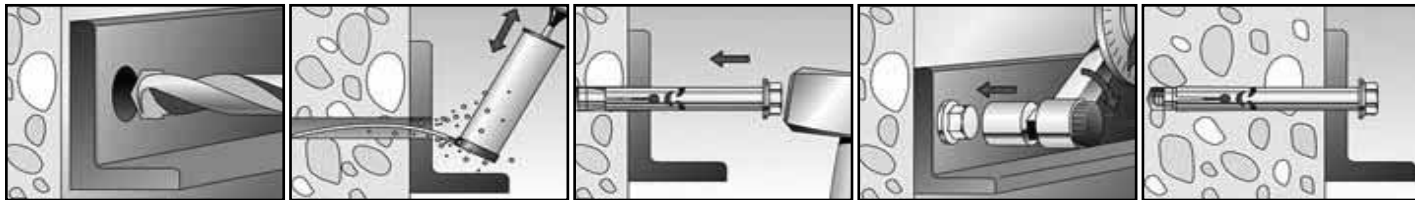


### Technical data

| Type                   | FSA 8/15 S | FSA 8/40 S | FSA 8/65 S | FSA 10/10 S | FSA 10/35 S | FSA 10/60 S | FSA 12/10 S | FSA 12/25 S | FSA 12/50 S |
|------------------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| $d_o$                  | 8          | 8          | 8          | 10          | 10          | 10          | 12          | 12          | 12          |
| L                      | 59         | 84         | 109        | 60          | 86          | 110         | 70          | 85          | 110         |
| $t_{fix}$              | 15         | 40         | 65         | 10          | 35          | 60          | 10          | 25          | 50          |
| $h_{ef}$               | 35         | 35         | 35         | 40          | 40          | 40          | 50          | 50          | 50          |
| Min. $t_d$             | 65         | 90         | 115        | 65          | 90          | 115         | 75          | 90          | 115         |
| Allowable load in kN   |            |            |            |             |             |             |             |             |             |
| Concrete $\geq$ C20/25 | 5,2        | 5,2        | 5,2        | 12,9        | 12,9        | 12,9        | 25,7        | 25,7        | 25,7        |

- $d_o$  = Nominal diameter of drill bit
- $t_{fix}$  = Grip range
- $h_{ef}$  = Effective anchorage depth
- Min.  $t_d$  = Recommended drilling depth
- The allowable load is valid for one single anchor, at cracked concrete (tensile zone) with concrete class  $\geq$  C20/25.

### Assembly sequence



### 63226 FISCHER Sleeve anchor FSA-S

N03A

Thread: Metric thread  
 Material: Steel  
 Surface treatment: Zinc plated  
 Packaging: Standard

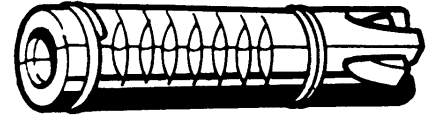
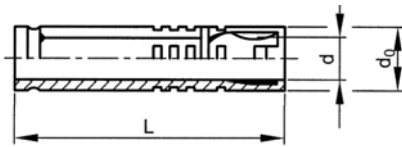


8

| Type       | ☒  | Art.number                    | Type        | ☒  | Art.number                    | Type        | ☒  | Art.number                    |
|------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| FSA 8/15 S | 50 | <a href="#">63226.080.015</a> | FSA 10/10 S | 20 | <a href="#">63226.100.010</a> | FSA 12/10 S | 20 | <a href="#">63226.120.010</a> |
| FSA 8/40 S | 50 | <a href="#">63226.080.040</a> | FSA 10/35 S | 20 | <a href="#">63226.100.035</a> | FSA 12/25 S | 20 | <a href="#">63226.120.025</a> |
| FSA 8/65 S | 50 | <a href="#">63226.080.065</a> | FSA 10/60 S | 20 | <a href="#">63226.100.060</a> | FSA 12/50 S | 20 | <a href="#">63226.120.050</a> |

## Expansion shield

NEN ≈2316



### Technical data

| Type      | d   | L   | d <sub>o</sub> | d <sub>d</sub> | d <sub>f</sub> | k <sub>N</sub> |
|-----------|-----|-----|----------------|----------------|----------------|----------------|
| SA06      | M6  | 45  | 12             | 60             | 50             | 2,3            |
| SA08      | M8  | 50  | 14             | 65             | 50             | 3,7            |
| SA10      | M10 | 60  | 16             | 75             | 50             | 5,0            |
| SA12      | M12 | 75  | 20             | 70             | 25             | 6,7            |
| SA16      | M16 | 115 | 25             | 150            | 10             | 10,0           |
| M6 (rvs)  | M6  | 40  | 12             | 60             | 50             | -              |
| M8 (rvs)  | M8  | 50  | 14             | 65             | 50             | -              |
| M10 (rvs) | M10 | 60  | 16             | 75             | 50             | -              |
| M12 (rvs) | M12 | 80  | 20             | 70             | 25             | -              |

- d<sub>o</sub> = Nominal diameter of drill bit.
- d<sub>d</sub> = Embedment depth.
- d<sub>f</sub> = Anchor diameter.
- k<sub>N</sub> = Load in kN.

### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 09015 | 8-53 |
| M      | St.St. A4 |                   | Standard  | 09560 | 8-53 |

#### 09015 Expansion shield SA

P01A

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| d x L      | ☒  | Art.number                    | d x L       | ☒  | Art.number                    | d x L        | ☒  | Art.number                    |
|------------|----|-------------------------------|-------------|----|-------------------------------|--------------|----|-------------------------------|
| M6X45 (SA) | 50 | <a href="#">09015.060.045</a> | M10X60 (SA) | 50 | <a href="#">09015.100.060</a> | M16X115 (SA) | 10 | <a href="#">09015.160.115</a> |
| M8X50 (SA) | 50 | <a href="#">09015.080.050</a> | M12X75 (SA) | 25 | <a href="#">09015.120.075</a> |              |    |                               |

#### 09560 Expansion shield

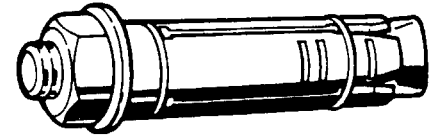
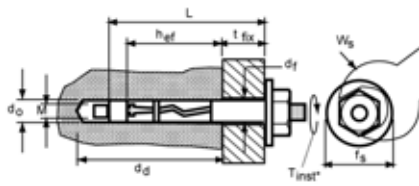
P01A

|           |                    |
|-----------|--------------------|
| Thread    | Metric thread      |
| Material  | Stainless steel A4 |
| Packaging | Standard           |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|---|------------|
| M6X40  | 50 | <a href="#">09560.060.040</a> | M10X60 | 25 | <a href="#">09560.100.060</a> |        |   |            |
| M8X50  | 50 | <a href="#">09560.080.050</a> | M12X80 | 10 | <a href="#">09560.120.080</a> |        |   |            |

## Expansion shield projecting bolt



### Technical data

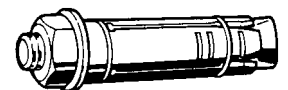
| Type       | L   | d   | d <sub>o</sub> | d <sub>d</sub> | d <sub>f</sub> | f <sub>s</sub> | W <sub>s</sub> | h <sub>ef</sub> | t <sub>fix</sub> | k <sub>N</sub> |
|------------|-----|-----|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|----------------|
| SAP M6-10  | 55  | M6  | 12             | 70             | 12             | 14             | 10             | 45              | 10               | 2,3            |
| SAP M6-25  | 70  | M6  | 12             | 85             | 12             | 14             | 10             | 45              | 25               | 2,3            |
| SAP M6-50  | 95  | M6  | 12             | 100            | 12             | 14             | 10             | 45              | 50               | 2,3            |
| SAP M8-15  | 65  | M8  | 14             | 80             | 14             | 21             | 13             | 50              | 15               | -              |
| SAP M8-25  | 75  | M8  | 14             | 90             | 14             | 21             | 13             | 50              | 25               | 3,7            |
| SAP M8-40  | 90  | M8  | 14             | 105            | 14             | 21             | 13             | 50              | 40               | 3,7            |
| SAP M8-80  | 130 | M8  | 14             | 145            | 14             | 21             | 13             | 50              | 80               | 3,7            |
| SAP M10-10 | 60  | M10 | 16             | 75             | 16             | 23,3           | 17             | 50              | 10               | 5,0            |
| SAP M10-30 | 90  | M10 | 16             | 105            | 16             | 23,3           | 17             | 60              | 30               | 5,0            |
| SAP M10-50 | 110 | M10 | 16             | 125            | 16             | 23,3           | 17             | 60              | 50               | 5,0            |
| SAP M10-70 | 130 | M10 | 16             | 145            | 16             | 23,3           | 17             | 60              | 70               | 5,0            |
| SAP M12-15 | 90  | M12 | 20             | 110            | 20             | 27,8           | 19             | 75              | 15               | 6,7            |
| SAP M12-25 | 100 | M12 | 20             | 120            | 20             | 27,8           | 19             | 75              | 25               | 6,7            |
| SAP M12-50 | 125 | M12 | 20             | 145            | 20             | 27,8           | 19             | 75              | 50               | 6,7            |
| SAP M12-70 | 145 | M12 | 20             | 165            | 20             | 27,8           | 19             | 75              | 70               | 6,7            |
| SAP M16-15 | 130 | M16 | 25             | 155            | 25             | 29,2           | 24             | 115             | 15               | 10,0           |
| SAP M16-35 | 150 | M16 | 25             | 175            | 25             | 29,2           | 24             | 115             | 35               | 10,0           |

- d<sub>o</sub> = Nominal diameter of drill bit.
- d<sub>d</sub> = Embedment depth .
- d<sub>f</sub> = Anchor diameter.
- f<sub>s</sub> = Head diameter.
- W<sub>s</sub> = Setting tool diameter.
- h<sub>ef</sub> = Effective anchorage depth.
- t<sub>fix</sub> = Grip range.
- k<sub>N</sub> = Allowable load in kN.

### 09030 Expansion shield projecting bolt SAP

P01A

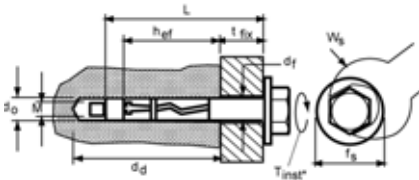
|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



8

| d x dd x tfix | ☒  | Art.number                    | d x dd x tfix | ☒  | Art.number                    | d x dd x tfix | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6X70X10      | 50 | <a href="#">09030.060.701</a> | M10X75X10     | 50 | <a href="#">09030.100.701</a> | M12X145X50    | 10 | <a href="#">09030.124.505</a> |
| M6X85X25      | 50 | <a href="#">09030.060.802</a> | M10X105X30    | 50 | <a href="#">09030.101.503</a> | M12X165X70    | 10 | <a href="#">09030.126.507</a> |
| M6X100X50     | 50 | <a href="#">09030.061.005</a> | M10X125X50    | 25 | <a href="#">09030.102.505</a> | M16X155X15    | 10 | <a href="#">09030.165.501</a> |
| M8X80X15      | 50 | <a href="#">09030.080.801</a> | M10X145X70    | 25 | <a href="#">09030.104.507</a> | M16X175X35    | 10 | <a href="#">09030.167.501</a> |
| M8X90X25      | 50 | <a href="#">09030.080.902</a> | M12X110X15    | 25 | <a href="#">09030.121.101</a> |               |    |                               |
| M8X145X80     | 25 | <a href="#">09030.081.458</a> | M12X120X25    | 25 | <a href="#">09030.121.205</a> |               |    |                               |
| M8X105X40     | 50 | <a href="#">09030.081.504</a> |               |    |                               |               |    |                               |

## Expansion shield with hexagon head screw



### Technical data

| Type       | L   | d   | d <sub>o</sub> | d <sub>d</sub> | d <sub>f</sub> | f <sub>s</sub> | W <sub>s</sub> | h <sub>ef</sub> | t <sub>fix</sub> | k <sub>N</sub> |
|------------|-----|-----|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|----------------|
| SAL M6-10  | 55  | M6  | 12             | 70             | 13             | 14             | 10             | 45              | 10               | 2,3            |
| SAL M6-25  | 70  | M6  | 12             | 85             | 13             | 14             | 10             | 45              | 25               | 2,3            |
| SAL M6-40  | 85  | M6  | 12             | 100            | 13             | 14             | 10             | 45              | 40               | 2,3            |
| SAL M8-10  | 60  | M8  | 14             | 80             | 15             | 21             | 13             | 50              | 10               | 3,7            |
| SAL M8-25  | 75  | M8  | 14             | 90             | 15             | 21             | 13             | 50              | 25               | 3,7            |
| SAL M8-40  | 90  | M8  | 14             | 105            | 15             | 21             | 13             | 50              | 40               | 3,7            |
| SAL M10-10 | 60  | M10 | 16             | 75             | 18             | 24,1           | 17             | 50              | 10               | 5,0            |
| SAL M10-25 | 85  | M10 | 16             | 100            | 18             | 24,1           | 17             | 60              | 25               | 5,0            |
| SAL M10-50 | 110 | M10 | 16             | 125            | 18             | 24,1           | 17             | 60              | 50               | 5,0            |
| SAL M10-75 | 135 | M10 | 16             | 150            | 18             | 24,1           | 17             | 60              | 75               | 5,0            |
| SAL M12-10 | 85  | M12 | 20             | 105            | 22             | 29,2           | 19             | 75              | 10               | 6,7            |
| SAL M12-25 | 90  | M12 | 20             | 110            | 22             | 29,2           | 19             | 75              | 15               | 6,7            |
| SAL M12-40 | 115 | M12 | 20             | 135            | 22             | 29,2           | 19             | 75              | 40               | 6,7            |
| SAL M12-60 | 135 | M12 | 20             | 155            | 22             | 29,2           | 19             | 75              | 60               | 6,7            |
| SAL M16-15 | 130 | M16 | 25             | 155            | 27             | 29,2           | 24             | 115             | 15               | 10,0           |
| SAL M16-30 | 145 | M16 | 25             | 170            | 27             | 29,2           | 24             | 115             | 30               | 10,0           |
| SAL M16-60 | 175 | M16 | 25             | 200            | 27             | 29,2           | 24             | 115             | 60               | 10,0           |

- d<sub>o</sub> = Nominal diameter of drill bit.
- d<sub>d</sub> = Embedment depth .
- d<sub>f</sub> = Anchor diameter.
- f<sub>s</sub> = Head diameter.
- W<sub>s</sub> = Setting tool diameter.
- h<sub>ef</sub> = Effective anchorage depth.
- t<sub>fix</sub> = Grip range.
- k<sub>N</sub> = Allowable load in kN.

#### 09420 Expansion shield with hexagon head screw SAL

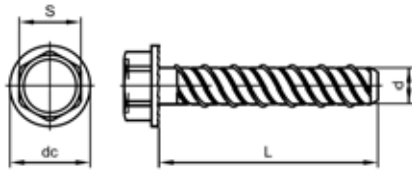
P01A

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| d x dd x tfix | ☒  | Art.number                    | d x dd x tfix | ☒  | Art.number                    | d x dd x tfix | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6X70X10      | 50 | <a href="#">09420.060.701</a> | M10X75X10     | 50 | <a href="#">09420.100.701</a> | M12X155X60    | 25 | <a href="#">09420.125.506</a> |
| M6X85X25      | 50 | <a href="#">09420.060.802</a> | M10X100X25    | 50 | <a href="#">09420.101.002</a> |               |    |                               |
| M6X100X40     | 50 | <a href="#">09420.061.004</a> | M10X125X50    | 50 | <a href="#">09420.102.505</a> | M16X170X30    | 10 | <a href="#">09420.161.703</a> |
|               |    |                               | M10X150X75    | 25 | <a href="#">09420.105.007</a> | M16X200X60    | 10 | <a href="#">09420.162.006</a> |
| M8X80X10      | 50 | <a href="#">09420.080.801</a> | M12X105X10    | 25 | <a href="#">09420.120.501</a> | M16X155X15    | 10 | <a href="#">09420.165.501</a> |
| M8X90X25      | 50 | <a href="#">09420.080.902</a> |               |    |                               |               |    |                               |
| M8X105X40     | 50 | <a href="#">09420.081.504</a> | M12X110X15    | 25 | <a href="#">09420.121.101</a> |               |    |                               |
|               |    |                               | M12X135X40    | 25 | <a href="#">09420.123.504</a> |               |    |                               |

## Self-tapping screw anchor type BT



### Technical data

| Type    | d   | L   | s  | d <sub>c</sub> |
|---------|-----|-----|----|----------------|
| BT550   | 5   | 50  | 7  | 12             |
| BT650   | 6   | 50  | 10 | 12             |
| BT680   | 6   | 80  | 10 | 12             |
| BT6100  | 6   | 100 | 10 | 12             |
| BT6120  | 6   | 120 | 10 | 12             |
| BT6140  | 6   | 140 | 10 | 12             |
| BT6530  | 6,5 | 30  | 10 | 13             |
| BT6550  | 6,5 | 50  | 10 | 13             |
| BT6575  | 6,5 | 75  | 10 | 13             |
| BT65100 | 6,5 | 100 | 10 | 13             |
| BT850   | 8   | 50  | 13 | 16,5           |
| BT875   | 8   | 75  | 13 | 16,5           |
| BT8100  | 8   | 100 | 13 | 16,5           |
| BT1060  | 10  | 60  | 17 | 22             |
| BT1075  | 10  | 75  | 17 | 22             |
| BT10100 | 10  | 100 | 17 | 22             |
| BT10110 | 10  | 110 | 17 | 22             |
| BT10120 | 10  | 120 | 17 | 22             |
| BT10140 | 10  | 140 | 17 | 22             |
| BT10160 | 10  | 160 | 17 | 22             |
| BT10200 | 10  | 200 | 17 | 22             |
| BT10240 | 10  | 200 | 17 | 22             |
| BT10280 | 10  | 280 | 17 | 22             |
| BT10320 | 10  | 320 | 17 | 22             |
| BT1275  | 12  | 75  | 19 | 25             |
| BT12100 | 12  | 100 | 19 | 25             |
| BT12150 | 12  | 150 | 19 | 25             |
| BT12200 | 12  | 200 | 19 | 25             |
| BT16100 | 16  | 100 | 24 | 30             |
| BT16150 | 16  | 150 | 24 | 30             |
| BT16200 | 16  | 200 | 24 | 30             |
| BT16240 | 16  | 240 | 24 | 30             |
| BT16280 | 16  | 280 | 24 | 30             |
| BT16320 | 16  | 320 | 24 | 30             |

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#### 70520 Self-tapping screw anchor type BT

P05A

|                   |             |
|-------------------|-------------|
| Material          | Steel       |
| Surface treatment | Zinc plated |
| Packaging         | Standard    |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

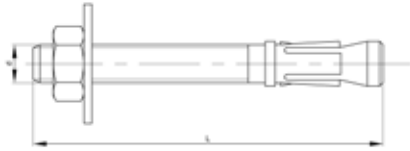
| d x L    | ☒   | Art.number                    | d x L    | ☒   | Art.number                    | d x L    | ☒  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| BT 5X50  | 100 | <a href="#">70520.050.050</a> | BT 6X120 | 100 | <a href="#">70520.060.120</a> | BT 8X75  | 50 | <a href="#">70520.080.075</a> |
| BT 6X50  | 100 | <a href="#">70520.060.050</a> | BT 6X140 | 50  | <a href="#">70520.060.140</a> | BT 8X100 | 50 | <a href="#">70520.080.100</a> |
| BT 6X80  | 50  | <a href="#">70520.060.080</a> |          |     |                               |          |    |                               |
| BT 6X100 | 100 | <a href="#">70520.060.100</a> | BT 8X50  | 50  | <a href="#">70520.080.050</a> | BT 10X60 | 50 | <a href="#">70520.100.060</a> |



**70520 Self-tapping screw anchor type BT** ←

| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| BT 10X75  | 50 | <a href="#">70520.100.075</a> | BT 10X280 | 20 | <a href="#">70520.100.280</a> | BT 16X100 | 15 | <a href="#">70520.160.100</a> |
| BT 10X100 | 50 | <a href="#">70520.100.100</a> | BT 10X320 | 20 | <a href="#">70520.100.320</a> | BT 16X150 | 10 | <a href="#">70520.160.150</a> |
| BT 10X110 | 25 | <a href="#">70520.100.110</a> |           |    |                               | BT 16X200 | 10 | <a href="#">70520.160.200</a> |
| BT 10X120 | 25 | <a href="#">70520.100.120</a> | BT 12X75  | 25 | <a href="#">70520.120.075</a> | BT 16X240 | 10 | <a href="#">70520.160.240</a> |
| BT 10X140 | 25 | <a href="#">70520.100.140</a> | BT 12X100 | 25 | <a href="#">70520.120.100</a> | BT 16X280 | 10 | <a href="#">70520.160.280</a> |
| BT 10X160 | 20 | <a href="#">70520.100.160</a> | BT 12X150 | 10 | <a href="#">70520.120.150</a> | BT 16X320 | 10 | <a href="#">70520.160.320</a> |
| BT 10X200 | 20 | <a href="#">70520.100.200</a> | BT 12X200 | 20 | <a href="#">70520.120.200</a> |           |    |                               |
| BT 10X240 | 20 | <a href="#">70520.100.240</a> |           |    |                               |           |    |                               |

## Anchor bolt ThruFast - ThruMaxx

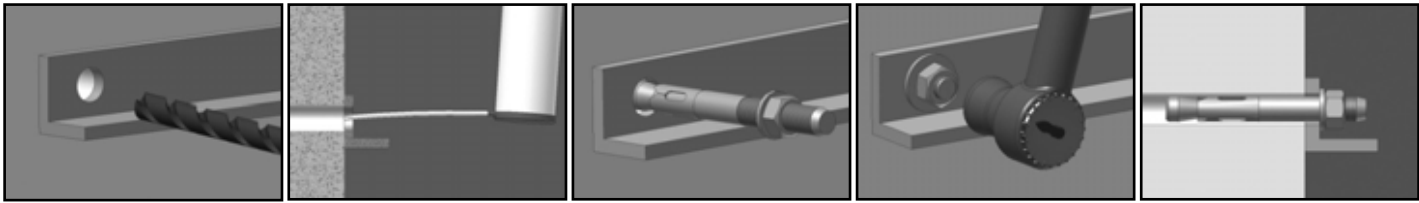


### Technical data

| Type         | d   | L   | d <sub>o</sub> | s  | Ring ø | d <sub>f</sub> | h <sub>1</sub> | h (nom.) | h <sub>ef</sub> | S <sub>cr, N</sub> | C <sub>cr, N</sub> | t <sub>fix</sub> (max.) | T <sub>inst</sub> | N <sub>rec</sub> |
|--------------|-----|-----|----------------|----|--------|----------------|----------------|----------|-----------------|--------------------|--------------------|-------------------------|-------------------|------------------|
| 6x60         | M6  | 60  | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 2                       | 7                 | 4,29             |
| 6x70         | M6  | 70  | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 12                      | 7                 | 3,93             |
| 6x80         | M6  | 80  | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 22                      | 7                 | 3,93             |
| 6x80 (A2-A4) | M6  | 80  | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 22                      | 7                 | 4,29             |
| 6x90         | M6  | 90  | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 32                      | 7                 | 3,93             |
| 6x100        | M6  | 100 | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 42                      | 7                 | 3,93             |
| 6x120        | M6  | 120 | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 62                      | 7                 | 3,93             |
| 6x140        | M6  | 140 | 6              | 10 | 12     | 7              | 55             | 49,5     | 40              | 120                | 60                 | 82                      | 7                 | 3,93             |
| 8x75         | M8  | 75  | 8              | 13 | 16     | 9              | 65             | 59,5     | 48              | 144                | 72                 | 5                       | 20                | 5,71             |
| 8x90         | M8  | 90  | 8              | 13 | 16     | 9              | 65             | 59,5     | 48              | 144                | 72                 | 20                      | 20                | 5,71             |
| 8x115        | M8  | 115 | 8              | 13 | 16     | 9              | 65             | 59,5     | 48              | 144                | 72                 | 45                      | 20                | 5,71             |
| 8x130        | M8  | 130 | 8              | 13 | 16     | 9              | 65             | 59,5     | 48              | 144                | 72                 | 60                      | 20                | 5,71             |
| 8x155        | M8  | 155 | 8              | 13 | 16     | 9              | 65             | 59,5     | 48              | 144                | 72                 | 85                      | 20                | 5,71             |
| 10x70        | M10 | 70  | 10             | 17 | 20     | 12             | 60             | 53,5     | 42              | 165                | 83                 | 5                       | 35                | 5,43             |
| 10x90        | M10 | 90  | 10             | 17 | 20     | 12             | 75             | 66,5     | 55              | 165                | 83                 | 10                      | 35                | 6,35             |
| 10x120       | M10 | 120 | 10             | 17 | 20     | 12             | 75             | 66,5     | 55              | 165                | 83                 | 40                      | 35                | 6,35             |
| 10x150       | M10 | 150 | 10             | 17 | 20     | 12             | 75             | 66,5     | 55              | 165                | 83                 | 70                      | 35                | 6,35             |
| 10x170       | M10 | 170 | 10             | 17 | 20     | 12             | 75             | 66,5     | 55              | 165                | 83                 | 90                      | 35                | 6,35             |
| 12x75        | M12 | 75  | 12             | 19 | 24     | 14             | 60             | 55       | 43              | 195                | 98                 | 5                       | 60                | 5,64             |
| 12x90        | M12 | 90  | 12             | 19 | 24     | 14             | 85             | 77       | 65              | 195                | 98                 | 5                       | 60                | 8,84             |
| 12x110       | M12 | 110 | 12             | 19 | 24     | 14             | 85             | 77       | 65              | 195                | 98                 | 18                      | 60                | 9,92             |
| 12x140       | M12 | 140 | 12             | 19 | 24     | 14             | 85             | 77       | 65              | 195                | 98                 | 48                      | 60                | 9,92             |
| 12x160       | M12 | 160 | 12             | 19 | 24     | 14             | 85             | 77       | 65              | 195                | 98                 | 68                      | 60                | 9,92             |
| 12x180       | M12 | 180 | 12             | 19 | 24     | 14             | 85             | 77       | 65              | 195                | 98                 | 88                      | 60                | 9,92             |
| 14x120       | M14 | 120 | 14             | 22 | 28     | 16             | 100            | 91       | 75              | 225                | 113                | 12                      | 90                | 11,91            |
| 14x145       | M14 | 145 | 14             | 22 | 28     | 16             | 100            | 91       | 75              | 225                | 113                | 37                      | 90                | 11,91            |
| 14x170       | M14 | 170 | 14             | 22 | 28     | 16             | 100            | 91       | 75              | 225                | 113                | 62                      | 90                | 11,91            |
| 16x90        | M16 | 90  | 16             | 24 | 30     | 18             | 75             | 69       | 49              | 252                | 126                | 4                       | 120               | 6,86             |
| 16x125       | M16 | 125 | 16             | 24 | 30     | 18             | 110            | 103,5    | 84              | 252                | 126                | 3                       | 120               | 13,89            |
| 16x145       | M16 | 145 | 16             | 24 | 30     | 18             | 110            | 103,5    | 84              | 252                | 126                | 23                      | 120               | 13,89            |
| 16x170       | M16 | 170 | 16             | 24 | 30     | 18             | 110            | 103,5    | 84              | 252                | 126                | 48                      | 120               | 13,89            |
| 16x220       | M16 | 220 | 16             | 24 | 30     | 18             | 110            | 103,5    | 84              | 252                | 126                | 98                      | 120               | 13,89            |
| 20x120       | M20 | 120 | 20             | 30 | 37     | 22             | 105            | 93       | 71              | 309                | 155                | 5                       | 240               | 11,96            |
| 20x170       | M20 | 170 | 20             | 30 | 37     | 22             | 135            | 125      | 103             | 309                | 155                | 23                      | 240               | 19,84            |
| 20x220       | M20 | 220 | 20             | 30 | 37     | 22             | 135            | 125      | 103             | 309                | 155                | 73                      | 240               | 19,84            |

- d<sub>o</sub> = Nominal diameter of drill bit
- s = Width across flats
- ring ø = Washer diameter
- d<sub>f</sub> = Diameter of clearance hole in the fixture
- h<sub>1</sub> = Recommended drilling depth
- h(nom) = Minimum hole depth
- h<sub>ef</sub> = Effective anchorage depth
- S<sub>cr, N</sub> = Spacing characteristic
- C<sub>cr, N</sub> = Edge distance characteristic
- t<sub>fix</sub> (max) = Grip range
- T<sub>inst</sub> = Tightening torque in Nm
- N<sub>rec</sub> = Recommended load in kN
- The allowable load is valid for one single anchor, at cracked concrete (tensile zone) with concrete class C20/25, incl. partial safety factor γ<sub>f</sub> = 1,4 and if the S<sub>cr, N</sub> and C<sub>cr, N</sub> are taken in to account.
- When reduction on spacing and edge distance take place a re-calculation of forces should be carried out by making use of the technical guide or calculation software, they are available on request.

### Assembly sequence



### Article groups

| Thread | Material  | Surface treatment |       | Packaging | Code  | Page |
|--------|-----------|-------------------|-------|-----------|-------|------|
| M      | St        | Zipl              |       | Standard  | 30550 | 8-59 |
| M      | St.St. A2 |                   |       | Standard  | 30552 | 8-59 |
| M      | St        | Zipl              | ETA-7 | Standard  | 30551 | 8-60 |
| M      | St.St. A4 |                   | ETA-7 | Standard  | 30553 | 8-60 |

#### 30550 MAXXFAST Anchor bolt ThruFast

MF50

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

**MAXXFAST**  
PROFESSIONAL HARDWARE



| Type  | ☒   | Art.number                    | Type   | ☒   | Art.number                    | Type   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| 6X70  | 200 | <a href="#">30550.060.070</a> |        |     |                               |        |    |                               |
| 6X80  | 200 | <a href="#">30550.060.080</a> | 10X70  | 100 | <a href="#">30550.100.070</a> | 14X120 | 25 | <a href="#">30550.140.120</a> |
| 6X90  | 200 | <a href="#">30550.060.090</a> | 10X90  | 100 | <a href="#">30550.100.090</a> | 14X145 | 25 | <a href="#">30550.140.145</a> |
| 6X100 | 200 | <a href="#">30550.060.100</a> | 10X120 | 50  | <a href="#">30550.100.120</a> | 14X170 | 20 | <a href="#">30550.140.170</a> |
| 6X120 | 100 | <a href="#">30550.060.120</a> | 10X150 | 50  | <a href="#">30550.100.150</a> |        |    |                               |
| 6X140 | 100 | <a href="#">30550.060.140</a> |        |     |                               | 16X125 | 25 | <a href="#">30550.160.125</a> |
|       |     |                               | 12X75  | 50  | <a href="#">30550.120.075</a> | 16X145 | 25 | <a href="#">30550.160.145</a> |
| 8X75  | 100 | <a href="#">30550.080.075</a> | 12X110 | 50  | <a href="#">30550.120.110</a> | 16X170 | 10 | <a href="#">30550.160.170</a> |
| 8X90  | 100 | <a href="#">30550.080.090</a> | 12X140 | 25  | <a href="#">30550.120.140</a> | 16X220 | 10 | <a href="#">30550.160.220</a> |
| 8X115 | 100 | <a href="#">30550.080.115</a> | 12X160 | 25  | <a href="#">30550.120.160</a> |        |    |                               |
| 8X130 | 100 | <a href="#">30550.080.130</a> | 12X180 | 25  | <a href="#">30550.120.180</a> | 20X170 | 10 | <a href="#">30550.200.170</a> |
| 8X155 | 50  | <a href="#">30550.080.155</a> |        |     |                               |        |    |                               |

#### 30552 MAXXFAST Anchor bolt ThruFast A2

MF50

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |

**MAXXFAST**  
PROFESSIONAL HARDWARE



| Type  | ☒   | Art.number                    | Type   | ☒  | Art.number                    | Type   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 6X60  | 200 | <a href="#">30552.060.060</a> | 10X120 | 50 | <a href="#">30552.100.120</a> | 16X145 | 25 | <a href="#">30552.160.145</a> |
| 6X80  | 200 | <a href="#">30552.060.080</a> | 10X150 | 50 | <a href="#">30552.100.150</a> | 16X170 | 10 | <a href="#">30552.160.170</a> |
| 8X75  | 100 | <a href="#">30552.080.075</a> | 12X90  | 50 | <a href="#">30552.120.090</a> | 20X120 | 10 | <a href="#">30552.200.120</a> |
| 8X90  | 100 | <a href="#">30552.080.090</a> | 12X110 | 50 | <a href="#">30552.120.110</a> | 20X170 | 10 | <a href="#">30552.200.170</a> |
| 8X115 | 100 | <a href="#">30552.080.115</a> | 12X140 | 25 | <a href="#">30552.120.140</a> | 20X220 | 10 | <a href="#">30552.200.220</a> |
| 10X90 | 100 | <a href="#">30552.100.090</a> | 16X90  | 25 | <a href="#">30552.160.090</a> |        |    |                               |

|                          |                                      |  |  |  |  |  |   |             |
|--------------------------|--------------------------------------|--|--|--|--|--|---|-------------|
| <b>30551</b>             | <b>MAXXFAST Anchor bolt ThruMaxx</b> |  |  |  |  |  |   | <b>MF50</b> |
| <b>Thread</b>            | Metric thread                        |  |  |  |  |  |   |             |
| <b>Material</b>          | Steel                                |  |  |  |  |  |   |             |
| <b>Surface treatment</b> | Zinc plated                          |  |  |  |  |  |   |             |
| <b>Packaging</b>         | Standard                             |  |  |  |  |  |   |             |
|                          |                                      |  |  |  |  |  |  |             |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type  | ☒   | Art.number                    | Type   | ☒   | Art.number                    | Type   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| 6X70  | 200 | <a href="#">30551.060.070</a> | 8X155  | 50  | <a href="#">30551.080.155</a> | 14X120 | 25 | <a href="#">30551.140.120</a> |
| 6X80  | 200 | <a href="#">30551.060.080</a> |        |     |                               | 14X145 | 25 | <a href="#">30551.140.145</a> |
| 6X90  | 200 | <a href="#">30551.060.090</a> | 10X90  | 100 | <a href="#">30551.100.090</a> | 14X170 | 20 | <a href="#">30551.140.170</a> |
| 6X100 | 200 | <a href="#">30551.060.100</a> | 10X120 | 50  | <a href="#">30551.100.120</a> |        |    |                               |
| 6X120 | 100 | <a href="#">30551.060.120</a> | 10X150 | 50  | <a href="#">30551.100.150</a> | 16X125 | 25 | <a href="#">30551.160.125</a> |
| 6X140 | 100 | <a href="#">30551.060.140</a> | 10X170 | 50  | <a href="#">30551.100.170</a> | 16X145 | 25 | <a href="#">30551.160.145</a> |
| 8X75  | 100 | <a href="#">30551.080.075</a> | 12X110 | 50  | <a href="#">30551.120.110</a> | 16X170 | 10 | <a href="#">30551.160.170</a> |
| 8X90  | 100 | <a href="#">30551.080.090</a> | 12X140 | 25  | <a href="#">30551.120.140</a> |        |    |                               |
| 8X115 | 100 | <a href="#">30551.080.115</a> | 12X160 | 25  | <a href="#">30551.120.160</a> | 20X170 | 10 | <a href="#">30551.200.170</a> |
| 8X130 | 100 | <a href="#">30551.080.130</a> | 12X180 | 25  | <a href="#">30551.120.180</a> |        |    |                               |

|                  |   |  |  |  |  |  |   |             |
|------------------|---|--|--|--|--|--|---|-------------|
| <b>30553</b>     | <b>MAXXFAST Anchor bolt ThruMaxx A4</b> |  |  |  |  |  |   | <b>MF50</b> |
| <b>Thread</b>    | Metric thread                           |  |  |  |  |  |   |             |
| <b>Material</b>  | Stainless steel A4                      |  |  |  |  |  |   |             |
| <b>Packaging</b> | Standard                                |  |  |  |  |  |   |             |
|                  |   |  |  |  |  |  |  |             |

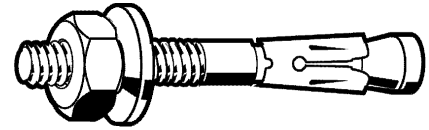
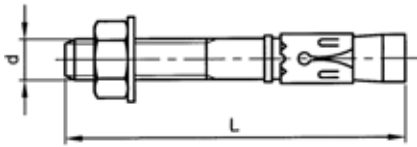


Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

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| Type  | ☒   | Art.number                    | Type   | ☒   | Art.number                    | Type   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| 6X60  | 200 | <a href="#">30553.060.060</a> | 10X90  | 100 | <a href="#">30553.100.090</a> | 12X140 | 25 | <a href="#">30553.120.140</a> |
| 6X80  | 200 | <a href="#">30553.060.080</a> | 10X120 | 50  | <a href="#">30553.100.120</a> | 16X145 | 25 | <a href="#">30553.160.145</a> |
| 8X75  | 100 | <a href="#">30553.080.075</a> | 10X150 | 50  | <a href="#">30553.100.150</a> | 16X170 | 10 | <a href="#">30553.160.170</a> |
| 8X90  | 100 | <a href="#">30553.080.090</a> | 12X90  | 50  | <a href="#">30553.120.090</a> | 20X170 | 10 | <a href="#">30553.200.170</a> |
| 8X115 | 100 | <a href="#">30553.080.115</a> | 12X110 | 50  | <a href="#">30553.120.110</a> | 20X220 | 10 | <a href="#">30553.200.220</a> |

## Through fixing stud anchor type FIX II

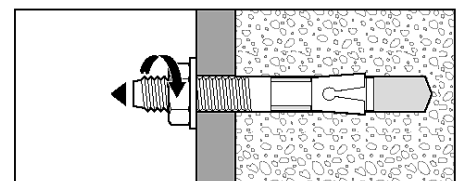
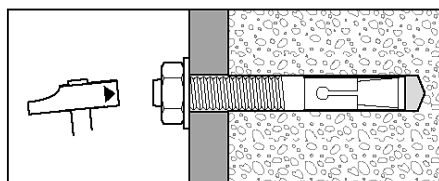
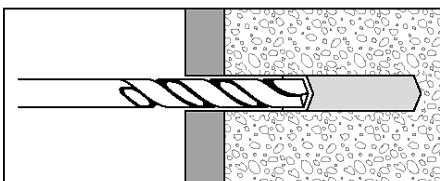



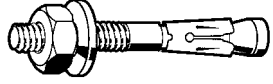
### Technical data

| Type                     | 8-20    | 8-40    | 8-80    | 10-15   | 10-35   | 10-80   | 12-25   | 12-65   | 12-105  | 12-145  | 16-30    | 16-75    | 20-50   | 20-105  |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|---------|---------|
| <b>d</b>                 | M8      | M8      | M8      | M10     | M10     | M10     | M12     | M12     | M12     | M12     | M16      | M16      | M20     | M20     |
| <b>L</b>                 | 70      | 90      | 130     | 76,2    | 96,2    | 141,2   | 100     | 140     | 180     | 220     | 125      | 170      | 160     | 215     |
| <b>Code</b>              | C       | E       | H       | C       | E       | I       | E       | I       | L       | O       | G        | K        | J       | J       |
| <b>d<sub>o</sub></b>     | 8       | 8       | 8       | 10      | 10      | 10      | 12      | 12      | 12      | 12      | 16       | 16       | 20      | 20      |
| <b>T<sub>inst</sub></b>  | 15      | 15      | 15      | 30      | 30      | 30      | 50      | 50      | 50      | 50      | 100      | 100      | 160     | 160     |
| <b>d<sub>f</sub></b>     | 9       | 9       | 9       | 12      | 12      | 12      | 14      | 14      | 14      | 14      | 18       | 18       | 22      | 22      |
| <b>h<sub>min</sub></b>   | 100     | 100     | 100     | 104-100 | 104-100 | 104-100 | 136-100 | 136-100 | 136-100 | 136-100 | 172-128  | 172-128  | 200-148 | 200-148 |
| <b>h<sub>o</sub></b>     | 65-52   | 65-52   | 65-52   | 72-62   | 72-62   | 72-62   | 93-75   | 93-75   | 93-75   | 93-75   | 117-95   | 117-95   | 136-110 | 136-110 |
| <b>t<sub>fix</sub></b>   | 7-20    | 27-40   | 67-80   | 5-15    | 25-35   | 70-80   | 8-25    | 48-65   | 88-105  | 128-145 | 8-30     | 53-75    | 25-50   | 80-105  |
| <b>h<sub>ef</sub></b>    | 48-35   | 48-35   | 48-35   | 52-42   | 52-42   | 52-42   | 68-50   | 68-50   | 68-50   | 68-50   | 86-64    | 86-64    | 100-74  | 100-74  |
| <b>S<sub>cr, N</sub></b> | 144-155 | 144-105 | 144-105 | 156-125 | 156-126 | 156-126 | 204-150 | 204-105 | 204-150 | 204-150 | 258-192  | 258-192  | 300-222 | 300-222 |
| <b>C<sub>cr, N</sub></b> | 72-55   | 72-55   | 72-55   | 78-75   | 78-75   | 78-75   | 102-100 | 102-100 | 102-100 | 102-100 | 129-100  | 129-100  | 150-115 | 150-115 |
| <b>S<sub>min</sub></b>   | 50-45   | 50-45   | 50-45   | 65-55   | 65-55   | 65-55   | 100-75  | 100-75  | 100-75  | 100-75  | 100-90   | 100-90   | 100-105 | 100-105 |
| <b>C<sub>min</sub></b>   | 60-55   | 60-55   | 60-55   | 75-65   | 75-65   | 75-65   | 100-90  | 100-90  | 100-90  | 100-90  | 100-105  | 100-105  | 115-125 | 115-125 |
| <b>N</b>                 | 3,0-2,0 | 3,0-2,0 | 3,0-2,0 | 4,0-3,0 | 4,0-3,0 | 4,0-3,0 | 6,6-5,3 | 6,6-5,3 | 6,6-5,3 | 6,6-5,3 | 13,2-8,3 | 13,2-8,3 | 9,9-9,9 | 9,9-9,9 |

- **Code** = Letter code marking.
- **d<sub>o</sub>** = Nominal diameter of drill bit.
- **T<sub>inst</sub>** = Tightening torque in Nm.
- **d<sub>f</sub>** = Diameter of clearance hole in the fixture.
- **h<sub>min</sub>** = Minimal thickness of concrete member.
- **h<sub>o</sub>** = Recommended drilling depth.
- **t<sub>fix</sub>** = Thickness of the fixture.
- **h<sub>ef</sub>** = Effective anchorage depth.
- **S<sub>cr, N</sub>** = Spacing characteristic.
- **C<sub>cr, N</sub>** = Edge distance characteristic.
- **S<sub>min</sub>** = Minimal spacing.
- **C<sub>min</sub>** = Minimal edge distance.
- **N** = Allowable load in kN.
- The allowable load is valid for one single anchor, at non-cracked concrete (pressure zone) with concrete class C20/25, incl. partial safety factor  $\gamma_f = 1,4$  and if the  $S_{cr, N}$  and  $C_{cr, N}$  are taken in to account.
- When reduction on spacing and edge distance take place a re-calculation of forces should be carried out by making use of the technical guide or calculation software, they are available on request.
- Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

### Assembly sequence



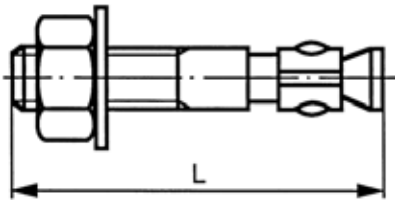
|                          |  |  |
|--------------------------|--|--|
| <b>70926</b>             | <b>SPIT Through fixing stud anchor type FIX II</b> | <b>P03A</b>  |
| <b>Thread</b>            | Metric thread                                      |   |
| <b>Material</b>          | Steel  |  |
| <b>Surface treatment</b> | Zinc plated  |  |
| <b>Packaging</b>         | Standard   |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type  | ☒   | Art.number                    | Type   | ☒  | Art.number                    | Type   | ☒  | Art.number                    |
|-------|-----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| 8-20  | 100 | <a href="#">70926.080.020</a> | 10-80  | 25 | <a href="#">70926.100.080</a> | 16-30  | 25 | <a href="#">70926.160.030</a> |
| 8-40  | 50  | <a href="#">70926.080.040</a> | 12-25  | 25 | <a href="#">70926.120.025</a> | 16-75  | 10 | <a href="#">70926.160.075</a> |
| 8-80  | 50  | <a href="#">70926.080.080</a> | 12-65  | 25 | <a href="#">70926.120.065</a> | 20-50  | 10 | <a href="#">70926.200.050</a> |
| 10-15 | 50  | <a href="#">70926.100.015</a> | 12-105 | 25 | <a href="#">70926.120.105</a> | 20-105 | 10 | <a href="#">70926.200.105</a> |
| 10-35 | 50  | <a href="#">70926.100.035</a> | 12-145 | 25 | <a href="#">70926.120.145</a> |        |    |                               |

## Bolt type FBN II



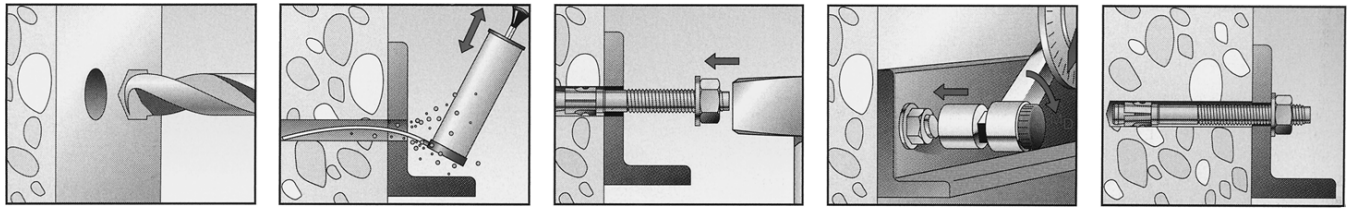
### Technical data

| Type           | d   | L   | d <sub>o</sub> | t <sub>fix</sub> | h <sub>ef</sub> | Min. t <sub>d</sub> | Ring ø | k <sub>N</sub> |
|----------------|-----|-----|----------------|------------------|-----------------|---------------------|--------|----------------|
| FBN II 6/5     | M6  | 50  | 6              | 5                | 30              | 45                  | 12X1,6 | 1,5            |
| FBN II 6/10    | M6  | 55  | 6              | 10               | 30              | 50                  | 12X1,6 | 1,5            |
| FBN II 6/30    | M6  | 75  | 6              | 30               | 30              | 70                  | 12X1,6 | 1,5            |
| FBN II 8/5     | M8  | 66  | 8              | 5                | 40              | 61                  | 16X1,6 | 2,9-6,1        |
| FBN II 8/10    | M8  | 71  | 8              | 10               | 40              | 66                  | 16X1,6 | 2,9-6,1        |
| FBN II 8/20    | M8  | 81  | 8              | 20               | 40              | 76                  | 16X1,6 | 2,9-6,1        |
| FBN II 8/30    | M8  | 91  | 8              | 30               | 40              | 86                  | 16X1,6 | 2,9-6,1        |
| FBN II 8/50    | M8  | 111 | 8              | 50               | 40              | 106                 | 16X1,6 | 2,9-6,1        |
| FBN II 8/70    | M8  | 131 | 8              | 70               | 40              | 126                 | 16X1,6 | 2,9-6,1        |
| FBN II 8/100   | M8  | 161 | 8              | 100              | 40              | 156                 | 16X1,6 | 2,9-6,1        |
| FBN II 8/5 K   | M8  | 56  | 8              | 5                | 30              | 51                  | 16X1,6 | 2,9-6,1        |
| FBN II 8/10 K  | M8  | 61  | 8              | 10               | 30              | 56                  | 16X1,6 | 2,9-6,1        |
| FBN II 8/30 K  | M8  | 81  | 8              | 30               | 30              | 76                  | 16X1,6 | 2,9-6,1        |
| FBN II 10/10   | M10 | 86  | 10             | 10               | 50              | 78                  | 20X2   | 6,1-8,5        |
| FBN II 10/20   | M10 | 96  | 10             | 20               | 50              | 88                  | 20X2   | 6,1-8,5        |
| FBN II 10/30   | M10 | 106 | 10             | 30               | 50              | 98                  | 20X2   | 6,1-8,5        |
| FBN II 10/50   | M10 | 126 | 10             | 50               | 50              | 118                 | 20X2   | 6,1-8,5        |
| FBN II 10/70   | M10 | 146 | 10             | 70               | 50              | 138                 | 20X2   | 6,1-8,5        |
| FBN II 10/100  | M10 | 176 | 10             | 100              | 50              | 168                 | 20X2   | 6,1-8,5        |
| FBN II 10/140  | M10 | 216 | 10             | 140              | 50              | 208                 | 20X2   | 6,1-8,5        |
| FBN II 10/160  | M10 | 236 | 10             | 160              | 50              | 228                 | 20X2   | 6,1-8,5        |
| FBN II 10/5 K  | M10 | 71  | 10             | 5                | 40              | 63                  | 20X2   | 6,1-8,5        |
| FBN II 10/10 K | M10 | 76  | 10             | 10               | 40              | 68                  | 20X2   | 6,1-8,5        |
| FBN II 10/30 K | M10 | 96  | 10             | 30               | 40              | 88                  | 20X2   | 6,1-8,5        |
| FBN II 12/10   | M12 | 106 | 12             | 10               | 65              | 95                  | 24X2,5 | 8,5-12,6       |
| FBN II 12/20   | M12 | 116 | 12             | 20               | 65              | 105                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/30   | M12 | 126 | 12             | 30               | 65              | 115                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/50   | M12 | 146 | 12             | 50               | 65              | 135                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/80   | M12 | 176 | 12             | 80               | 65              | 165                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/100  | M12 | 196 | 12             | 100              | 65              | 185                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/120  | M12 | 216 | 12             | 120              | 65              | 205                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/140  | M12 | 236 | 12             | 140              | 65              | 225                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/160  | M12 | 256 | 12             | 160              | 65              | 245                 | 24X2,5 | 8,5-12,6       |
| FBN II 12/5 K  | M12 | 86  | 12             | 5                | 50              | 75                  | 24X2,5 | 8,5-12,6       |
| FBN II 12/10 K | M12 | 91  | 12             | 10               | 50              | 80                  | 24X2,5 | 8,5-12,6       |
| FBN II 12/30 K | M12 | 111 | 12             | 30               | 50              | 100                 | 24X2,5 | 8,5-12,6       |
| FBN 16/10      | M16 | 130 | 16             | 10               | 80              | 114                 | 30X3   | 12,6-17,2      |
| FBN II 16/25   | M16 | 145 | 16             | 25               | 80              | 129                 | 30X3   | 12,6-17,2      |
| FBN II 16/50   | M16 | 170 | 16             | 50               | 80              | 154                 | 30X3   | 12,6-17,2      |
| FBN II 16/80   | M16 | 200 | 16             | 80               | 80              | 184                 | 30X3   | 12,6-17,2      |
| FBN II 16/100  | M16 | 220 | 16             | 100              | 80              | 204                 | 30X3   | 12,6-17,2      |
| FBN II 16/140  | M16 | 260 | 16             | 140              | 80              | 244                 | 30X3   | 12,6-17,2      |
| FBN II 16/160  | M16 | 280 | 16             | 160              | 80              | 264                 | 30X3   | 12,6-17,2      |
| FBN II 16/200  | M16 | 320 | 16             | 200              | 80              | 304                 | 30X3   | 12,6-17,2      |
| FBN II 16/15 K | M16 | 120 | 16             | 15               | 65              | 104                 | 30X3   | 12,6-17,2      |
| FBN II 16/25 K | M16 | 130 | 16             | 25               | 65              | 114                 | 30X3   | 12,6-17,2      |
| FBN II 20/30   | M20 | 184 | 20             | 30               | 105             | 165                 | 37X3   | 17,2-25,8      |
| FBN II 20/60   | M20 | 214 | 20             | 60               | 105             | 195                 | 37X3   | 17,2-25,8      |
| FBN II 20/80   | M20 | 234 | 20             | 80               | 105             | 215                 | 37X3   | 17,2-25,8      |
| FBN II 20/120  | M20 | 274 | 20             | 120              | 105             | 255                 | 37X3   | 17,2-25,8      |
| FBN II 20/10 K | M20 | 139 | 20             | 10               | 80              | 120                 | 37X3   | 17,2-25,8      |

- d<sub>o</sub> = Nominal diameter of drill bit.
- t<sub>fix</sub> = Grip range.
- h<sub>ef</sub> = Effective anchorage depth.
- Min. t<sub>d</sub> = Recommended drilling depth.
- k<sub>N</sub> = Load in kN.
- The allowable load is valid for one single anchor, at cracked concrete (tensile zone) with concrete class C20/25, incl. partial safety factor γ<sub>f</sub> = 1,4 and if the S<sub>cr, N</sub> and C<sub>cr, N</sub> are taken in to account.

- When reduction on spacing and edge distance take place a re-calculation of forces should be carried out by making use of the technical guide or calculation software, they are available on request.
- Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

### Assembly sequence



### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 63324 | 8-64 |
| M      | St.St. A4 |                   | Standard  | 63325 | 8-65 |

| 63324 FISCHER Bolt type FB II   |               | N03A  |
|---|---------------|---|
| <b>Thread</b>   | Metric thread |   |
| <b>Material</b>   | Steel         |   |
| <b>Surface treatment</b>  | Zinc plated   |   |
| <b>Packaging</b>  | Standard      |   |
|  |               |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type           | ☒   | Art.number                    | Type            | ☒  | Art.number                    | Type             | ☒  | Art.number                    |
|----------------|-----|-------------------------------|-----------------|----|-------------------------------|------------------|----|-------------------------------|
| 6/5            | 100 | <a href="#">63324.060.005</a> | 10/70 (10X146)  | 20 | <a href="#">63324.100.070</a> | 12/10 K (12X91)  | 20 | <a href="#">63324.121.010</a> |
| 6/10           | 100 | <a href="#">63324.060.010</a> | 10/100 (10X176) | 20 | <a href="#">63324.100.100</a> | 12/30 K (12X111) | 20 | <a href="#">63324.121.030</a> |
| 6/30           | 100 | <a href="#">63324.060.030</a> | 10/140 (10X216) | 20 | <a href="#">63324.100.140</a> | 16/25 (16X145)   | 10 | <a href="#">63324.160.025</a> |
| 8/5 (8X66)     | 50  | <a href="#">63324.080.005</a> | 10/160 (10X236) | 20 | <a href="#">63324.100.160</a> | 16/50 (16X170)   | 10 | <a href="#">63324.160.050</a> |
| 8/10 (8X71)    | 50  | <a href="#">63324.080.010</a> | 10/5 K (10X71)  | 50 | <a href="#">63324.101.005</a> | 16/80 (16X200)   | 10 | <a href="#">63324.160.080</a> |
| 8/20 (8X81)    | 50  | <a href="#">63324.080.020</a> | 10/10 K (10X76) | 50 | <a href="#">63324.101.010</a> | 16/100 (16X220)  | 10 | <a href="#">63324.160.100</a> |
| 8/30 (8X91)    | 50  | <a href="#">63324.080.030</a> | 12/10 (12X106)  | 20 | <a href="#">63324.120.010</a> | 16/140 (16X260)  | 10 | <a href="#">63324.160.140</a> |
| 8/50 (8X111)   | 50  | <a href="#">63324.080.050</a> | 12/20 (12X116)  | 20 | <a href="#">63324.120.020</a> | 16/160 (16X280)  | 10 | <a href="#">63324.160.160</a> |
| 8/70 (8X131)   | 20  | <a href="#">63324.080.070</a> | 12/30 (12X126)  | 20 | <a href="#">63324.120.030</a> | 16/200 (16X320)  | 10 | <a href="#">63324.160.200</a> |
| 8/100 (8X161)  | 20  | <a href="#">63324.080.100</a> | 12/50 (12X146)  | 20 | <a href="#">63324.120.050</a> | 16/15 K (16X120) | 10 | <a href="#">63324.161.015</a> |
| 8/5 K (8X56)   | 50  | <a href="#">63324.081.005</a> | 12/80 (12X176)  | 20 | <a href="#">63324.120.080</a> | 16/25 K (16X130) | 10 | <a href="#">63324.161.025</a> |
| 8/10 K (8X61)  | 50  | <a href="#">63324.081.010</a> | 12/100 (12X196) | 20 | <a href="#">63324.120.100</a> | 20/30 (20X184)   | 10 | <a href="#">63324.200.030</a> |
| 10/10 (10X86)  | 50  | <a href="#">63324.100.010</a> | 12/120 (12X216) | 20 | <a href="#">63324.120.120</a> | 20/60 (20X214)   | 10 | <a href="#">63324.200.060</a> |
| 10/20 (10X96)  | 50  | <a href="#">63324.100.020</a> | 12/140 (12X236) | 20 | <a href="#">63324.120.140</a> | 20/80 (20X234)   | 10 | <a href="#">63324.200.080</a> |
| 10/30 (10X106) | 50  | <a href="#">63324.100.030</a> | 12/160 (12X256) | 20 | <a href="#">63324.120.160</a> | 20/120 (20X274)  | 10 | <a href="#">63324.200.120</a> |
| 10/50 (10X126) | 20  | <a href="#">63324.100.050</a> | 12/5 K (12X86)  | 20 | <a href="#">63324.121.005</a> | 20/10 K (20X139) | 10 | <a href="#">63324.201.010</a> |



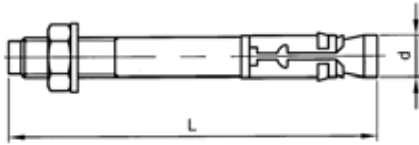
|                                      |                    |  |   |
|--------------------------------------|--------------------|--|---|
| <b>63325 FISCHER Bolt type FB II</b> |                    | <b>N03A</b>  |   |
| <b>Thread</b>                        | Metric thread      |  |  |
| <b>Material</b>                      | Stainless steel A4 |  |   |
| <b>Packaging</b>                     | Standard           |  |   |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type          | ✉   | Art.number                    | Type            | ✉  | Art.number                    | Type            | ✉  | Art.number                    |
|---------------|-----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| 6/10 (6X55)   | 100 | <a href="#">63325.060.010</a> | 10/30 (10X106)  | 50 | <a href="#">63325.100.030</a> | 12/100 (12X196) | 20 | <a href="#">63325.120.100</a> |
| 6/30 (6X75)   | 100 | <a href="#">63325.060.030</a> | 10/50 (10X126)  | 20 | <a href="#">63325.100.050</a> | 16/10 (16X130)  | 10 | <a href="#">63325.160.010</a> |
| 8/10 (8X71)   | 50  | <a href="#">63325.080.010</a> | 10/100 (10X176) | 20 | <a href="#">63325.100.100</a> | 16/25 (16X145)  | 10 | <a href="#">63325.160.025</a> |
| 8/30 (8X91)   | 50  | <a href="#">63325.080.030</a> | 12/20 (12X116)  | 20 | <a href="#">63325.120.020</a> | 16/50 (16X170)  | 10 | <a href="#">63325.160.050</a> |
| 8/50 (8X111)  | 50  | <a href="#">63325.080.050</a> | 12/30 (12X126)  | 20 | <a href="#">63325.120.030</a> |                 |    |                               |
| 10/20 (10X96) | 50  | <a href="#">63325.100.020</a> | 12/50 (12X146)  | 20 | <a href="#">63325.120.050</a> |                 |    |                               |

## Anchor bolt



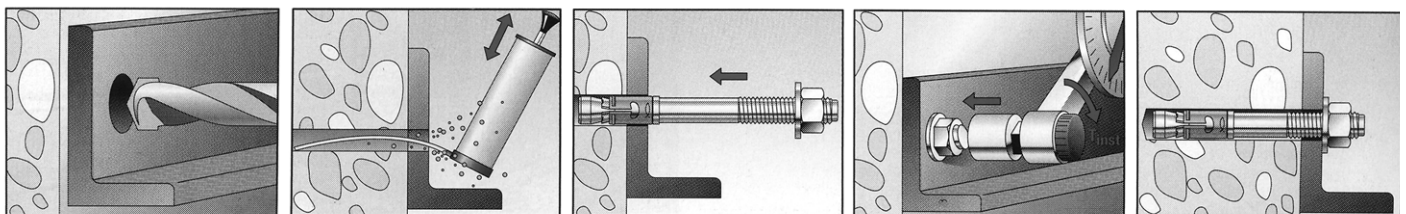
### Technical data

| Type          | d   | L   | d <sub>0</sub> | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> | s  | Ring ø | k <sub>N</sub> |
|---------------|-----|-----|----------------|---------------------|-----------------|------------------|----|--------|----------------|
| FAZ II 8/10   | M8  | 77  | 8              | 75                  | 45              | 10               | 13 | 16X1,6 | 2,4            |
| FAZ II 8/30   | M8  | 97  | 8              | 95                  | 45              | 30               | 13 | 16X1,6 | 2,4            |
| FAZ II 8/50   | M8  | 117 | 8              | 115                 | 45              | 50               | 13 | 16X1,6 | 2,4            |
| FAZ II 8/100  | M8  | 167 | 8              | 165                 | 45              | 100              | 13 | 16X1,6 | 2,4            |
| FAZ II 8/150  | M8  | 217 | 8              | 215                 | 45              | 150              | 13 | 16X1,6 | 2,4            |
| FAZ II 10/10  | M10 | 95  | 10             | 90                  | 60              | 10               | 17 | 20X2   | 4,3            |
| FAZ II 10/20  | M10 | 105 | 10             | 100                 | 60              | 20               | 17 | 20X2   | 4,3            |
| FAZ II 10/30  | M10 | 115 | 10             | 110                 | 60              | 30               | 17 | 20X2   | 4,3            |
| FAZ II 10/50  | M10 | 135 | 10             | 130                 | 60              | 50               | 17 | 20X2   | 4,3            |
| FAZ II 10/80  | M10 | 165 | 10             | 160                 | 60              | 80               | 17 | 20X2   | 4,3            |
| FAZ II 10/100 | M10 | 185 | 10             | 180                 | 60              | 100              | 17 | 20X2   | 4,3            |
| FAZ II 10/150 | M10 | 235 | 10             | 230                 | 60              | 150              | 17 | 20X2   | 4,3            |
| FAZ II 12/10  | M12 | 110 | 12             | 105                 | 70              | 10               | 19 | 24X2,5 | 7,6            |
| FAZ II 12/20  | M12 | 120 | 12             | 115                 | 70              | 20               | 19 | 24X2,5 | 7,6            |
| FAZ II 12/30  | M12 | 130 | 12             | 125                 | 70              | 30               | 19 | 24X2,5 | 7,6            |
| FAZ II 12/50  | M12 | 180 | 12             | 145                 | 70              | 50               | 19 | 24X2,5 | 7,6            |
| FAZ II 12/80  | M12 | 180 | 12             | 175                 | 70              | 80               | 19 | 24X2,5 | 7,6            |
| FAZ II 12/100 | M12 | 200 | 12             | 195                 | 70              | 100              | 19 | 24X2,5 | 7,6            |
| FAZ II 12/150 | M12 | 250 | 12             | 245                 | 70              | 150              | 19 | 24X2,5 | 7,6            |
| FAZ II 12/200 | M12 | 300 | 12             | 295                 | 70              | 200              | 19 | 24X2,5 | 7,6            |
| FAZ II 16/25  | M16 | 150 | 16             | 140                 | 85              | 25               | 24 | 30X3   | 13,4           |
| FAZ II 16/50  | M16 | 175 | 16             | 165                 | 85              | 50               | 24 | 30X3   | 13,4           |
| FAZ II 16/100 | M16 | 225 | 16             | 215                 | 85              | 100              | 24 | 30X3   | 13,4           |
| FAZ II 16/150 | M16 | 275 | 16             | 265                 | 85              | 150              | 24 | 30X3   | 13,4           |
| FAZ II 16/200 | M16 | 325 | 16             | 315                 | 85              | 200              | 24 | 30X3   | 13,4           |
| FAZ II 16/250 | M16 | 375 | 16             | 365                 | 85              | 250              | 24 | 30X3   | 13,4           |
| FAZ II 16/300 | M16 | 425 | 16             | 415                 | 85              | 300              | 24 | 30X3   | 13,4           |
| FAZ II 20/30  | M20 | 170 | 20             | 155                 | 100             | 30               | 30 | 37X3   | 17,1           |
| FAZ II 20/60  | M20 | 200 | 20             | 185                 | 100             | 60               | 30 | 37X3   | 17,1           |
| FAZ II 20/150 | M20 | 290 | 20             | 275                 | 100             | 150              | 30 | 37X3   | 17,1           |
| FAZ II 24/30  | M24 | 204 | 24             | 185                 | 125             | 30               | 36 | 44X4   | 24,0           |
| FAZ II 24/60  | M24 | 234 | 24             | 215                 | 125             | 60               | 36 | 44X4   | 24,0           |

8

- d<sub>0</sub> = Nominal diameter of drill bit.
- Min. t<sub>d</sub> = Recommended drilling depth.
- h<sub>ef</sub> = Effective anchorage depth.
- t<sub>fix</sub> = Grip range.
- s = Width across flats.
- k<sub>N</sub> = Load in kN.
- The allowable load is valid for one single anchor, at cracked concrete (tensile zone) with concrete class C20/25, incl. partial safety factor γ<sub>f</sub> = 1,4 and if the S<sub>cr</sub>, N and C<sub>cr</sub>, N are taken in to account.
- When reduction on spacing and edge distance take place a re-calculation of forces should be carried out by making use of the technical guide or calculation software, they are available on request.
- Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

### Assembly sequence



|                          |  |  |
|--------------------------|--|--|
| <b>63323</b>             | <b>FISCHER Anchor bolt type FAZ II</b> | <b>N03A</b>  |
| <b>Thread</b>            | Metric thread                          |   |
| <b>Material</b>          | Steel                                  |  |
| <b>Surface treatment</b> | Zinc plated                            |  |
| <b>Packaging</b>         | Standard                               |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type       | ☒  | Art.number                    | Type        | ☒  | Art.number                    | Type        | ☒  | Art.number                    |
|------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| FAZII8/10  | 50 | <a href="#">63323.080.010</a> | FAZII10/100 | 20 | <a href="#">63323.100.100</a> | FAZII16/50  | 10 | <a href="#">63323.160.050</a> |
| FAZII8/30  | 50 | <a href="#">63323.080.030</a> | FAZII12/10  | 20 | <a href="#">63323.120.010</a> | FAZII16/100 | 10 | <a href="#">63323.160.100</a> |
| FAZII8/50  | 50 | <a href="#">63323.080.050</a> | FAZII12/20  | 20 | <a href="#">63323.120.020</a> | FAZII16/200 | 10 | <a href="#">63323.160.200</a> |
| FAZII8/100 | 25 | <a href="#">63323.080.100</a> | FAZII12/30  | 20 | <a href="#">63323.120.030</a> | FAZII16/250 | 10 | <a href="#">63323.160.250</a> |
| FAZII10/10 | 50 | <a href="#">63323.100.010</a> | FAZII12/50  | 20 | <a href="#">63323.120.050</a> | FAZII16/300 | 10 | <a href="#">63323.160.300</a> |
| FAZII10/20 | 25 | <a href="#">63323.100.020</a> | FAZII12/80  | 20 | <a href="#">63323.120.080</a> | FAZII20/30  | 5  | <a href="#">63323.200.030</a> |
| FAZII10/30 | 25 | <a href="#">63323.100.030</a> | FAZII12/100 | 20 | <a href="#">63323.120.100</a> | FAZII20/60  | 5  | <a href="#">63323.200.060</a> |
| FAZII10/50 | 20 | <a href="#">63323.100.050</a> | FAZII12/200 | 10 | <a href="#">63323.120.200</a> | FAZII24/30  | 5  | <a href="#">63323.240.030</a> |
| FAZII10/80 | 20 | <a href="#">63323.100.080</a> | FAZII16/25  | 10 | <a href="#">63323.160.025</a> | FAZII24/60  | 5  | <a href="#">63323.240.060</a> |

## High performance anchor type FH II-B

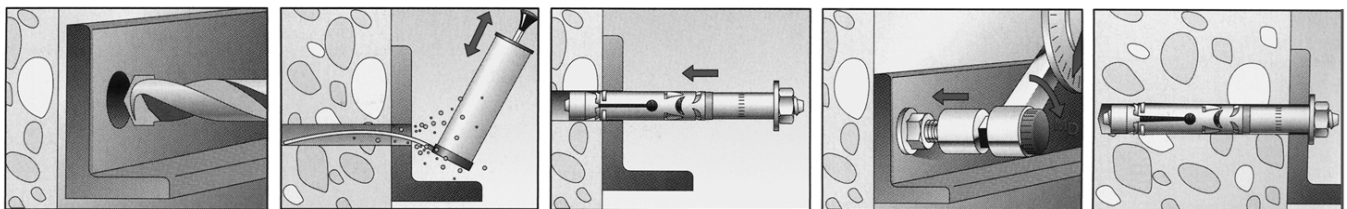


### Technical data

| Type           | d   | L   | d <sub>o</sub> | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> | s  | Ring ø | k <sub>N</sub> |
|----------------|-----|-----|----------------|---------------------|-----------------|------------------|----|--------|----------------|
| FH 10/10 B     | M6  | 85  | 10             | 80                  | 50              | 10               | 10 | 18X1,6 | 2,0            |
| FH 10/25 B     | M6  | 100 | 10             | 95                  | 50              | 25               | 10 | 18X1,6 | 2,0            |
| FH 10/50 B     | M6  | 125 | 10             | 120                 | 50              | 50               | 10 | 18X1,6 | 2,0            |
| FH II 12/10 B  | M8  | 90  | 12             | 90                  | 60              | 10               | 12 | 22X2,5 | 5,7            |
| FH II 12/25 B  | M8  | 105 | 12             | 105                 | 60              | 25               | 13 | 22X2,5 | 5,7            |
| FH II 12/50 B  | M8  | 130 | 12             | 130                 | 60              | 50               | 13 | 22X2,5 | 5,7            |
| FH II 12/100 B | M8  | 184 | 12             | 190                 | 60              | 100              | 13 | 22X2,5 | 5,7            |
| FH II 15/10 B  | M10 | 110 | 15             | 100                 | 70              | 10               | 17 | 25X3   | 7,6            |
| FH II 15/25 B  | M10 | 125 | 15             | 115                 | 70              | 25               | 17 | 25X3   | 7,6            |
| FH II 15/50 B  | M10 | 150 | 15             | 140                 | 70              | 50               | 17 | 25X3   | 7,6            |
| FH II 15/100 B | M10 | 200 | 15             | 190                 | 70              | 100              | 17 | 25X3   | 7,6            |
| FH II 18/25 B  | M12 | 135 | 18             | 130                 | 80              | 25               | 19 | 30X3   | 11,9           |
| FH II 18/50 B  | M12 | 160 | 18             | 155                 | 80              | 50               | 19 | 30X3   | 11,9           |
| FH II 18/100 B | M12 | 214 | 18             | 205                 | 80              | 100              | 19 | 30X3   | 11,9           |
| FH II 24/25 B  | M16 | 167 | 24             | 150                 | 100             | 25               | 24 | 40X5   | 17,1           |
| FH II 24/50 B  | M16 | 195 | 24             | 175                 | 100             | 50               | 24 | 40X5   | 17,1           |
| FH II 24/100 B | M16 | 242 | 24             | 225                 | 100             | 100              | 24 | 40X5   | 17,1           |

- d<sub>o</sub> = Nominal diameter of drill bit.
- Min. t<sub>d</sub> = Recommended drilling depth.
- h<sub>ef</sub> = Effective anchorage depth.
- t<sub>fix</sub> = Grip range.
- s = Width across flats.
- k<sub>N</sub> = Load in kN.
- The allowable load is valid for one single anchor, at cracked concrete (tensile zone) with concrete class C20/25, incl. partial safety factor  $\gamma_f = 1,4$  and if the S<sub>cr</sub>, N and C<sub>cr</sub>, N are taken in to account.
- When reduction on spacing and edge distance take place a re-calculation of forces should be carried out by making use of the technical guide or calculation software, they are available on request.
- Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

### Assembly sequence



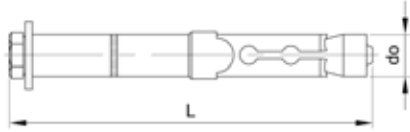
|                          |   |  |
|--------------------------|---|--|
| <b>63421</b>             | <b>FISCHER High performance anchor type FH II-B</b> | <b>N03A</b>  |
| <b>Thread</b>            | Metric thread                                       |   |
| <b>Material</b>          | Steel   |  |
| <b>Surface treatment</b> | Zinc plated   |  |
| <b>Packaging</b>         | Standard  |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type           | ☒  | Art.number                    | Type           | ☒  | Art.number                    | Type           | ☒  | Art.number                    |
|----------------|----|-------------------------------|----------------|----|-------------------------------|----------------|----|-------------------------------|
| FH II 12/10 B  | 50 | <a href="#">63421.120.010</a> | FH II 15/25 B  | 25 | <a href="#">63421.150.025</a> | FH II 18/100 B | 10 | <a href="#">63421.180.100</a> |
| FH II 12/25 B  | 50 | <a href="#">63421.120.025</a> | FH II 15/50 B  | 25 | <a href="#">63421.150.050</a> | FH II 24/25 B  | 10 | <a href="#">63421.240.025</a> |
| FH II 12/50 B  | 25 | <a href="#">63421.120.050</a> | FH II 15/100 B | 20 | <a href="#">63421.150.100</a> | FH II 24/50 B  | 10 | <a href="#">63421.240.050</a> |
| FH II 12/100 B | 25 | <a href="#">63421.120.100</a> | FH II 18/25 B  | 20 | <a href="#">63421.180.025</a> | FH II 24/100 B | 5  | <a href="#">63421.240.100</a> |
| FH II 15/10 B  | 25 | <a href="#">63421.150.010</a> | FH II 18/50 B  | 20 | <a href="#">63421.180.050</a> |                |    |                               |

## High performance anchor type FH II-S

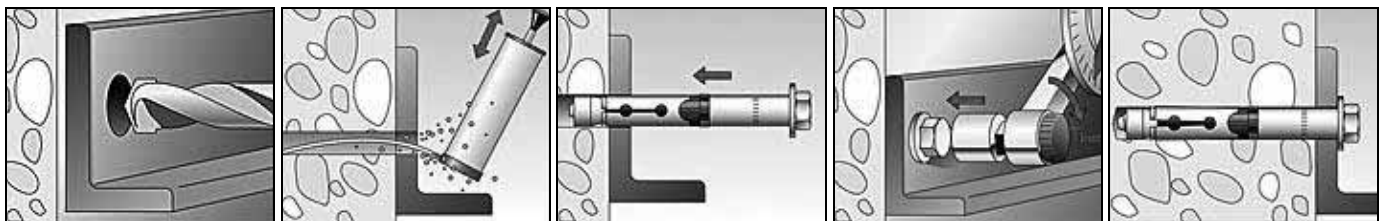


### Technical data

| Type          | d   | L   | d <sub>0</sub> | Min. t <sub>d</sub> | h <sub>ef</sub> | t <sub>fix</sub> | s  | Ring ø | k <sub>N</sub> |
|---------------|-----|-----|----------------|---------------------|-----------------|------------------|----|--------|----------------|
| FH 10/10 S    | M6  | 84  | 10             | 85                  | 50              | 10               | 10 | 18X1,6 | 2,0            |
| FH 10/25 S    | M6  | 99  | 10             | 100                 | 50              | 25               | 10 | 18X1,6 | 2,0            |
| FH 10/50 S    | M6  | 124 | 10             | 125                 | 50              | 50               | 10 | 18X1,6 | 2,0            |
| FH II 12/10 S | M8  | 90  | 12             | 90                  | 60              | 10               | 13 | 22X2,5 | 5,7            |
| FH II 12/25 S | M8  | 105 | 12             | 105                 | 60              | 25               | 13 | 22X2,5 | 5,7            |
| FH II 12/50 S | M8  | 130 | 12             | 130                 | 60              | 50               | 13 | 22X2,5 | 5,7            |
| FH II 15/10 S | M10 | 106 | 15             | 100                 | 70              | 10               | 17 | 25X3   | 7,6            |
| FH II 15/25 S | M10 | 121 | 15             | 115                 | 70              | 25               | 17 | 25X3   | 7,6            |
| FH II 15/50 S | M10 | 146 | 15             | 140                 | 70              | 50               | 17 | 25X3   | 7,6            |
| FH II 18/10 S | M12 | 118 | 18             | 115                 | 80              | 10               | 19 | 30X3   | 11,9           |
| FH II 18/25 S | M12 | 132 | 18             | 130                 | 80              | 25               | 19 | 30X3   | 11,9           |
| FH II 18/50 S | M12 | 157 | 18             | 155                 | 80              | 50               | 19 | 30X3   | 11,9           |
| FH II 24/25 S | M16 | 160 | 24             | 150                 | 100             | 25               | 24 | 40X5   | 17,1           |
| FH II 24/50 S | M16 | 185 | 24             | 175                 | 100             | 50               | 24 | 40X5   | 17,1           |

- d<sub>0</sub> = Nominal diameter of drill bit.
- Min. t<sub>d</sub> = Recommended drilling depth.
- h<sub>ef</sub> = Effective anchorage depth.
- t<sub>fix</sub> = Grip range.
- s = Width across flats.
- k<sub>N</sub> = Load in kN.
- The allowable load is valid for one single anchor, at cracked concrete (tensile zone) with concrete class C20/25, incl. partial safety factor γ<sub>f</sub> = 1,4 and if the S<sub>cr</sub>, N and C<sub>cr</sub>, N are taken in to account.
- When reduction on spacing and edge distance take place a re-calculation of forces should be carried out by making use of the technical guide or calculation software, they are available on request.
- Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

### Assembly sequence



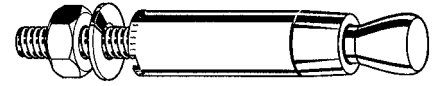
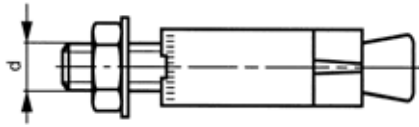
|                          |   |  |
|--------------------------|---|--|
| <b>63422</b>             | <b>FISCHER High performance anchor type FH II-S</b> | <b>N03A</b>  |
| <b>Thread</b>            | Metric thread                                       |   |
| <b>Material</b>          | Steel   |  |
| <b>Surface treatment</b> | Zinc plated   |  |
| <b>Packaging</b>         | Standard  |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type          | ☒  | Art.number                    | Type          | ☒  | Art.number                    | Type          | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| FH II 12/10 S | 50 | <a href="#">63422.120.010</a> | FH II 15/25 S | 25 | <a href="#">63422.150.025</a> | FH II 18/50 S | 20 | <a href="#">63422.180.050</a> |
| FH II 12/25 S | 50 | <a href="#">63422.120.025</a> | FH II 15/50 S | 25 | <a href="#">63422.150.050</a> | FH II 24/25 S | 10 | <a href="#">63422.240.025</a> |
| FH II 12/50 S | 25 | <a href="#">63422.120.050</a> | FH II 18/10 S | 20 | <a href="#">63422.180.010</a> | FH II 24/50 S | 10 | <a href="#">63422.240.050</a> |
| FH II 15/10 S | 25 | <a href="#">63422.150.010</a> | FH II 18/25 S | 20 | <a href="#">63422.180.025</a> |               |    |                               |

## Bolt anchor

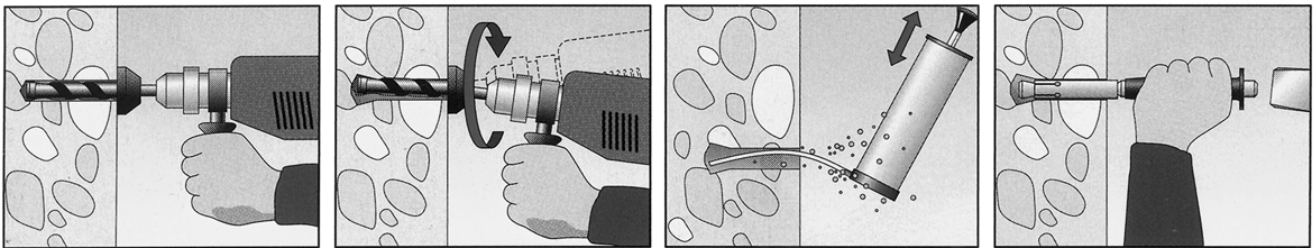


### Technical data

| Type                        | FZA 12x40 M8/15 | FZA 12x50 M8/15 | FZA 14x40 M10/25 | FZA 14x60 M10/25 | FZA 18x80 M12/25 |
|-----------------------------|-----------------|-----------------|------------------|------------------|------------------|
| d                           | M8              | M8              | M10              | M10              | M12              |
| Drill ø (type FZUB)         | 12              | 12              | 14               | 14               | 18               |
| Drill depth                 | 40              | 50              | 40               | 60               | 80               |
| Grip range (max.)           | 15              | 15              | 25               | 25               | 25               |
| <b>Allowable load in kN</b> |                 |                 |                  |                  |                  |
| Concrete $\geq$ C20/25      | 1,94            | 1,94            | 2,84             | 4,24             | 7,57             |

- High permissible for assembly in tension zones!
- For further technical data the approval is available on request.

### Assembly sequence



|                          |  |   |
|--------------------------|--|---|
| <b>63445</b>             | <b>FISCHER-ZYKON Bolt anchor type FZA</b>  | <b>N03B</b>   |
| <b>Thread</b>            | Metric thread  |   |
| <b>Material</b>          | Steel  |   |
| <b>Surface treatment</b> | Zinc plated  |   |
| <b>Packaging</b>         | Standard   |   |
|                          |  |  |

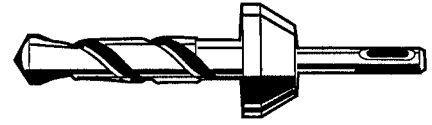


Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type            | ☒  | Art.number                    | Type             | ☒  | Art.number                    | Type             | ☒  | Art.number                    |
|-----------------|----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| FZA 12X40 M8/15 | 25 | <a href="#">63445.120.040</a> | FZA 14X40 M10/25 | 25 | <a href="#">63445.140.040</a> | FZA 18X80 M12/25 | 10 | <a href="#">63445.180.080</a> |
| FZA 12X50 M8/15 | 20 | <a href="#">63445.120.050</a> | FZA 14X60 M10/25 | 10 | <a href="#">63445.140.060</a> |                  |    |                               |

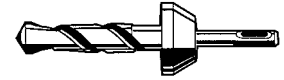


**Bolt anchor installation tool**



63690 FISCHER-ZYKON Bolt anchor installation tool type FZA N03A

Packaging Standard



| Type       | ✉ | Art.number                    |  |
|------------|---|-------------------------------|--|
| FZUB 12X40 | 1 | <a href="#">63690.100.005</a> | <ul style="list-style-type: none"> <li>• Conical, correct drill-hole geometry</li> <li>• Drilling and undercutting in one single operation</li> <li>• With elastic depth stop</li> <li>• SDS-plus drive end</li> </ul> |
| FZUB 14X40 | 1 | <a href="#">63690.100.010</a> | <ul style="list-style-type: none"> <li>• Conical, correct drill-hole geometry</li> <li>• Drilling and undercutting in one single operation</li> <li>• With elastic depth stop</li> <li>• SDS-plus drive end</li> </ul> |
| FZUB 12X50 | 1 | <a href="#">63690.100.015</a> | <ul style="list-style-type: none"> <li>• Conical, correct drill-hole geometry</li> <li>• Drilling and undercutting in one single operation</li> <li>• With elastic depth stop</li> <li>• SDS-plus drive end</li> </ul> |
| FZUB 14X60 | 1 | <a href="#">63690.100.020</a> | <ul style="list-style-type: none"> <li>• Conical, correct drill-hole geometry</li> <li>• Drilling and undercutting in one single operation</li> <li>• With elastic depth stop</li> <li>• SDS-plus drive end</li> </ul> |
| FZUB 18X80 | 1 | <a href="#">63690.100.025</a> | <ul style="list-style-type: none"> <li>• Conical, correct drill-hole geometry</li> <li>• Drilling and undercutting in one single operation</li> <li>• With elastic depth stop</li> <li>• SDS-plus drive end</li> </ul> |

## LIEBIG Anchors



### General

LIEBIG anchors are mechanically expanding fixtures for anchoring in ready concrete of heavy-duty constructions with safe working loads as indicated in the approvals of the "Institute für Bautechnik" (IfBT) in Berlin.

### Types

Three types are available from stock: the LIEBIG safety bolt type B and type S and the LIEBIG anchor type AB with following advantages:

- they are approved (Zulassung of the IfBT) and a periodical quality control is exercised by the "Institut für Massivbau an der T.H. Darmstadt"
- suited for drill-trough and drop-in method by using the recommended drillhole in the construction to be fastened
- after installation immediately fully loadable
- installation control of expansion force by applying the prescribed tightening torque wrench
- increasing load causes forced expansion because the cone is pressed further into the expansion sleeve
- the essential difference between the anchor types is characterised by the way the expansion of the sleeve is realised

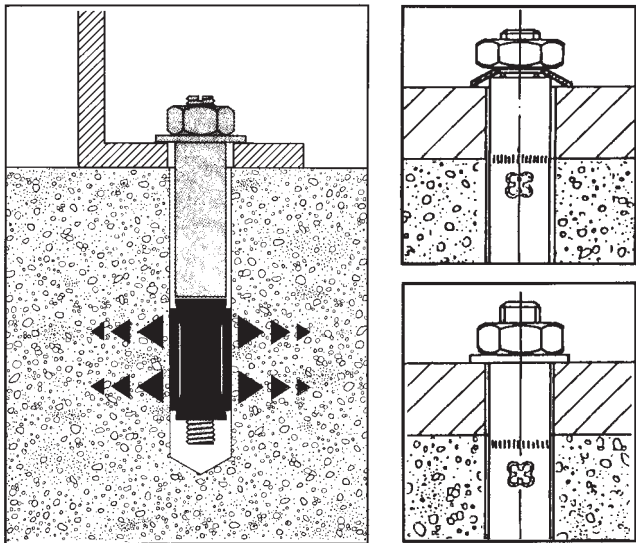
### LIEBIG safety bolt type B and type S

The clamping force against the wall of the hole is realised in a cylindrically expanding way because during tightening the hardened steel sleeve will break at pre-calibrated points via the second cone, pressing the shields with its whole surface parallel against the wall of hole. Through this, high pull-out forces and an even equalisation of pressure are obtained in the concrete. The domed washer will be flattened at the prescribed tightening torque so giving an extra optical control on right installation. The thick walled expansion shields guarantee high expansion reserves and equalize drillhole tolerances. As a consequence of these properties the efficiency of this type is higher than that of a conically expanding anchor. In other words tightening torque and assembly pre-load are converted into an optimal clamping force.

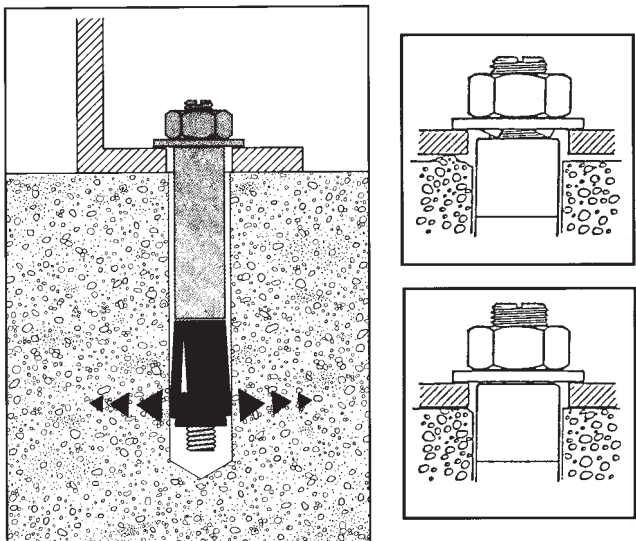
### LIEBIG anchor type AB

Only one cone is pulled into the expansion sleeve giving single conical expansion deep into the hole. The flattening of the feet under the washer guarantees clamping pressure by pulling the material to be fastened tight against the concrete.

### Assembly data



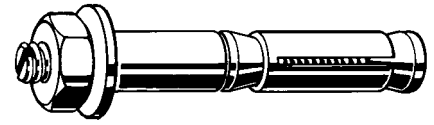
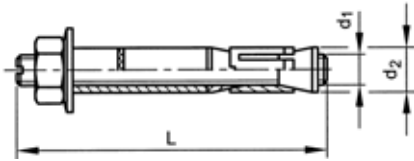
LIEBIG safety bolt type B and type S



LIEBIG anchor type AB

For anchoring DURING casting concrete, see VEMO concrete inserts.

## Safety bolt type B



### Technical data

| Type             | d <sub>1</sub> | L   | d <sub>2</sub> | Drill depth (min.) | Drill ø in construction | Grip range (max.) | k <sub>N</sub> |
|------------------|----------------|-----|----------------|--------------------|-------------------------|-------------------|----------------|
| B M6-10/45/5     | M6             | 70  | 10             | 60                 | 12                      | 5                 | 2,4            |
| B M6-10/45/15    | M6             | 80  | 10             | 60                 | 12                      | 15                | 2,4            |
| B M6-10/45/40    | M6             | 105 | 10             | 60                 | 12                      | 40                | 2,4            |
| B M8-12/55/5     | M8             | 85  | 12             | 70                 | 14                      | 5                 | 3,6            |
| B M8-12/55/15    | M8             | 95  | 12             | 70                 | 14                      | 15                | 3,6            |
| B M8-12/55/40    | M8             | 120 | 12             | 70                 | 14                      | 40                | 3,6            |
| B M8-12/55/65    | M8             | 145 | 12             | 70                 | 14                      | 65                | 3,6            |
| B M8-12/55/100   | M8             | 180 | 12             | 70                 | 14                      | 100               | 3,6            |
| B M10-15/70/5    | M10            | 100 | 15             | 85                 | 17                      | 5                 | 7,6            |
| B M10-15/70/15   | M10            | 110 | 15             | 85                 | 17                      | 15                | 7,6            |
| B M10-15/70/40   | M10            | 135 | 15             | 85                 | 17                      | 40                | 7,6            |
| B M10-15/70/65   | M10            | 160 | 15             | 85                 | 17                      | 65                | 7,6            |
| B M10-15/70/100  | M10            | 195 | 15             | 85                 | 17                      | 100               | 7,6            |
| B M10-15/70/140  | M10            | 235 | 15             | 85                 | 17                      | 140               | 7,6            |
| B M12-20/80/5    | M12            | 120 | 20             | 100                | 21                      | 5                 | 12,3           |
| B M12-20/80/15   | M12            | 130 | 20             | 100                | 21                      | 15                | 12,3           |
| B M12-20/80/40   | M12            | 155 | 20             | 100                | 21                      | 40                | 12,3           |
| B M12-20/80/65   | M12            | 180 | 20             | 100                | 21                      | 65                | 12,3           |
| B M12-20/80/100  | M12            | 215 | 20             | 100                | 21                      | 100               | 12,3           |
| B M12-20/80/140  | M12            | 255 | 20             | 100                | 21                      | 140               | 12,3           |
| B M16-25/100/5   | M16            | 150 | 25             | 125                | 26                      | 5                 | 17,1           |
| B M16-25/100/15  | M16            | 160 | 25             | 125                | 26                      | 15                | 17,1           |
| B M16-25/100/40  | M16            | 185 | 25             | 125                | 26                      | 40                | 17,1           |
| B M16-25/100/65  | M16            | 210 | 25             | 125                | 26                      | 65                | 17,1           |
| B M16-25/100/100 | M16            | 245 | 25             | 125                | 26                      | 100               | 17,1           |
| B M20-30/125/15  | M20            | 180 | 30             | 150                | 32                      | 15                | 18,6           |
| B M20-30/125/40  | M20            | 205 | 30             | 150                | 32                      | 40                | 18,6           |
| B M20-30/125/65  | M20            | 230 | 30             | 150                | 32                      | 65                | 18,6           |
| B M20-30/125/100 | M20            | 265 | 30             | 150                | 32                      | 100               | 18,6           |

• k<sub>N</sub> = Allowable load in kN in 20/25.

| 10015 LIEBIG Safety bolt type B |               | P05A |
|---------------------------------|---------------|------|
| Thread                          | Metric thread |      |
| Material                        | Steel         |      |
| Class                           | 8.8           |      |
| Surface treatment               | Zinc plated   |      |
| Packaging                       | Standard      |      |





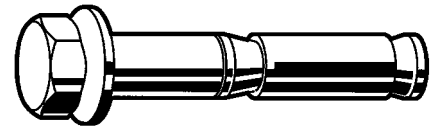
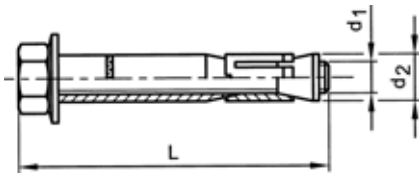

Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type          | ✉  | Art.number                    | Type            | ✉  | Art.number                    | Type            | ✉  | Art.number                    |
|---------------|----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| B M6-10/45/5  | 50 | <a href="#">10015.010.005</a> | B M8-12/55/100  | 25 | <a href="#">10015.012.100</a> | B M12-20/80/5   | 10 | <a href="#">10015.020.005</a> |
| B M6-10/45/15 | 50 | <a href="#">10015.010.015</a> | B M10-15/70/5   | 25 | <a href="#">10015.015.005</a> | B M12-20/80/15  | 10 | <a href="#">10015.020.015</a> |
| B M6-10/45/40 | 50 | <a href="#">10015.010.040</a> | B M10-15/70/15  | 25 | <a href="#">10015.015.015</a> | B M12-20/80/40  | 10 | <a href="#">10015.020.040</a> |
| B M8-12/55/5  | 25 | <a href="#">10015.012.005</a> | B M10-15/70/40  | 10 | <a href="#">10015.015.040</a> | B M12-20/80/65  | 10 | <a href="#">10015.020.065</a> |
| B M8-12/55/15 | 25 | <a href="#">10015.012.015</a> | B M10-15/70/65  | 10 | <a href="#">10015.015.065</a> | B M12-20/80/100 | 20 | <a href="#">10015.020.100</a> |
| B M8-12/55/40 | 25 | <a href="#">10015.012.040</a> | B M10-15/70/100 | 25 | <a href="#">10015.015.100</a> | B M12-20/80/140 | 20 | <a href="#">10015.020.140</a> |
| B M8-12/55/65 | 25 | <a href="#">10015.012.065</a> | B M10-15/70/140 | 25 | <a href="#">10015.015.140</a> |                 |    |                               |

**10015 LIEBIG Safety bolt type B**

| Type            | ☒  | Art.number                    | Type             | ☒  | Art.number                    | Type             | ☒ | Art.number                    |
|-----------------|----|-------------------------------|------------------|----|-------------------------------|------------------|---|-------------------------------|
| B M16-25/100/5  | 5  | <a href="#">10015.025.005</a> | B M16-25/100/100 | 10 | <a href="#">10015.025.100</a> | B M20-30/125/65  | 5 | <a href="#">10015.030.065</a> |
| B M16-25/100/15 | 5  | <a href="#">10015.025.015</a> |                  |    |                               | B M20-30/125/100 | 5 | <a href="#">10015.030.100</a> |
| B M16-25/100/40 | 5  | <a href="#">10015.025.040</a> | B M20-30/125/15  | 5  | <a href="#">10015.030.015</a> |                  |   |                               |
| B M16-25/100/65 | 10 | <a href="#">10015.025.065</a> | B M20-30/125/40  | 5  | <a href="#">10015.030.040</a> |                  |   |                               |

## Safety bolt type S



### Technical data

| Type            | d <sub>1</sub> | L   | d <sub>2</sub> | Drill depth (min.) | Drill ø in construction | Grip range (max.) | k <sub>N</sub> |
|-----------------|----------------|-----|----------------|--------------------|-------------------------|-------------------|----------------|
| S-M6-10/45/5    | M6             | 70  | 10             | 60                 | 12                      | 5                 | 2,4            |
| S-M6-10/45/15   | M6             | 80  | 10             | 60                 | 12                      | 15                | 2,4            |
| S-M6-10/45/40   | M6             | 105 | 10             | 60                 | 12                      | 40                | 2,4            |
| S-M8-12/55/5    | M8             | 80  | 12             | 70                 | 14                      | 5                 | 3,6            |
| S-M8-12/55/15   | M8             | 90  | 12             | 70                 | 14                      | 15                | 3,6            |
| S-M8-12/55/40   | M8             | 115 | 12             | 70                 | 14                      | 40                | 3,6            |
| S-M8-12/55/65   | M8             | 140 | 12             | 70                 | 14                      | 65                | 3,6            |
| S-M10-15/70/5   | M10            | 95  | 15             | 85                 | 17                      | 5                 | 7,6            |
| S-M10-15/70/15  | M10            | 105 | 15             | 85                 | 17                      | 15                | 7,6            |
| S-M10-15/70/40  | M10            | 130 | 15             | 85                 | 17                      | 40                | 7,6            |
| S-M10-15/70/65  | M10            | 155 | 15             | 85                 | 17                      | 65                | 7,6            |
| S-M12-20/80/5   | M12            | 113 | 20             | 100                | 21                      | 5                 | 12,3           |
| S-M12-20/80/15  | M12            | 123 | 20             | 100                | 21                      | 15                | 12,3           |
| S-M12-20/80/40  | M12            | 148 | 20             | 100                | 21                      | 40                | 12,3           |
| S-M12-20/80/65  | M12            | 173 | 20             | 100                | 21                      | 65                | 12,3           |
| S-M16-25/100/5  | M16            | 145 | 25             | 125                | 26                      | 5                 | 17,1           |
| S-M16-25/100/15 | M16            | 155 | 25             | 125                | 26                      | 15                | 17,1           |
| S-M16-25/100/40 | M16            | 180 | 25             | 125                | 26                      | 40                | 17,1           |
| S-M16-25/100/65 | M16            | 205 | 25             | 125                | 26                      | 65                | 17,1           |
| S-M20-30/125/15 | M20            | 180 | 30             | 150                | 32                      | 15                | 18,6           |
| S-M20-30/125/40 | M20            | 205 | 30             | 150                | 32                      | 40                | 18,6           |

• k<sub>N</sub> = Allowable load in kN in C20/25.

| 10025 LIEBIG Safety bolt type S |               | P05A |
|---------------------------------|---------------|------|
| Thread                          | Metric thread |      |
| Material                        | Steel         |      |
| Class                           | 8.8           |      |
| Surface treatment               | Zinc plated   |      |
| Packaging                       | Standard      |      |

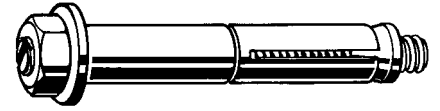
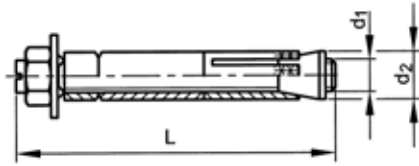





Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type          | ☒  | Art.number                    | Type           | ☒  | Art.number                    | Type            | ☒ | Art.number                    |
|---------------|----|-------------------------------|----------------|----|-------------------------------|-----------------|---|-------------------------------|
| S M6-10/45/5  | 50 | <a href="#">10025.010.005</a> | S M10-15/70/5  | 25 | <a href="#">10025.015.005</a> | S M16-25/100/5  | 5 | <a href="#">10025.025.005</a> |
| S M6-10/45/15 | 50 | <a href="#">10025.010.015</a> | S M10-15/70/15 | 25 | <a href="#">10025.015.015</a> | S M16-25/100/15 | 5 | <a href="#">10025.025.015</a> |
| S M6-10/45/40 | 50 | <a href="#">10025.010.045</a> | S M10-15/70/40 | 10 | <a href="#">10025.015.040</a> | S M16-25/100/40 | 5 | <a href="#">10025.025.040</a> |
| S M8-12/55/5  | 25 | <a href="#">10025.012.005</a> | S M10-15/70/65 | 10 | <a href="#">10025.015.065</a> |                 |   |                               |
| S M8-12/55/15 | 25 | <a href="#">10025.012.015</a> | S M12-20/80/5  | 10 | <a href="#">10025.020.005</a> | S M20-30/125/15 | 5 | <a href="#">10025.030.015</a> |
| S M8-12/55/40 | 25 | <a href="#">10025.012.040</a> | S M12-20/80/15 | 10 | <a href="#">10025.020.015</a> | S M20-30/125/40 | 5 | <a href="#">10025.030.040</a> |
| S M8-12/55/65 | 25 | <a href="#">10025.012.065</a> | S M12-20/80/40 | 10 | <a href="#">10025.020.040</a> |                 |   |                               |
|               |    |                               | S M12-20/80/65 | 10 | <a href="#">10025.020.065</a> |                 |   |                               |

## SK-Anchor



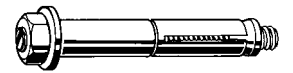
### Technical data

| Type                           | AB10/<br>15 | AB10/<br>40 | AB12/<br>15 | AB12/<br>40 | AB15/<br>15 | AB15/<br>40 | AB20/<br>15 | AB20/<br>40 | AB25/<br>15 | AB25/<br>40 | AB28/<br>10 | AB28/<br>50 | AB30/<br>15 | AB30/<br>40 |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>d<sub>1</sub></b>           | M6          | M6          | M8          | M8          | M10         | M10         | M12         | M12         | M16         | M16         | M20         | M20         | M20         | M20         |
| <b>d<sub>2</sub></b>           | 10          | 10          | 12          | 12          | 15          | 15          | 20          | 20          | 25          | 25          | 28          | 28          | 30          | 30          |
| <b>L</b>                       | 74          | 99          | 90          | 115         | 105         | 130         | 120         | 145         | 150         | 175         | 150         | 195         | 180         | 205         |
| <b>Drill ø</b>                 | 10          | 10          | 12          | 12          | 15          | 15          | 20          | 20          | 25          | 25          | 28          | 28          | 30          | 30          |
| <b>Drill depth (min.)</b>      | 60          | 60          | 70          | 70          | 85          | 85          | 95          | 95          | 125         | 125         | 150         | 150         | 150         | 150         |
| <b>Drill ø in construction</b> | 11          | 11          | 13          | 13          | 16          | 16          | 21          | 21          | 26          | 26          | 29          | 29          | 31          | 31          |
| <b>Grip range (max.)</b>       | 15          | 40          | 15          | 40          | 15          | 40          | 15          | 40          | 15          | 40          | 10          | 50          | 15          | 40          |
| <b>Allowable load in kN</b>    |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| <b>Concrete C20/25</b>         | 9,6         | 9,6         | 12,9        | 12,9        | 21,3        | 21,3        | 34,2        | 34,2        | 48,6        | 48,6        | 66,3        | 66,3        | 66,3        | 66,3        |

### 10130 LIEBIG SK-Anchor type AB

P05A

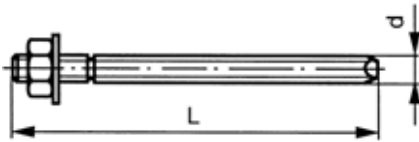
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Class</b>     | 80                 |
| <b>Packaging</b> | Standard           |



| Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    | Type    | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| AB10/15 | 50 | <a href="#">10130.010.015</a> | AB15/15 | 25 | <a href="#">10130.015.015</a> | AB25/15 | 5 | <a href="#">10130.025.015</a> |
| AB10/40 | 50 | <a href="#">10130.010.040</a> | AB15/40 | 10 | <a href="#">10130.015.040</a> | AB25/40 | 5 | <a href="#">10130.025.040</a> |
| AB12/15 | 25 | <a href="#">10130.012.015</a> | AB20/15 | 10 | <a href="#">10130.020.015</a> | AB30/15 | 5 | <a href="#">10130.030.015</a> |
| AB12/40 | 25 | <a href="#">10130.012.040</a> | AB20/40 | 10 | <a href="#">10130.020.040</a> | AB30/40 | 5 | <a href="#">10130.030.040</a> |

- LIEBIG KS-anchors can be used for drill through installation.

## Chemical fixing threaded rod



### Technical data

| Type                    | M8x110 | M10x130 | M12x160 | M12x220 | M16x190 | M16x220 | M20x260 |
|-------------------------|--------|---------|---------|---------|---------|---------|---------|
| d                       | M8     | M10     | M12     | M12     | M16     | M16     | M20     |
| L                       | 110    | 130     | 160     | 220     | 190     | 220     | 260     |
| t <sub>fix</sub> (max.) | 17     | 28      | 36      | 85      | 42      | 67      | 65      |
| Drill ø                 | 10     | 12      | 14      | 14      | 18      | 18      | 24      |
| Allowable load in kN    |        |         |         |         |         |         |         |
| Concrete C20/25         | 5,9    | 8,1     | 11,4    | 11,4    | 20      | 20      | 30,9    |

- t<sub>fix</sub> (max.) = Grip range (max.)
- Concrete C20/25; recommended load for non-cracked concrete.
- For VinyMaxx and AcryMaxx resins.

### 30585 MAXXFAST Chemical fixing threaded rod

MF50

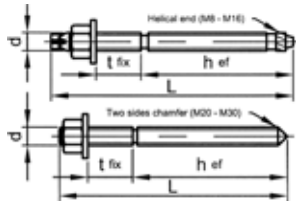
|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |

**MAXXFAST**  
PROFESSIONAL HARDWARE



| Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M8X110  | 10 | <a href="#">30585.080.110</a> | M12X220 | 10 | <a href="#">30585.120.220</a> | M16X220 | 10 | <a href="#">30585.160.220</a> |
| M10X130 | 10 | <a href="#">30585.100.130</a> |         |    |                               |         |    |                               |
| M12X160 | 10 | <a href="#">30585.120.160</a> | M16X190 | 10 | <a href="#">30585.160.190</a> | M20X260 | 6  | <a href="#">30585.200.260</a> |

## Anchor threaded stud Maxima



### Technical data

| Type   | M8  | M10 | M12  | M16  | M20  | M24 | M30  |
|--|-----|-----|------|------|------|-----|------|
| D  | M8  | M10 | M12  | M16  | M20  | M24 | M30  |
| L  | 105 | 128 | 155  | 183  | 260  | 300 | 380  |
| Nominal diameter of drill bit ( $d_0$ )                              | 10  | 12  | 14   | 18   | 25   | 28  | 35   |
| Tightening torque in Nm  | 10  | 20  | 30   | 60   | 120  | 200 | 400  |
| Diameter of clearance hole in the fixture ( $d_f$ )                  | 9   | 12  | 14   | 18   | 22   | 26  | 33   |
| Minimal thickness of concrete member ( $h_{min.}$ )                  | 110 | 120 | 150  | 160  | 220  | 300 | 350  |
| Depth of drilled hole to deepest point ( $h_{omin.}$ - $h_{omax.}$ ) | 80  | 90  | 110  | 125  | 170  | 210 | 280  |
| Thickness of the fixture ( $t_{fix,max.}$ - $t_{fix,min.}$ )         | 15  | 25  | 30   | 40   | 68   | 64  | 70   |
| Effective anchorage depth ( $h_{ef,min.}$ - $h_{ef,max.}$ )          | 80  | 90  | 110  | 125  | 170  | 210 | 280  |
| Spacing ( $S_{cr, N}$ ), characteristic                              | 160 | 180 | 220  | 250  | 340  | 420 | 560  |
| Edge distance ( $C_{cr, N}$ ), characteristic                        | 80  | 90  | 110  | 125  | 170  | 210 | 280  |
| Minimal spacing ( $S_{min.}$ )                                       | 40  | 45  | 55   | 65   | 85   | 105 | 140  |
| Minimal edge distance ( $C_{min.}$ )                                 | 40  | 45  | 55   | 65   | 85   | 105 | 140  |
| Allowable load in kN   | 5,3 | 8,3 | 13,2 | 19,8 | 36,9 | 38  | 46,3 |

- M8 - M16 are supplied including setting tool
- For a complete chemical anchor, the capsule and threaded stud (incl. nut and washer), have to be ordered separately.
- For further technical data the approval is available on request.

### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 70636 | 8-80 |
| M      | St.St. A4 |                   | Standard  | 70646 | 8-80 |

#### 70636 SPIT Anchor threaded stud Maxima

P03A

|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |




8



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| M8   | 10 | <a href="#">70636.080.001</a> | M16  | 10 | <a href="#">70636.160.001</a> | M30  | 5 | <a href="#">70636.300.001</a> |
| M10  | 10 | <a href="#">70636.100.001</a> | M20  | 10 | <a href="#">70636.200.001</a> |      |   |                               |
| M12  | 10 | <a href="#">70636.120.001</a> | M24  | 10 | <a href="#">70636.240.001</a> |      |   |                               |

#### 70646 SPIT Anchor threaded stud Maxima

P03B

|           |                    |
|-----------|--------------------|
| Thread    | Metric thread      |
| Material  | Stainless steel A4 |
| Packaging | Standard           |

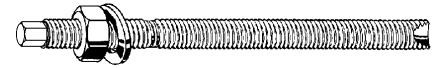
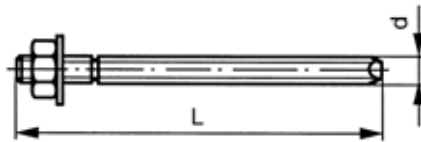



| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒  | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| M8   | 10 | <a href="#">70646.080.001</a> | M10  | 10 | <a href="#">70646.100.001</a> | M12  | 10 | <a href="#">70646.120.001</a> |



| 70646 SPIT Anchor threaded stud Maxima |    |                               |      |    |                               |      |   |            |
|--|----|-------------------------------|------|----|-------------------------------|------|---|------------|
| Type                                   | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒ | Art.number |
| M16                                    | 10 | <a href="#">70646.160.001</a> | M24  | 10 | <a href="#">70646.240.001</a> |      |   |            |
| M20                                    | 10 | <a href="#">70646.200.001</a> | M30  | 5  | <a href="#">70646.300.001</a> |      |   |            |

## Chemical fixing threaded rod



### Technical data

| Type                    | M8x<br>110 | M10x<br>130 | M10x<br>165 | M10x<br>190 | M12x<br>160 | M12x<br>220 | M12x<br>250 | M12x<br>300 | M16x<br>190 | M16x<br>250 | M16x<br>300 | M20x<br>260 | M20x<br>350 | M24x<br>300 | M30x<br>380 |
|-------------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| d                       | M8         | M10         | M10         | M10         | M12         | M12         | M12         | M12         | M16         | M16         | M16         | M20         | M20         | M24         | M30         |
| L                       | 110        | 130         | 165         | 190         | 160         | 220         | 250         | 300         | 190         | 250         | 300         | 260         | 350         | 300         | 380         |
| t <sub>fix</sub> (max.) | 13         | 20          | 57          | 82          | 25          | 90          | 120         | 170         | 35          | 98          | 148         | 65          | 155         | 65          | 65          |
| Allowable load in kN    |            |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Concrete                | 6,3        | 7,9         | 7,9         | 7,9         | 11,9        | 11,9        | 11,9        | 11,9        | 19,8        | 19,8        | 19,8        | 29,8        | 29,8        | 37,7        | 67,5        |

- t<sub>fix</sub> (max.) = Grip range (max.)
- Concrete C20/25 to C50/65; recommended load for non-cracked concrete.

### Article groups

| Thread | Material  | Surface treatment | Packaging | Code  | Page |
|--------|-----------|-------------------|-----------|-------|------|
| M      | St        | Zipl              | Standard  | 63187 | 8-82 |
| M      | St.St. A4 |                   | Standard  | 63188 | 8-82 |

#### 63187 FISCHER Chemical fixing threaded rod type RG M

**N03B**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M8X110  | 10 | <a href="#">63187.080.110</a> | M12X250 | 10 | <a href="#">63187.120.250</a> | M20X260 | 10 | <a href="#">63187.200.260</a> |
| M10X130 | 10 | <a href="#">63187.100.130</a> | M12X300 | 10 | <a href="#">63187.120.300</a> | M20X350 | 10 | <a href="#">63187.200.350</a> |
| M10X165 | 10 | <a href="#">63187.100.165</a> |         |    |                               |         |    |                               |
| M10X190 | 10 | <a href="#">63187.100.190</a> | M16X190 | 10 | <a href="#">63187.160.190</a> | M24X300 | 10 | <a href="#">63187.240.300</a> |
|         |    |                               | M16X250 | 10 | <a href="#">63187.160.250</a> | M30X380 | 5  | <a href="#">63187.300.380</a> |
| M12X160 | 10 | <a href="#">63187.120.160</a> | M16X300 | 10 | <a href="#">63187.160.300</a> |         |    |                               |
| M12X220 | 10 | <a href="#">63187.120.220</a> |         |    |                               |         |    |                               |

#### 63188 FISCHER Chemical fixing threaded rod type RG M

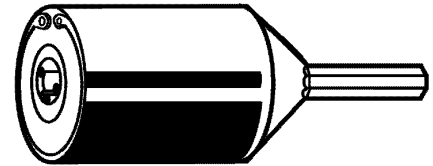
**N03B**

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A4 |
| <b>Packaging</b> | Standard           |



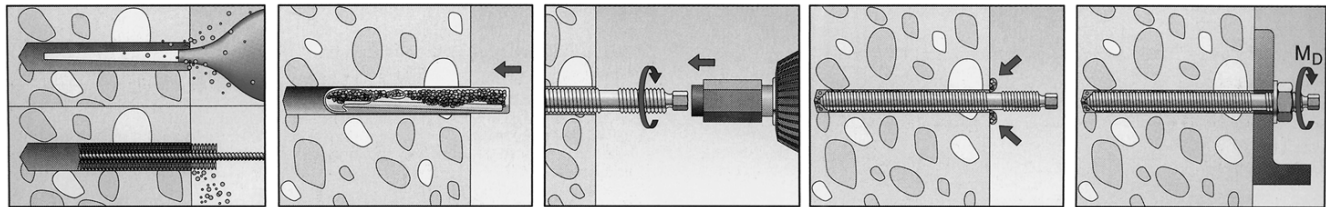
| Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    | Type    | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M8X110  | 10 | <a href="#">63188.080.110</a> | M12X160 | 10 | <a href="#">63188.120.160</a> | M20X260 | 10 | <a href="#">63188.200.260</a> |
| M10X130 | 10 | <a href="#">63188.100.130</a> | M16X190 | 10 | <a href="#">63188.160.190</a> | M24X300 | 10 | <a href="#">63188.240.300</a> |
| M10X165 | 10 | <a href="#">63188.100.165</a> |         |    |                               |         |    |                               |

## Setting tool



- For a complete chemical fixing, the resin capsule and threaded rod (incl. nut and washer) have to be ordered separately.
- Threaded rod type RG M can be installed with installation tool type M.
- These threaded rods are also suitable for injection system type FIS.
- For further technical data the approval is available on request.

### Assembly sequence



### 63189 FISCHER Setting tool

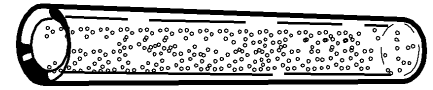
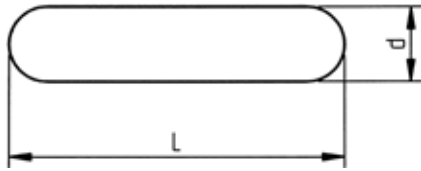
N03B

Packaging Standard



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| M8   | 1 | <a href="#">63189.080.001</a> | M12  | 1 | <a href="#">63189.120.001</a> | M20  | 1 | <a href="#">63189.200.001</a> |
| M10  | 1 | <a href="#">63189.100.001</a> | M16  | 1 | <a href="#">63189.160.001</a> | M30  | 1 | <a href="#">63189.300.001</a> |

## Chemical anchor capsule



### Technical data

| Type | d    | L   | Drill ø | Drill depth (min.) |
|------|------|-----|---------|--------------------|
| M8   | 9    | 80  | 10      | 80                 |
| M10  | 10,5 | 85  | 12      | 90                 |
| M12  | 12,5 | 95  | 14      | 110                |
| M16  | 16,5 | 95  | 18      | 125                |
| M20  | 23   | 160 | 25      | 170                |
| M24  | 23   | 190 | 28      | 210                |
| M30  | 27,5 | 260 | 35      | 280                |

- For a complete chemical anchor, the capsule and threaded stud (incl. nut and washer), have to be ordered separately.

### Article groups

| Material | Packaging | Code  | Page |
|----------|-----------|-------|------|
| Glass    | Standard  | 70615 | 8-84 |
| Glass    | Standard  | 63186 | 8-85 |

|   |          |  |
|---|----------|--|
| <b>70615 SPIT Chemical fixing resin capsule type EA</b> |          | <b>P03A</b>  |
| <b>Material</b>   | Glass    |   |
| <b>Packaging</b>  | Standard |  |



Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

8

| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒ | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|---|-------------------------------|
| M8   | 10 | <a href="#">70615.080.001</a> | M16  | 10 | <a href="#">70615.160.001</a> | M30  | 5 | <a href="#">70615.300.001</a> |
| M10  | 10 | <a href="#">70615.100.001</a> | M20  | 10 | <a href="#">70615.200.001</a> |      |   |                               |
| M12  | 10 | <a href="#">70615.120.001</a> | M24  | 10 | <a href="#">70615.240.001</a> |      |   |                               |

|                  |  |   |
|------------------|--|---|
| <b>63186</b>     | <b>FISCHER Chemical fixing resin capsule type RM</b>                               | <b>N03A</b>   |
| <b>Material</b>  | Glass  |   |
| <b>Packaging</b> | Standard   |   |
|                  |  |  |



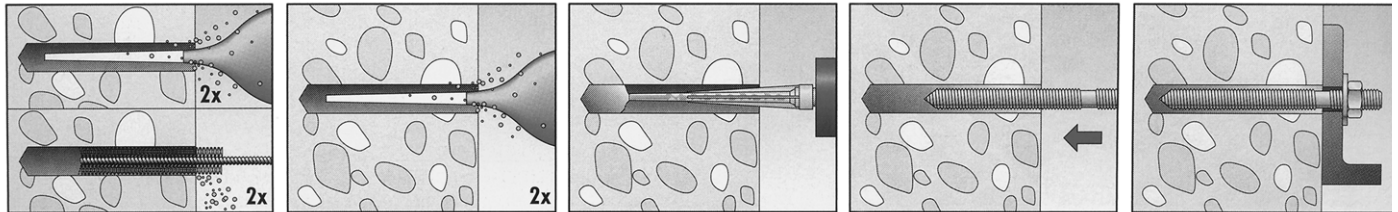
Final calculations should comply with the complete European Technical Approval (ETA), this approval is also available on request.

| Type  | ☒  | Art.number                    | Type  | ☒  | Art.number                    | Type  | ☒ | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|---|-------------------------------|
| R M8  | 10 | <a href="#">63186.080.001</a> | R M16 | 10 | <a href="#">63186.160.001</a> | R M30 | 5 | <a href="#">63186.300.001</a> |
| R M10 | 10 | <a href="#">63186.100.001</a> | R M20 | 10 | <a href="#">63186.200.001</a> |       |   |                               |
| R M12 | 10 | <a href="#">63186.120.001</a> | R M24 | 5  | <a href="#">63186.240.001</a> |       |   |                               |

## Injection cartridge



### Assembly data



### Article groups

|          | Packaging | Code  | Page |
|----------|-----------|-------|------|
| AcryMaxx | Standard  | 30580 | 8-86 |
| VinyMaxx | Standard  | 30581 | 8-86 |
| FIS VS   | Standard  | 63252 | 8-87 |
| FIS V    | Standard  | 63051 | 8-87 |
| FIS VS   | Standard  | 63060 | 8-87 |

**30580 MAXXFAST Injection cartridge** MF50



Packaging: Standard




| Type     | Art.number                      |  |
|----------|---------------------------------|--|
| AcryMaxx | 1 <a href="#">30580.000.310</a> | <ul style="list-style-type: none"> <li>• High performance two component styrene free resin for anchoring threaded rod and internally threaded sockets in concrete.</li> <li>• European Technical Approval and CE marking.</li> <li>• Resistant to extreme temperatures (from -40°C to +80°C) after polymerisation.</li> <li>• 310 ml.</li> </ul> |

**30581 MAXXFAST Injection cartridge** MF50

Packaging: Standard

| Type     | Art.number                      |   |
|----------|---------------------------------|---|
| VinyMaxx | 1 <a href="#">30581.000.310</a> | <ul style="list-style-type: none"> <li>• Styrene free high performance resin for solid and hollow substrates.</li> <li>• 310 ml.</li> </ul> |

**63252 FISCHER Injection cartridge** N03A

Packaging Standard



✉ [Art.number](#)

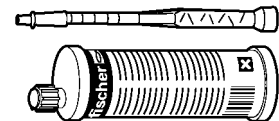
FIS VS 300 T

1 [63252.000.300](#)

- High performance hybrid mortar for high loads in almost all building materials.
- Universal mounting system for a wide range of applications on site.
- Expansion-free anchoring allows low spacing and edge distances.
- Extensive range of accessories for a wide variety of applications.
- The use of standard caulking gun is economically advantageous.

**63051 FISCHER Injection cartridge** N03A

Packaging Standard



Type ✉ [Art.number](#)

V360S=FIS

1 [63051.000.360](#)

VT380C=FIS

1 [63051.000.380](#)

- Incl. 2 static mixers
- Contents 360 ml
- Expansion-free anchoring with an optimal price/quality relation
- High-strength rapid-setting 2-component synthetic resin mortar
- Open cartridges can be used repeatedly
- Easy application with injection pistol, see article group 63691
- No separate mixing required
- Incl. 2 static mixers
- Contents 380 ml

**63060 FISCHER Injection cartridge** N03A

Packaging Standard



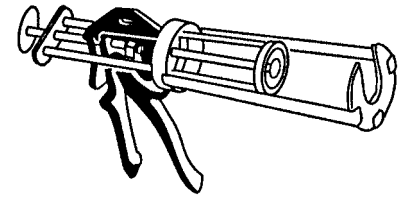
Type ✉ [Art.number](#)

VS150C

1 [63060.000.150](#)

- Expansion-free chemical anchoring system for professional and semi-professional applications
- Styrene free hybrid resin mortar
- The 2 components are safely mixed together inside the static mixer
- A simple exchange of the static mixer allows the renewed use of cartridges after they have been opened
- Requires low application pressure for economical use
- Incl. ejection plunger and 2 static mixers
- Contents 145 ml
- Can be extruded from the cartridge with conventional sealant pistols

**Injection tool**



**30595 MAXXFAST Injection tool MF50**

Packaging Standard

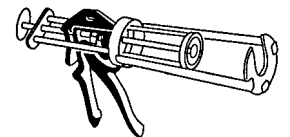


Type [Art.number](#)

Gun 1 [30595.000.100](#) • For VinyMaxx and AcryMaxx resins.

**63691 FISCHER Injection tool N03C**

Packaging Standard

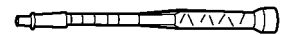


Type [Art.number](#)

K FIS VT 1 [63691.100.020](#) • Suitable for injection cartridge type FIS VT 380 C

**63247 FISCHER Injection tool N03A**

Packaging Standard



Type [Art.number](#)

Static mixer 10 [63247.000.005](#) • Suitable for injection cartridge type FIS V  
• Plastic

8

**63242 FISCHER Injection tool N03A**

Packaging Standard



Type [Art.number](#)

FIS AK 1 [63242.000.005](#) • Suitable for injection cartridge type FIS V 360 S and FIS VS 150 C.

**63243 FISCHER Injection tool N03A**

Packaging Standard

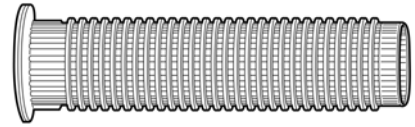
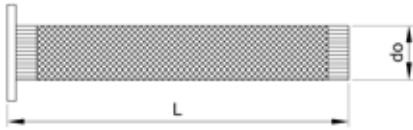


Type [Art.number](#) Type [Art.number](#) Type [Art.number](#)

14/20 MM 1 [63243.014.020](#)



## Anchoring accessories



### Technical data

| Type                  | 12x50 | 15x85      | 15x130     | 20x85   |
|-----------------------|-------|------------|------------|---------|
| d <sub>0</sub>        | 12    | 15         | 15         | 20      |
| L                     | 50    | 85         | 130        | 85      |
| Drill ø               | 12    | 15         | 15         | 20      |
| Drill depth (min.)    | 60    | 95         | 140        | 95      |
| Assembly depth (min.) | 50    | 85         | 130        | 85      |
| Threaded rod size     | M6    | M8-M10-M12 | M8-M10-M12 | M12-M16 |








### 30596 MAXXFAST Anchoring accessories

MF50


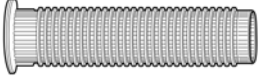
Packaging Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE

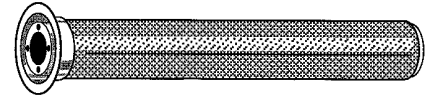


| Type          | ☒  | Art.number                    |  |   |
|---------------|----|-------------------------------|--|---|
| BLOW PUMP     | 1  | <a href="#">30596.000.001</a> | • Plastic                              |  |
| MIXING NOZZLE | 5  | <a href="#">30596.000.005</a> | • Plastic                              |  |
| BRUSH WHITE   | 1  | <a href="#">30596.008.012</a> | • 8-12mm                               |  |
| BRUSH BLUE    | 1  | <a href="#">30596.010.018</a> | • 10-18mm                              |  |
| BRUSH RED     | 1  | <a href="#">30596.012.028</a> | • 12-28mm                              |  |
| ANCHOR SLEEVE | 10 | <a href="#">30596.012.050</a> | • Plastic Nylon (polyamide)<br>• 12x50 |  |
| ANCHOR SLEEVE | 10 | <a href="#">30596.015.085</a> | • Plastic Nylon (polyamide)<br>• 15x85 |  |

**30596 MAXXFAST Anchoring accessories**

| Type          | Art.number                       | Type  | Art.number |
|---------------|----------------------------------|---|------------|
| ANCHOR SLEEVE | 10 <a href="#">30596.015.130</a> | <ul style="list-style-type: none"> <li>• Plastic Nylon (polyamide)</li> <li>• 15x130</li> </ul>  |            |
| ANCHOR SLEEVE | 10 <a href="#">30596.020.085</a> | <ul style="list-style-type: none"> <li>• Plastic Nylon (polyamide)</li> <li>• 20x85</li> </ul>   |            |

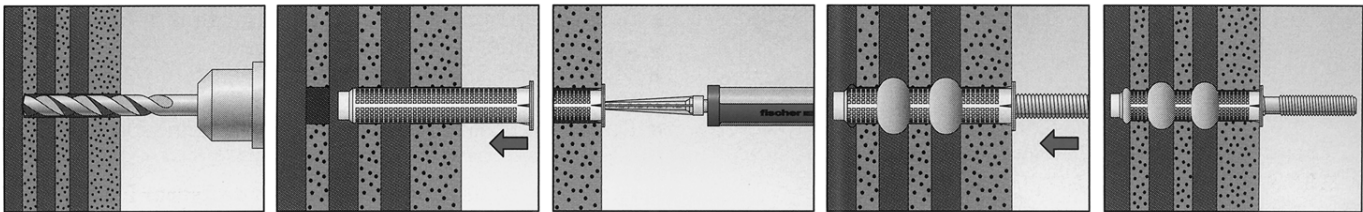
**Injection system injection anchor sleeve**



**Technical data**

| Type                  | FIS H16 x 85N | FIS H18 x 85N | FIS H20 x 85N | FIS H12 X 1000 | FIS H16 X 1000 | FIS H22 X 1000 |
|-----------------------|---------------|---------------|---------------|----------------|----------------|----------------|
| d                     | 16            | 18            | 20            | 12             | 16             | 22             |
| L                     | 85            | 85            | 85            | 1000           | 1000           | 1000           |
| Drill ø               | 16            | 18            | 20            | 12             | 16             | 22             |
| Drill depth (min.)    | 95            | 95            | 95            | -              | -              | -              |
| Assembly depth (min.) | 85            | 85            | 85            | -              | -              | -              |
| Threaded rod size     | M8            | M10           | M12           | M6-M8          | M10-M12        | M12-M16        |

**Assembly sequence**



**Article groups**

| Material   | Surface treatment | Packaging | Code  | Page |
|------------|-------------------|-----------|-------|------|
| Plastic PA |                   | Standard  | 63052 | 8-91 |
| St         | Zipl              | Standard  | 63050 | 8-91 |

**63052 FISCHER Injection system injection anchor sleeve type FIS H N** N03A



Material: Plastic Polyamide (nylon)  
Packaging: Standard




| Type       | ☒  | Art.number                    | Type       | ☒  | Art.number                    | Type       | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| FIS16X85MM | 20 | <a href="#">63052.160.085</a> | FIS18X85MM | 20 | <a href="#">63052.180.085</a> | FIS20X85MM | 20 | <a href="#">63052.200.085</a> |

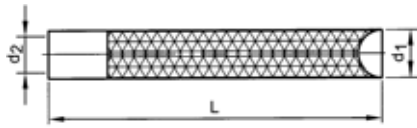
**63050 FISCHER Injection system injection anchor sleeve type FIS H L** N03A

Material: Steel  
Surface treatment: Zinc plated  
Packaging: Standard

| d x L     | ☒  | Art.number                    | d x L     | ☒  | Art.number                    | d x L     | ☒ | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|---|-------------------------------|
| 12X1000MM | 10 | <a href="#">63050.120.001</a> | 16X1000MM | 10 | <a href="#">63050.160.001</a> | 22X1000MM | 6 | <a href="#">63050.220.001</a> |

## Chemical fixing internal threaded anchor

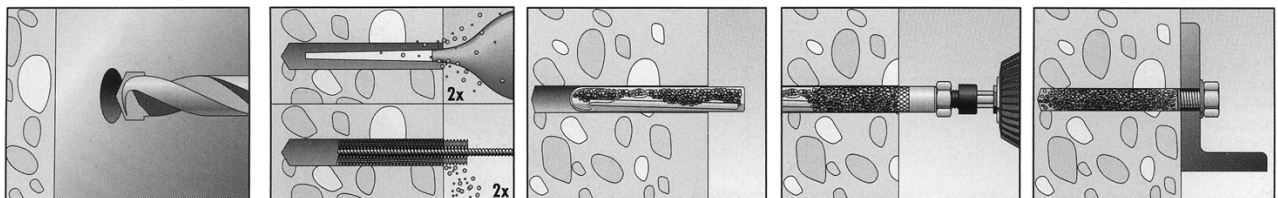


### Technical data


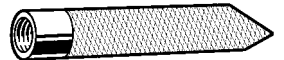
| Type  | RG 8x75 M5 I | RG 10x75 M6 I | RG 12x90 M8 I | RG 14x90 M10 I | RG 16x100 M12 I |
|---|--------------|---------------|---------------|----------------|-----------------|
| $d_1$   | 8            | 10            | 12            | 14             | 16              |
| L   | 75           | 75            | 75            | 75             | 75              |
| $d_2$   | M5           | M6            | M8            | M10            | M12             |
| Nominal diameter of drill bit ( $d_o$ )             | 10           | 12            | 14            | 16             | 18              |
| Diameter of clearance hole in the fixture ( $d_f$ ) | 6            | 7             | 9             | 12             | 14              |
| Minimal thickness of concrete member ( $h_{min.}$ ) | 100          | 110           | 140           | 140            | 170             |
| Depth of drilled hole to deepest point ( $h_o$ )    | 75           | 75            | 90            | 90             | 100             |
| Effective anchorage depth ( $h_{ef}$ )              | 75           | 75            | 90            | 90             | 100             |
| Spacing ( $S_{cr, N}$ ), characteristic             | 110          | 140           | 200           | 270            | 300             |
| Edge distance ( $C_{cr, N}$ ), characteristic       | 55           | 70            | 100           | 135            | 150             |
| Minimal spacing ( $S_{min.}$ )                      | 40           | 45            | 55            | 60             | 65              |
| Minimal edge distance ( $C_{min.}$ )                | 40           | 45            | 55            | 60             | 65              |
| Screw-in depth (min.-max.)                          | 8-35         | 9-35          | 12-45         | 15-45          | 18-45           |
| N=Allowable load in kN                              | 3,4          | 4,8           | 8,7           | 13,8           | 16,5            |

- The allowable load is valid for one single anchor, at non-cracked concrete (pressure zone) with concrete class B25, in combination with boltclass 5.8 and/or stainless steel A4-70 and if the  $S_{cr, N}$  and  $C_{cr, N}$  are taken in to account. When reduction on spacing and edge distance take place a re-calculation of forces should be carried out.
- For a complete chemical fixing, the resin capsule and internal threaded anchor have to be ordered separately. Setting tool is enclosed in each packing.

### Assembly sequence

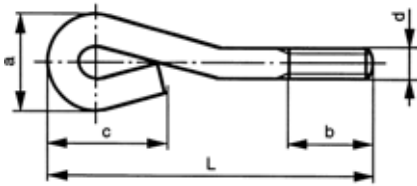


8

| 63227 FISCHER Chemical fixing internal threaded anchor type RG MI                    |               | N03A  |
|--|---------------|---|
| Thread   | Metric thread |   |
| Material   | Steel         |   |
| Surface treatment  | Zinc plated   |   |
| Packaging  | Standard      |   |
|  |               |  |

| Type         | ☒  | Art.number                    | Type          | ☒  | Art.number                    | Type           | ☒  | Art.number                    |
|--------------|----|-------------------------------|---------------|----|-------------------------------|----------------|----|-------------------------------|
| RG 8X75M 5I  | 10 | <a href="#">63227.050.001</a> | RG 12X90M 8I  | 10 | <a href="#">63227.080.090</a> | RG 16X100M 12I | 10 | <a href="#">63227.120.100</a> |
| RG 10X75M 6I | 10 | <a href="#">63227.060.001</a> | RG 14X90M 10I | 10 | <a href="#">63227.100.090</a> |                |    |                               |

## Masonry bolt type A



DIN 529 A  
NEN 2328 A



### Technical data

| d   | P    | a  | b  | c   |
|-----|------|----|----|-----|
| M12 | 1,75 | 36 | 30 | 65  |
| M16 | 2    | 48 | 40 | 85  |
| M20 | 2,5  | 60 | 50 | 105 |
| M24 | 3    | 75 | 60 | 125 |
| M30 | 3,5  | 95 | 75 | 155 |

### 20710 Masonry bolt type A

G06D

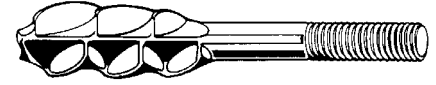
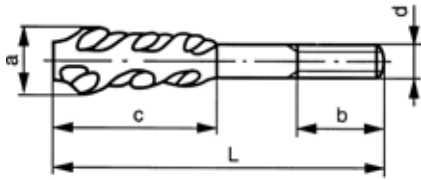
**Thread** Metric thread  
**Material** Steel  
**Class** 4.6  
**Packaging** Standard



| d x L   | ☒  | Art.number                    | d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M12X160 | 25 | <a href="#">20710.120.160</a> | M20X200 | 5 | <a href="#">20710.200.200</a> | M24X400 | 3 | <a href="#">20710.240.400</a> |
| M12X200 | 25 | <a href="#">20710.120.200</a> | M20X250 | 5 | <a href="#">20710.200.250</a> | M24X500 | 3 | <a href="#">20710.240.500</a> |
| M12X250 | 25 | <a href="#">20710.120.250</a> | M20X320 | 5 | <a href="#">20710.200.320</a> | M30X400 | 2 | <a href="#">20710.300.400</a> |
| M16X160 | 10 | <a href="#">20710.160.160</a> | M20X400 | 5 | <a href="#">20710.200.400</a> | M30X500 | 2 | <a href="#">20710.300.500</a> |
| M16X200 | 10 | <a href="#">20710.160.200</a> | M20X500 | 5 | <a href="#">20710.200.500</a> | M30X630 | 2 | <a href="#">20710.300.630</a> |
| M16X250 | 10 | <a href="#">20710.160.250</a> |         |   |                               |         |   |                               |
| M16X320 | 10 | <a href="#">20710.160.320</a> | M24X250 | 3 | <a href="#">20710.240.250</a> |         |   |                               |
| M16X400 | 10 | <a href="#">20710.160.400</a> | M24X320 | 3 | <a href="#">20710.240.320</a> |         |   |                               |

## Masonry bolt type E

DIN 529 E  
NEN 2328 E



### Technical data

| d   | P    | a  | b  | c   |
|-----|------|----|----|-----|
| M10 | 1,5  | 20 | 25 | 55  |
| M12 | 1,75 | 24 | 30 | 70  |
| M16 | 2    | 32 | 40 | 90  |
| M20 | 2,5  | 40 | 50 | 100 |
| M24 | 3    | 48 | 60 | 135 |
| M30 | 3,5  | 60 | 75 | 150 |

### 20750 Masonry bolt type E

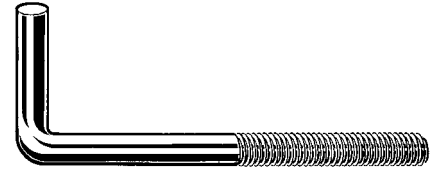
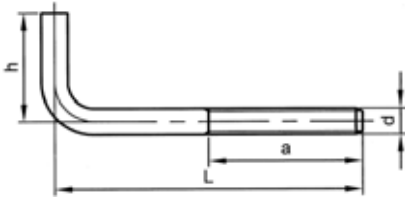
G06D

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Class</b>             | 3.6           |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L   | ☒  | Art.number                    | d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M10X125 | 25 | <a href="#">20750.100.125</a> | M24X250 | 3 | <a href="#">20750.240.250</a> | M30X630 | 2 | <a href="#">20750.300.630</a> |
| M12X125 | 25 | <a href="#">20750.120.125</a> | M24X320 | 3 | <a href="#">20750.240.320</a> |         |   |                               |
| M16X160 | 10 | <a href="#">20750.160.160</a> |         |   |                               |         |   |                               |
| M20X200 | 5  | <a href="#">20750.200.200</a> |         |   |                               |         |   |                               |
| M20X320 | 5  | <a href="#">20750.200.320</a> | M30X320 | 2 | <a href="#">20750.300.320</a> |         |   |                               |

## Hook anchor



### Technical data

| d   | P    | a   |
|-----|------|-----|
| M10 | 2    | 150 |
| M12 | 1,75 | 150 |
| M16 | 2    | 150 |
| M20 | 2,5  | 150 |
| M24 | 3    | 150 |
| M30 | 3,5  | 150 |

- Steel with a tensile strength of min. 400 N/mm<sup>2</sup> and a lower yield stress of min. 240 N/mm<sup>2</sup>.

### Article groups

| Thread | Material | Surface treatment | Packaging  | Code     | Page       |
|--------|----------|-------------------|------------|----------|------------|
| M      | St       |                   | 50mm hook  | Standard | 20610 8-95 |
| M      | St       | Zipl              | 50mm hook  | Standard | 20630 8-95 |
| M      | St       | Hot d.g.          | 50mm hook  | Standard | 20650 8-95 |
| M      | St       |                   | 100mm hook | Standard | 20620 8-96 |
| M      | St       | Zipl              | 100mm hook | Standard | 20640 8-96 |
| M      | St       | Hot d.g.          | 100mm hook | Standard | 20660 8-96 |

#### 20610 Hook anchor with 50mm hook

**G06D**

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Packaging</b> | Standard      |



| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M10X200 | 25 | <a href="#">20610.100.200</a> | M16X250 | 10 | <a href="#">20610.160.250</a> | M16X450 | 10 | <a href="#">20610.160.450</a> |
| M10X300 | 25 | <a href="#">20610.100.300</a> | M16X300 | 10 | <a href="#">20610.160.300</a> | M20X400 | 5  | <a href="#">20610.200.400</a> |
| M12X300 | 25 | <a href="#">20610.120.300</a> | M16X350 | 10 | <a href="#">20610.160.350</a> |         |    |                               |
| M12X400 | 25 | <a href="#">20610.120.400</a> | M16X400 | 10 | <a href="#">20610.160.400</a> |         |    |                               |

#### 20630 Hook anchor with 50mm hook

**G06D**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M10X200 | 25 | <a href="#">20630.100.200</a> | M16X300 | 10 | <a href="#">20630.160.300</a> | M16X450 | 10 | <a href="#">20630.160.450</a> |
| M12X250 | 25 | <a href="#">20630.120.250</a> | M16X350 | 10 | <a href="#">20630.160.350</a> | M16X500 | 10 | <a href="#">20630.160.500</a> |
| M16X250 | 10 | <a href="#">20630.160.250</a> | M16X400 | 10 | <a href="#">20630.160.400</a> |         |    |                               |

#### 20650 Hook anchor with 50mm hook oversized thread

**G06D**

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric thread      |
| <b>Material</b>          | Steel              |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |




| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M12X300 | 25 | <a href="#">20650.120.300</a> | M16X300 | 10 | <a href="#">20650.160.300</a> | M16X400 | 10 | <a href="#">20650.160.400</a> |
| M12X400 | 25 | <a href="#">20650.120.400</a> |         |    |                               |         |    |                               |

**20650 Hook anchor with 50mm hook oversized thread**

| d x L   | Art.number                       | d x L | Art.number | d x L | Art.number |
|---------|----------------------------------|-------|------------|-------|------------|
| M16X500 | 10 <a href="#">20650.160.500</a> |       |            |       |            |

**20620 Hook anchor with 100mm hook** G06D

|                  |               |  |  |  |  |
|------------------|---------------|--|--|--|--|
| <b>Thread</b>    | Metric thread |  |  |  |  |
| <b>Material</b>  | Steel         |  |  |  |  |
| <b>Packaging</b> | Standard      |  |  |  |  |



| d x L   | Art.number                       | d x L   | Art.number                      | d x L   | Art.number                      |
|---------|----------------------------------|---------|---------------------------------|---------|---------------------------------|
| M16X300 | 10 <a href="#">20620.160.300</a> | M20X400 | 5 <a href="#">20620.200.400</a> | M24X500 | 5 <a href="#">20620.240.500</a> |
| M16X400 | 10 <a href="#">20620.160.400</a> | M20X500 | 5 <a href="#">20620.200.500</a> | M24X600 | 5 <a href="#">20620.240.600</a> |
| M16X500 | 10 <a href="#">20620.160.500</a> | M20X600 | 5 <a href="#">20620.200.600</a> | M24X700 | 5 <a href="#">20620.240.700</a> |
| M16X600 | 10 <a href="#">20620.160.600</a> | M20X700 | 5 <a href="#">20620.200.700</a> | M24X800 | 5 <a href="#">20620.240.800</a> |
| M16X700 | 10 <a href="#">20620.160.700</a> | M20X800 | 5 <a href="#">20620.200.800</a> | M30X600 | 2 <a href="#">20620.300.600</a> |
| M20X300 | 5 <a href="#">20620.200.300</a>  | M24X400 | 5 <a href="#">20620.240.400</a> |         |                                 |

**20640 Hook anchor with 100mm hook** G06D

|                          |               |  |  |  |  |
|--------------------------|---------------|--|--|--|--|
| <b>Thread</b>            | Metric thread |  |  |  |  |
| <b>Material</b>          | Steel         |  |  |  |  |
| <b>Surface treatment</b> | Zinc plated   |  |  |  |  |
| <b>Packaging</b>         | Standard      |  |  |  |  |



| d x L   | Art.number                       | d x L   | Art.number                      | d x L   | Art.number                      |
|---------|----------------------------------|---------|---------------------------------|---------|---------------------------------|
| M16X600 | 10 <a href="#">20640.160.600</a> | M20X500 | 5 <a href="#">20640.200.500</a> | M24X500 | 5 <a href="#">20640.240.500</a> |
| M20X300 | 5 <a href="#">20640.200.300</a>  | M20X600 | 5 <a href="#">20640.200.600</a> | M24X600 | 5 <a href="#">20640.240.600</a> |
| M20X400 | 5 <a href="#">20640.200.400</a>  |         |                                 |         |                                 |

**20660 Hook anchor with 100mm hook oversized thread** G06D

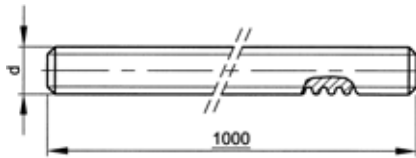
|                          |                    |  |  |  |  |
|--------------------------|--------------------|--|--|--|--|
| <b>Thread</b>            | Metric thread      |  |  |  |  |
| <b>Material</b>          | Steel              |  |  |  |  |
| <b>Surface treatment</b> | Hot dip galvanized |  |  |  |  |
| <b>Packaging</b>         | Standard           |  |  |  |  |



| d x L   | Art.number                       | d x L   | Art.number                      | d x L   | Art.number                      |
|---------|----------------------------------|---------|---------------------------------|---------|---------------------------------|
| M12X300 | 25 <a href="#">20660.120.300</a> | M20X300 | 5 <a href="#">20660.200.300</a> | M24X600 | 5 <a href="#">20660.240.600</a> |
| M12X400 | 25 <a href="#">20660.120.400</a> | M20X400 | 5 <a href="#">20660.200.400</a> | M24X800 | 5 <a href="#">20660.240.800</a> |
| M16X300 | 10 <a href="#">20660.160.300</a> | M20X500 | 5 <a href="#">20660.200.500</a> | M30X600 | 2 <a href="#">20660.300.600</a> |
| M16X400 | 10 <a href="#">20660.160.400</a> | M20X600 | 5 <a href="#">20660.200.600</a> | M30X800 | 2 <a href="#">20660.300.800</a> |
| M16X500 | 10 <a href="#">20660.160.500</a> |         |                                 |         |                                 |
| M16X600 | 10 <a href="#">20660.160.600</a> | M24X500 | 5 <a href="#">20660.240.500</a> |         |                                 |



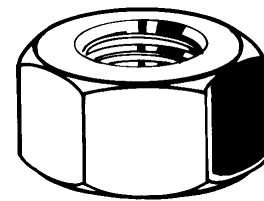
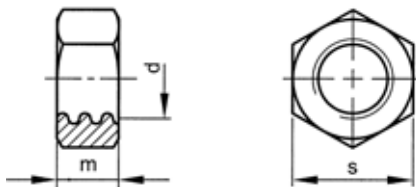
## Threaded rod for shuttering knuckle thread



|                  |          |  |  |             |   |
|------------------|----------|--|--|-------------|---|
| <b>20420</b>     |          | <b>Threaded rod length 1 meter for shuttering knuckle thread</b> |  | <b>G05B</b> |   |
| <b>Material</b>  | Steel    |  |  |             |   |
| <b>Class</b>     | ≥4.8     |  |  |             |   |
| <b>Packaging</b> | Standard |  |  |             |  |

| d    | ☒ | Art.number                    | d    | ☒ | Art.number                    | d    | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 20MM | 4 | <a href="#">20420.200.001</a> | 24MM | 4 | <a href="#">20420.240.001</a> | 30MM | 2 | <a href="#">20420.300.001</a> |

## Hexagon nut for threaded rods for shuttering knuckle thread



### Technical data

|          |    |    |    |
|----------|----|----|----|
| <b>d</b> | 20 | 24 | 30 |
| <b>P</b> | 5  | 5  | 5  |
| <b>m</b> | 16 | 19 | 24 |
| <b>s</b> | 30 | 36 | 46 |

- Special features of threaded rods for shuttering:
- Are poured in concrete without using plastic sleeves or similar.
- After starching of the concrete the threaded rod can be loosened by hammering and turned out.
- Concrete does not adhere well on the threaded profile, so cleaning of the rods is not necessary and they can be re-used.
- The mortar to cover the hole afterwards attaches very well (contra-profile of the thread in the concrete).

|                  |          |  |  |             |   |
|------------------|----------|--|--|-------------|---|
| <b>20430</b>     |          | <b>Hexagon nut for threaded rods for shuttering knuckle thread</b> |  | <b>G05B</b> |   |
| <b>Material</b>  | Steel    |  |  |             |   |
| <b>Class</b>     | 5        |  |  |             |   |
| <b>Packaging</b> | Standard |  |  |             |  |

| d    | ☒ | Art.number                    | d    | ☒ | Art.number                    | d    | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 20MM | 8 | <a href="#">20430.200.001</a> | 24MM | 8 | <a href="#">20430.240.001</a> | 30MM | 4 | <a href="#">20430.300.001</a> |

## VEMO Concrete inserts

### General

VEMO concrete inserts are used in the concrete element industry not only for handling, lifting, transporting of fixing/joining of prefab elements, but also for constructional- and fixing purposes. The VEMO reinforced bar coupling system is unique as there is no loss of crosssection.

### Assembly

When the inserts have been embedded in the concrete in such a way, that the exposed threaded end lies beneath the concrete surfaceline, then the use of a protective cap is necessary.

### Mechanical properties

The giving values on the following pages are based on the admissible static load, purely pull-out or shearing load. They are calculated by applying of a safety-coefficient of  $V = 4 - 5$  to the average breaking-load in concrete with a specific compression strenght of 22,5 N/mm. The given values for loads are guidelines.

### Calculation

For a combination of a pull-out load (N) and a shearing load (T) the following formula may be used:  $F_{\text{admissible}} = \sqrt{N^2 + T^2}$ . If using VEMO concrete inserts the following guidelines have to be observed, for

constructional inserts the distance between eachother has to be bigger than  $10xd$  (being the threaddiameter of the insert). The distance between the insert and the edge of the concrete has to be bigger than  $5xd$ .

### Specifications

Many considerations, such as the strenght and the age of the concrete, reinforcement details, as well as the circumstances under which the inserts are loaded, are factors, which can influence considerably the carrying capacity (see f.i. specifications of Dutch standard-NEN 3880, VB-C-717.4, Dutch "Arbeidsinspectie", etc.)

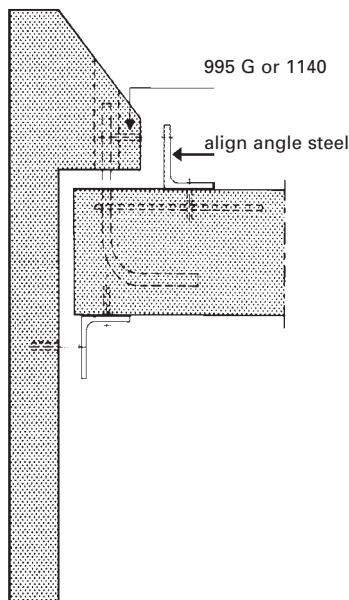
### Specials

On request available with hot dip galvanized treatment, the stainless steel qualities of the concrete inserts are AISI 303 and 304 (V2A), this material, known as 18-8 steel, gives an excellent resistance against corrosion; and AISI 316 Ti, this material is stabilized with molybdenum and titanium. It carries a high resistance against tension and inter-crystalline corrosion. The material is used in high concentration of chlorides and/of high temperature areas.

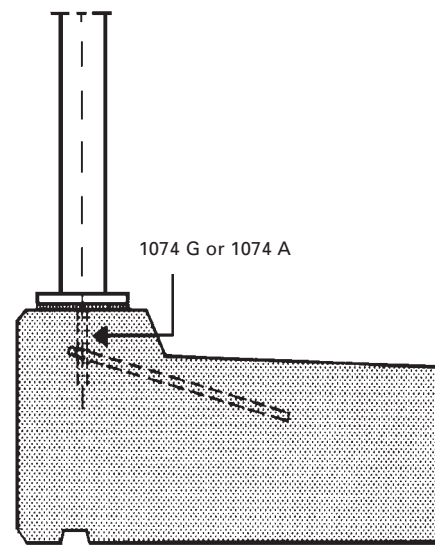
### Quality

All VEMO concrete inserts are tested by the Dutch TNO - IBBC. Barconnectors No. 1550 and bushes No. 1551 are acc. to conditions in VB-C-717.1.2

8



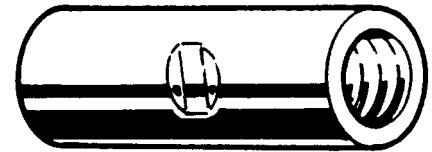
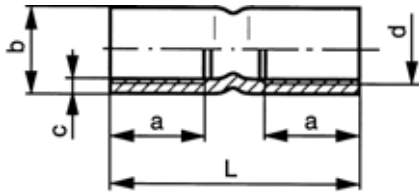
Fixing of roof slated at concrete floors



Fixing of railings on balconies

For anchoring in READY concrete see LIEBIG, SPIT and FISCHER anchors and expanding bolts elsewhere in this section. Further technical data available on request.

## Bar connector



### Technical data

|                              |            |            |            |
|------------------------------|------------|------------|------------|
| <b>d</b>                     | <b>M12</b> | <b>M16</b> | <b>M20</b> |
| <b>P</b>                     | 1,75       | 2          | 2,5        |
| <b>a</b>                     | 18         | 24         | 30         |
| <b>b</b>                     | 15,5       | 21         | 26         |
| <b>c</b>                     | 2,5        | 3,4        | 4,2        |
| <b>Stretching load in kN</b> | 39         | 75         | 115        |

18550 VEMO Bar connector No. 1550

P07A

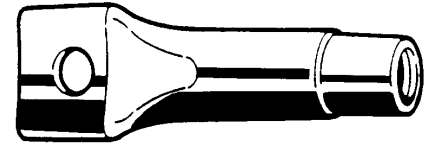
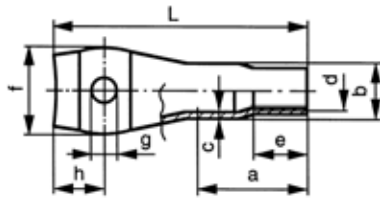
**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             | <b>d x L</b> | ☒   | <b>Art.number</b>             |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M12X45       | 200 | <a href="#">18550.120.045</a> | M16X60       | 200 | <a href="#">18550.160.060</a> | M20X75       | 100 | <a href="#">18550.200.075</a> |

- Available on request, with flangeplate no.1600.
- Depending on availability these articles can be supplied zinc plated as well as zinc plated, yellow passivated.

## Tube insert No. 995G



### Technical data

| d                           | M6   | M8   | M10  | M12 | M16  | M16  | M20  | M24  | M30  |
|-----------------------------|------|------|------|-----|------|------|------|------|------|
| L                           | 40   | 40   | 50   | 60  | 70   | 100  | 100  | 120  | 150  |
| a                           | 20   | 20   | 20   | 25  | 25   | 32   | 40   | 50   | 70   |
| b                           | 8,5  | 10,5 | 13,5 | 17  | 21,3 | 21,3 | 26,9 | 33,7 | 42   |
| c                           | 1    | 1    | 1,5  | 2   | 3,2  | 3,2  | 3,2  | 4    | 4    |
| e                           | 6    | 8    | 10   | 12  | 16   | 16   | 20   | 24   | 30   |
| f                           | 12,5 | 16   | 20   | 25  | 30   | 30   | 39   | 48   | 64   |
| g                           | 6,2  | 8,1  | 6,2  | 7,2 | 9,2  | 9,2  | 12,2 | 14,2 | 15,2 |
| h                           | 7    | 8    | 12   | 15  | 17   | 22   | 22   | 25   | 25   |
| <b>Pull-out force in kN</b> |      |      |      |     |      |      |      |      |      |
| Concrete                    | 6    | 10   | 14   | 20  | 28   | 40   | 50   | 72   | 110  |

- Pull-out force in kN.
- It is advised to take a safety factor 4.

### 18040 VEMO Tube insert No. 995 G

P07A

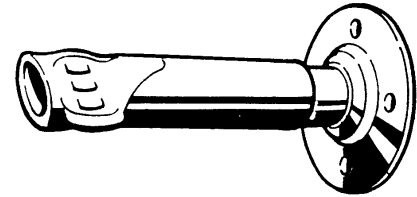
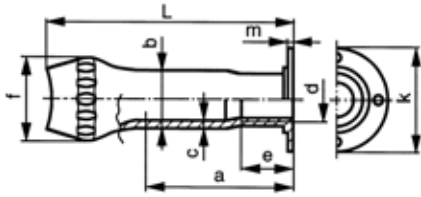
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| M6X40  | 500 | <a href="#">18040.060.040</a> | M16X70  | 200 | <a href="#">18040.160.070</a> | M24X120 | 50 | <a href="#">18040.240.120</a> |
| M8X50  | 500 | <a href="#">18040.080.050</a> | M16X100 | 100 | <a href="#">18040.160.100</a> | M30X150 | 25 | <a href="#">18040.300.150</a> |
| M10X50 | 500 | <a href="#">18040.100.050</a> |         |     |                               |         |    |                               |
| M12X60 | 400 | <a href="#">18040.120.060</a> | M20X100 | 100 | <a href="#">18040.200.100</a> |         |    |                               |

- Depending on availability these articles can be supplied zinc plated as well as zinc plated, yellow passivated.

**Insert with nailing plate No. 1036**



**Technical data**

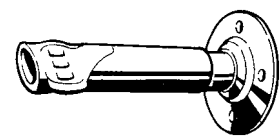
|                             | M10  | M12 | M16  | M20  | M24  |
|-----------------------------|------|-----|------|------|------|
| d                           | M10  | M12 | M16  | M20  | M24  |
| a                           | 30   | 40  | 32   | 50   | 40   |
| b                           | 13,5 | 17  | 21,3 | 26,9 | 33,7 |
| c                           | 1,5  | 2   | 2,6  | 2,6  | 4    |
| e                           | 10   | 12  | 16   | 20   | 24   |
| f                           | 20   | 25  | 31   | 39   | 48   |
| k                           | 34   | 40  | 44   | 48   | 57   |
| m                           | 1    | 1   | 1,5  | 1,5  | 1,5  |
| <b>Pull-out force in kN</b> |      |     |      |      |      |
| Concrete                    | 16   | 24  | 40   | 50   | 64   |

- Pull-out force in kN.
- It is advised to take a safety factor 4.

**18060 VEMO Insert with nailing plate No. 1036**

**P07A**

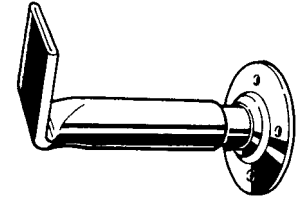
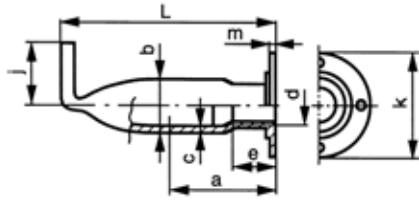
**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    | d x L | ☒ | Art.number |
|--------|-----|-------------------------------|---------|-----|-------------------------------|-------|---|------------|
| M10X60 | 200 | <a href="#">18060.100.060</a> | M16X100 | 100 | <a href="#">18060.160.100</a> |       |   |            |
| M12X70 | 200 | <a href="#">18060.120.070</a> | M20X100 | 100 | <a href="#">18060.200.100</a> |       |   |            |

- Depending on availability these articles can be supplied zinc plated as well as zinc plated, yellow passivated.

**Insert with nailing plate No. 1130**



**Technical data**

|                             | M10  | M12 | M16  | M20  |
|-----------------------------|------|-----|------|------|
| d                           | M10  | M12 | M16  | M20  |
| a                           | 35   | 40  | 32   | 40   |
| b                           | 13,5 | 17  | 21,3 | 26,9 |
| c                           | 1,5  | 2   | 2,6  | 2,6  |
| e                           | 10   | 12  | 16   | 20   |
| j                           | 25   | 30  | 35   | 35   |
| k                           | 34   | 40  | 44   | 48   |
| m                           | 1    | 1   | 1,5  | 1,5  |
| <b>Pull-out force in kN</b> |      |     |      |      |
| Concrete                    | 24   | 32  | 52   | 64   |

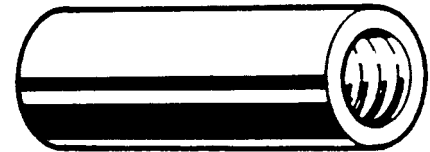
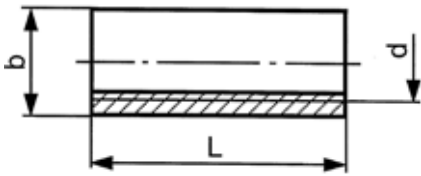
- Pull-out force in kN.
- It is advised to take a safety factor 4.

| 18140 VEMO Insert with nailing No. 1130 |               | P07A |
|---|---------------|------|
| Thread                                  | Metric thread |      |
| Material                                | Steel         |      |
| Surface treatment                       | Zinc plated   |      |
| Packaging                               | Standard      |      |
|   |               |      |

| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| M10X60 | 400 | <a href="#">18140.100.060</a> | M12X70 | 200 | <a href="#">18140.120.070</a> | M16X100 | 100 | <a href="#">18140.160.100</a> |

- Depending on availability these articles can be supplied zinc plated as well as zinc plated, yellow passivated.

## Bush



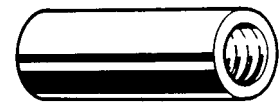
### Technical data

| d   | P    | b    | Stretching load in kN |
|-----|------|------|-----------------------|
| M6  | 1    | 10   | 13                    |
| M8  | 1,25 | 12   | 16                    |
| M10 | 1,5  | 13   | 14                    |
| M12 | 1,75 | 15,5 | 39                    |
| M16 | 2    | 21   | 75                    |
| M20 | 2,5  | 26   | 115                   |
| M24 | 3    | 32   | 181                   |
| M30 | 3,5  | 40   | 284                   |

18570 VEMO Bush No. 1551

P07A

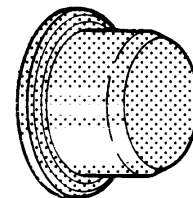
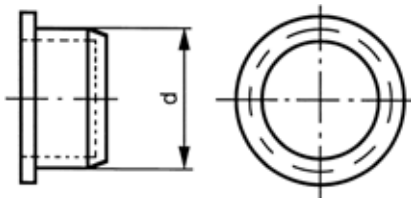
**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒  | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|----|-------------------------------|
| M6X15  | 200 | <a href="#">18570.060.015</a> | M12X35 | 200 | <a href="#">18570.120.035</a> | M24X70 | 50 | <a href="#">18570.240.070</a> |
| M8X20  | 200 | <a href="#">18570.080.020</a> | M16X45 | 200 | <a href="#">18570.160.045</a> | M30X90 | 25 | <a href="#">18570.300.090</a> |
| M10X25 | 200 | <a href="#">18570.100.025</a> | M20X55 | 100 | <a href="#">18570.200.055</a> |        |    |                               |

- Depending on availability these articles can be supplied zinc plated as well as zinc plated, yellow passivated.

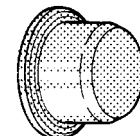
## Pipe plug



18600 VEMO Pipe plug No. 2244


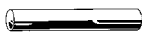






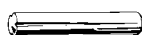


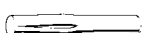

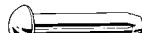




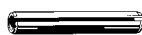
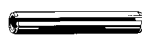
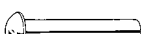
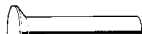























P07A

**Material** Plastic Polyethylene  
**Packaging** Standard



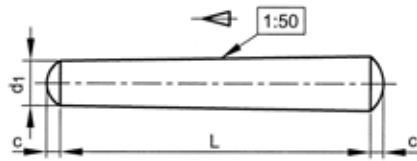
| d = For nom. size | ☒   | Art.number                    | d = For nom. size | ☒   | Art.number                    | d = For nom. size | ☒   | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|
| M6-RED            | 100 | <a href="#">18600.060.001</a> | M12-RED           | 100 | <a href="#">18600.120.001</a> | M24-RED           | 100 | <a href="#">18600.240.001</a> |
| M8-RED            | 100 | <a href="#">18600.080.001</a> | M16-BLACK         | 100 | <a href="#">18600.160.001</a> |                   |     |                               |
| M10-RED           | 100 | <a href="#">18600.100.001</a> | M20-BLUE          | 100 | <a href="#">18600.200.001</a> |                   |     |                               |

# Rivets/pins/keys 9

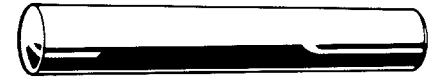
|   |  |  |  |   |
|---|--|--|--|---|
| <br>Page 9-2<br>ISO 2339 B<br>DIN 1 B<br><br><b>Conical</b>                          | <br>Page 9-4<br>ISO 2338<br>DIN 7<br><br><b>Parallel</b>                              | <br>Page 9-7<br>ISO 8734 A<br>DIN 6325<br><br><b>Parallel tolerance m6</b>      | <br>Page 9-9<br>ISO ≈8734 A<br>DIN ≈6325<br><br><b>Parallel tolerance h6</b> | <br>Page 9-10<br>ISO 8737<br>DIN 7977<br><br><b>Conical with external thread</b> |
| <br>Page 9-11<br>ISO 8736 A<br>DIN 7978 A<br><br><b>Conical with internal thread</b> | <br>Page 9-12<br>ISO 8735 A<br>DIN 7979 D<br><br><b>Parallel with internal thread</b> | <br>Page 9-13<br>ISO 8739<br>DIN 1470<br><br><b>Parallel grooved with pin</b>   | <br>Page 9-14<br>ISO 8744<br>DIN 1471<br><br><b>Taper grooved</b>            | <br>Page 9-15<br>ISO 8745<br>DIN 1472<br><br><b>Half length taper grooved</b>    |
| <br>Page 9-16<br>ISO 8740<br>DIN 1473<br><br><b>Parallel grooved</b>                 | <br>Page 9-17<br>ISO 8741<br>DIN 1474<br><br><b>Parallel grooved</b>                  | <br>Page 9-18<br>ISO 8742<br>DIN 1475<br><br><b>Center grooved</b>              | <br>Page 9-19<br>ISO 8746<br>DIN 1476<br><br><b>Grooved pin</b>              | <br>Page 9-20<br>ISO 8750<br>DIN 7343<br><br><b>Standard duty</b>                |
| <br>Page 9-22<br>ISO ≈8750<br>DIN ≈7343<br><br><b>Stainless steel</b>               | <br>Page 9-23<br>ISO 8748<br>DIN 7344<br><br><b>Heavy</b>                            | <br>Page 9-24<br>ISO 8752<br>DIN 1481<br><br><b>Heavy</b>                      | <br>Page 9-26<br>ISO 13337<br>DIN 7346<br><br><b>Light</b>                  | <br>Page 9-28<br>ISO ≈8752<br>DIN ≈1481<br><br><b>Heavy stainless steel</b>     |
| <br>Page 9-30<br>ISO 1051<br>DIN 660/124<br><br><b>Round head</b>                  | <br>Page 9-32<br>ISO 1051<br>DIN 661<br><br><b>Countersunk</b>                      | <br>Page 9-34<br>DIN 1434<br><br><b>Clevis pin with pin hole</b>              | <br>Page 9-35<br>ISO 1234<br>DIN 94<br><br><b>Split pin</b>                | <br>Page 9-39<br>DIN ≈11024<br><br><b>Single</b>                               |
| <br>Page 9-40<br>DIN ≈11024<br><br><b>Double</b>                                   | <br>Page 9-41<br>DIN 11024<br><br><b>Double A4</b>                                  | <br>Page 9-42<br><br><b>Pipe pin</b>  | <br>Page 9-43<br><br><b>Linch pin</b>                                      | <br>Page 9-44<br>DIN 6880<br><br><b>Length 1 meter</b>                         |
| <br>Page 9-45<br>ISO 3912<br>DIN 6888<br><br><b>Woodruff key</b>                   | <br>Page 9-47<br>ISO R 774<br>DIN 6887<br><br><b>Gib head</b>                       | <br>Page 9-48<br>ISO R 773<br>DIN 6885 A<br><br><b>Parallel key high type</b> | <br>Page 9-52<br><br><b>Domed head blind rivet</b>                         | <br>Page 9-59<br><br><b>Large domed head blind rivet</b>                       |
| <br>Page 9-61<br><br><b>Countersunk blind rivet</b>                                | <br>Page 9-64<br><br><b>Domed head blind rivet BULB</b>                             | <br>Page 9-65<br><br><b>Countersunk blind rivet BULB</b>                      | <br>Page 9-66<br><br><b>For license plates</b>                             | <br>Page 9-67<br><br><b>Domed head multigrip blind rivet</b>                   |
| <br>Page 9-68<br><br><b>Sealed domed head rivet</b>                                | <br>Page 9-71<br><br><b>Sealed countersunk rivet</b>                                | <br>Page 9-72<br><br><b>Domed head expanding blind rivet</b>                  | <br>Page 9-73<br><br><b>Domed head expanding blind rivet trip</b>          | <br>Page 9-74<br><br><b>Blind rivet tool</b>                                   |



## Taper pin turned



ISO 2339 B  
 DIN 1 B  
 NEN 10 B

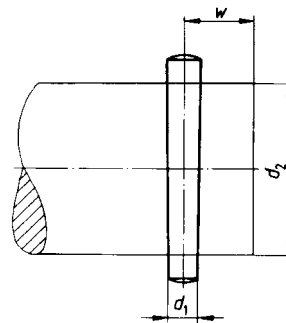


### Technical data

|                      |     |      |      |       |     |     |      |     |      |     |            |          |       |         |     |           |     |     |
|----------------------|-----|------|------|-------|-----|-----|------|-----|------|-----|------------|----------|-------|---------|-----|-----------|-----|-----|
| d1 (h10)             | 0,6 | 0,8  | 1    | 1,5   | 2   | 2,5 | 3    | 4   | 5    | 6   | 6,5 (#DIN) | 7 (#DIN) | 8     | 10      | 12  | 13 (#DIN) | 14  | 16  |
| c (max.)             | 0,1 | 0,12 | 0,15 | 0,23  | 0,3 | 0,4 | 0,45 | 0,6 | 0,75 | 0,9 | 1          | 1,2      | 1,2   | 1,5     | 1,8 | 1,8       | 2   | 2,5 |
| <b>Assembly data</b> |     |      |      |       |     |     |      |     |      |     |            |          |       |         |     |           |     |     |
| d <sub>2</sub> >     | 1   | 2    | 3    | 4/5   | 6   | 8   | 8    | 11  | 17   | 23  | 25         | 33       | 30/38 | 45/50   | 75  | 75        | 75  | 110 |
| d <sub>2</sub> ≤     | 2   | 3    | 4    | 5/6   | 8   | 9   | 11   | 17  | 23   | 30  | 33         | 40       | 38/45 | 50/75   | 110 | 110       | 110 | 160 |
| W (min.)             | 2   | 2,5  | 3    | 3,5/4 | 4,5 | 5   | 5    | 6   | 7,5  | 9   | 10         | 12       | 10/11 | 11,5/13 | 15  | 15        | 15  | 18  |

- Taper pins are designed for the friction type fastening and/or locking together of two or more individual elements. The tapered shape allows the connection to be disconnected repeatedly, and when the elements are joined together again, their location remains as accurate as it was previously, and the frictional connection remains as strong as before.
- The nominal length (L) does not include the rounded ends (tolerance js15).

### Assembly data



### Article groups

| Material           | Packaging | Code  | Page |
|--------------------|-----------|-------|------|
| Free-cutting steel | Standard  | 39000 | 9-2  |
| St.St. A1          | Standard  | 51560 | 9-3  |

### 39000 Taper pin turned

L11A

**Material** Free-cutting steel  
**Packaging** Standard



9

| d1 x L   | ☒   | Art.number                    | d1 x L   | ☒   | Art.number                    | d1 x L  | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|---------|-----|-------------------------------|
| 1X14MM   | 200 | <a href="#">39000.010.014</a> | 2,5X16MM | 200 | <a href="#">39000.025.016</a> | 4X20MM  | 100 | <a href="#">39000.040.020</a> |
| 1X18MM   | 200 | <a href="#">39000.010.018</a> | 2,5X20MM | 100 | <a href="#">39000.025.020</a> | 4X24MM  | 100 | <a href="#">39000.040.024</a> |
| 1X20MM   | 200 | <a href="#">39000.010.020</a> | 2,5X24MM | 100 | <a href="#">39000.025.024</a> | 4X26MM  | 50  | <a href="#">39000.040.026</a> |
|          |     |                               | 2,5X26MM | 100 | <a href="#">39000.025.026</a> | 4X30MM  | 50  | <a href="#">39000.040.030</a> |
| 1,5X10MM | 200 | <a href="#">39000.015.010</a> | 2,5X30MM | 100 | <a href="#">39000.025.030</a> | 4X36MM  | 50  | <a href="#">39000.040.036</a> |
| 1,5X14MM | 200 | <a href="#">39000.015.014</a> | 2,5X36MM | 50  | <a href="#">39000.025.036</a> | 4X40MM  | 50  | <a href="#">39000.040.040</a> |
| 1,5X20MM | 200 | <a href="#">39000.015.020</a> | 2,5X40MM | 50  | <a href="#">39000.025.040</a> | 4X50MM  | 50  | <a href="#">39000.040.050</a> |
| 1,5X24MM | 200 | <a href="#">39000.015.024</a> | 2,5X50MM | 50  | <a href="#">39000.025.050</a> | 4X60MM  | 25  | <a href="#">39000.040.060</a> |
| 1,5X30MM | 200 | <a href="#">39000.015.030</a> |          |     |                               | 4X70MM  | 25  | <a href="#">39000.040.070</a> |
|          |     |                               | 3X12MM   | 100 | <a href="#">39000.030.012</a> | 4X80MM  | 25  | <a href="#">39000.040.080</a> |
| 2X10MM   | 200 | <a href="#">39000.020.010</a> | 3X14MM   | 100 | <a href="#">39000.030.014</a> | 4X100MM | 25  | <a href="#">39000.040.100</a> |
| 2X12MM   | 200 | <a href="#">39000.020.012</a> | 3X16MM   | 100 | <a href="#">39000.030.016</a> |         |     |                               |
| 2X14MM   | 200 | <a href="#">39000.020.014</a> | 3X20MM   | 100 | <a href="#">39000.030.020</a> | 5X20MM  | 100 | <a href="#">39000.050.020</a> |
| 2X16MM   | 200 | <a href="#">39000.020.016</a> | 3X24MM   | 100 | <a href="#">39000.030.024</a> | 5X24MM  | 50  | <a href="#">39000.050.024</a> |
| 2X20MM   | 100 | <a href="#">39000.020.020</a> | 3X30MM   | 100 | <a href="#">39000.030.030</a> | 5X26MM  | 50  | <a href="#">39000.050.026</a> |
| 2X24MM   | 100 | <a href="#">39000.020.024</a> | 3X36MM   | 50  | <a href="#">39000.030.036</a> | 5X30MM  | 50  | <a href="#">39000.050.030</a> |
| 2X30MM   | 100 | <a href="#">39000.020.030</a> | 3X40MM   | 50  | <a href="#">39000.030.040</a> | 5X40MM  | 50  | <a href="#">39000.050.040</a> |
| 2X40MM   | 100 | <a href="#">39000.020.040</a> | 3X50MM   | 50  | <a href="#">39000.030.050</a> | 5X50MM  | 50  | <a href="#">39000.050.050</a> |
| 2X50MM   | 50  | <a href="#">39000.020.050</a> | 3X60MM   | 25  | <a href="#">39000.030.060</a> | 5X60MM  | 25  | <a href="#">39000.050.060</a> |
|          |     |                               | 4X16MM   | 100 | <a href="#">39000.040.016</a> | 5X70MM  | 25  | <a href="#">39000.050.070</a> |
| 2,5X12MM | 200 | <a href="#">39000.025.012</a> |          |     |                               | 5X80MM  | 25  | <a href="#">39000.050.080</a> |

**39000 Taper pin turned** ←

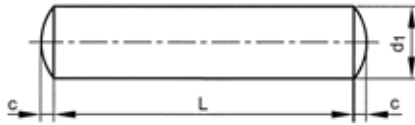
| d1 x L    | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    |
|-----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| 5X100MM   | 25 | <a href="#">39000.050.100</a> | 8X30MM   | 25 | <a href="#">39000.080.030</a> | 12X40MM  | 10 | <a href="#">39000.120.040</a> |
| 6X20MM    | 50 | <a href="#">39000.060.020</a> | 8X36MM   | 25 | <a href="#">39000.080.036</a> | 12X50MM  | 10 | <a href="#">39000.120.050</a> |
| 6X24MM    | 50 | <a href="#">39000.060.024</a> | 8X40MM   | 25 | <a href="#">39000.080.040</a> | 12X60MM  | 10 | <a href="#">39000.120.060</a> |
| 6X30MM    | 50 | <a href="#">39000.060.030</a> | 8X50MM   | 25 | <a href="#">39000.080.050</a> | 12X70MM  | 10 | <a href="#">39000.120.070</a> |
| 6X40MM    | 25 | <a href="#">39000.060.040</a> | 8X60MM   | 25 | <a href="#">39000.080.060</a> | 12X80MM  | 10 | <a href="#">39000.120.080</a> |
| 6X50MM    | 25 | <a href="#">39000.060.050</a> | 8X70MM   | 25 | <a href="#">39000.080.070</a> | 12X100MM | 10 | <a href="#">39000.120.100</a> |
| 6X60MM    | 25 | <a href="#">39000.060.060</a> | 8X80MM   | 10 | <a href="#">39000.080.080</a> | 12X120MM | 10 | <a href="#">39000.120.120</a> |
| 6X70MM    | 25 | <a href="#">39000.060.070</a> | 8X90MM   | 10 | <a href="#">39000.080.090</a> | 12X140MM | 10 | <a href="#">39000.120.140</a> |
| 6X80MM    | 25 | <a href="#">39000.060.080</a> | 8X100MM  | 10 | <a href="#">39000.080.100</a> | 12X160MM | 10 | <a href="#">39000.120.160</a> |
| 6X100MM   | 10 | <a href="#">39000.060.100</a> | 8X120MM  | 10 | <a href="#">39000.080.120</a> |          |    |                               |
| 6X120MM   | 10 | <a href="#">39000.060.120</a> | 8X140MM  | 10 | <a href="#">39000.080.140</a> | 13X100MM | 10 | <a href="#">39000.130.100</a> |
| 6X140MM   | 10 | <a href="#">39000.060.140</a> | 8X160MM  | 10 | <a href="#">39000.080.160</a> | 13X120MM | 10 | <a href="#">39000.130.120</a> |
|           |    |                               |          |    |                               | 13X150MM | 10 | <a href="#">39000.130.150</a> |
| 6,5X50MM  | 25 | <a href="#">39000.065.050</a> | 10X30MM  | 25 | <a href="#">39000.100.030</a> | 14X90MM  | 10 | <a href="#">39000.140.090</a> |
| 6,5X60MM  | 25 | <a href="#">39000.065.060</a> | 10X40MM  | 25 | <a href="#">39000.100.040</a> | 16X50MM  | 5  | <a href="#">39000.160.050</a> |
| 6,5X80MM  | 25 | <a href="#">39000.065.080</a> | 10X50MM  | 25 | <a href="#">39000.100.050</a> | 16X60MM  | 5  | <a href="#">39000.160.060</a> |
| 6,5X100MM | 10 | <a href="#">39000.065.100</a> | 10X60MM  | 25 | <a href="#">39000.100.060</a> | 16X70MM  | 5  | <a href="#">39000.160.070</a> |
|           |    |                               | 10X70MM  | 10 | <a href="#">39000.100.070</a> | 16X80MM  | 5  | <a href="#">39000.160.080</a> |
| 7X50MM    | 25 | <a href="#">39000.070.050</a> | 10X80MM  | 10 | <a href="#">39000.100.080</a> | 16X100MM | 5  | <a href="#">39000.160.100</a> |
| 7X60MM    | 25 | <a href="#">39000.070.060</a> | 10X100MM | 10 | <a href="#">39000.100.100</a> | 16X120MM | 5  | <a href="#">39000.160.120</a> |
| 7X70MM    | 25 | <a href="#">39000.070.070</a> | 10X110MM | 10 | <a href="#">39000.100.110</a> | 16X150MM | 5  | <a href="#">39000.160.150</a> |
| 7X80MM    | 10 | <a href="#">39000.070.080</a> | 10X120MM | 10 | <a href="#">39000.100.120</a> | 16X180MM | 5  | <a href="#">39000.160.180</a> |
| 7X100MM   | 10 | <a href="#">39000.070.100</a> | 10X140MM | 10 | <a href="#">39000.100.140</a> | 16X200MM | 5  | <a href="#">39000.160.200</a> |
|           |    |                               | 10X150MM | 10 | <a href="#">39000.100.150</a> |          |    |                               |
|           |    |                               | 10X160MM | 10 | <a href="#">39000.100.160</a> |          |    |                               |

**51560 Taper pin turned** R09A

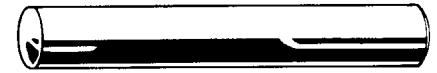
|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A1 |
| <b>Packaging</b> | Standard           |

| d1 x L     | ☒   | Art.number                    | d1 x L   | ☒   | Art.number                    | d1 x L     | ☒   | Art.number                    |
|------------|-----|-------------------------------|----------|-----|-------------------------------|------------|-----|-------------------------------|
| 1X10MM     | 100 | <a href="#">51560.010.010</a> | 4X10MM   | 100 | <a href="#">51560.040.010</a> | 6X55MM *   | 100 | <a href="#">51560.060.055</a> |
| 1X12MM     | 100 | <a href="#">51560.010.012</a> | 4X12MM   | 100 | <a href="#">51560.040.012</a> | 6X70MM *   | 100 | <a href="#">51560.060.070</a> |
|            |     |                               | 4X16MM   | 100 | <a href="#">51560.040.016</a> |            |     |                               |
| 1,5X12MM * | 200 | <a href="#">51560.015.012</a> | 4X20MM   | 100 | <a href="#">51560.040.020</a> | 8X16MM     | 50  | <a href="#">51560.080.016</a> |
| 2X8MM      | 100 | <a href="#">51560.020.008</a> | 4X24MM   | 100 | <a href="#">51560.040.024</a> | 8X24MM     | 50  | <a href="#">51560.080.024</a> |
| 2X10MM     | 100 | <a href="#">51560.020.010</a> | 4X26MM * | 100 | <a href="#">51560.040.026</a> | 8X30MM     | 50  | <a href="#">51560.080.030</a> |
| 2X12MM     | 100 | <a href="#">51560.020.012</a> | 4X28MM * | 100 | <a href="#">51560.040.028</a> | 8X36MM     | 50  | <a href="#">51560.080.036</a> |
| 2X24MM *   | 200 | <a href="#">51560.020.024</a> | 4X30MM   | 100 | <a href="#">51560.040.030</a> | 8X40MM     | 50  | <a href="#">51560.080.040</a> |
| 2X30MM *   | 200 | <a href="#">51560.020.030</a> | 4X36MM   | 100 | <a href="#">51560.040.036</a> | 8X45MM *   | 50  | <a href="#">51560.080.045</a> |
|            |     |                               |          |     |                               | 8X50MM     | 25  | <a href="#">51560.080.050</a> |
| 2,5X10MM   | 100 | <a href="#">51560.025.010</a> | 5X16MM   | 100 | <a href="#">51560.050.016</a> | 8X55MM *   | 50  | <a href="#">51560.080.055</a> |
| 2,5X16MM   | 100 | <a href="#">51560.025.016</a> | 5X20MM   | 100 | <a href="#">51560.050.020</a> | 8X60MM     | 25  | <a href="#">51560.080.060</a> |
| 2,5X20MM   | 100 | <a href="#">51560.025.020</a> | 5X24MM   | 100 | <a href="#">51560.050.024</a> | 8X70MM *   | 50  | <a href="#">51560.080.070</a> |
| 2,5X24MM   | 100 | <a href="#">51560.025.024</a> | 5X30MM   | 100 | <a href="#">51560.050.030</a> | 8X80MM *   | 50  | <a href="#">51560.080.080</a> |
|            |     |                               | 5X32MM * | 100 | <a href="#">51560.050.032</a> | 8X90MM *   | 50  | <a href="#">51560.080.090</a> |
| 3X6MM      | 100 | <a href="#">51560.030.006</a> | 5X36MM   | 100 | <a href="#">51560.050.036</a> | 8X100MM *  | 50  | <a href="#">51560.080.100</a> |
| 3X8MM      | 100 | <a href="#">51560.030.008</a> | 5X40MM   | 100 | <a href="#">51560.050.040</a> |            |     |                               |
| 3X10MM     | 100 | <a href="#">51560.030.010</a> | 5X70MM * | 100 | <a href="#">51560.050.070</a> | 10X24MM    | 50  | <a href="#">51560.100.024</a> |
| 3X12MM     | 100 | <a href="#">51560.030.012</a> |          |     |                               | 10X30MM    | 50  | <a href="#">51560.100.030</a> |
| 3X14MM *   | 100 | <a href="#">51560.030.014</a> | 6X12MM   | 100 | <a href="#">51560.060.012</a> | 10X40MM    | 25  | <a href="#">51560.100.040</a> |
| 3X16MM     | 100 | <a href="#">51560.030.016</a> | 6X16MM   | 100 | <a href="#">51560.060.016</a> | 10X45MM *  | 25  | <a href="#">51560.100.045</a> |
| 3X20MM     | 100 | <a href="#">51560.030.020</a> | 6X20MM   | 100 | <a href="#">51560.060.020</a> | 10X50MM    | 25  | <a href="#">51560.100.050</a> |
| 3X22MM *   | 100 | <a href="#">51560.030.022</a> | 6X24MM   | 100 | <a href="#">51560.060.024</a> | 10X55MM *  | 25  | <a href="#">51560.100.055</a> |
| 3X24MM     | 100 | <a href="#">51560.030.024</a> | 6X25MM * | 100 | <a href="#">51560.060.025</a> | 10X60MM    | 25  | <a href="#">51560.100.060</a> |
| 3X26MM *   | 100 | <a href="#">51560.030.026</a> | 6X26MM * | 100 | <a href="#">51560.060.026</a> | 10X70MM    | 25  | <a href="#">51560.100.070</a> |
| 3X30MM     | 100 | <a href="#">51560.030.030</a> | 6X30MM   | 50  | <a href="#">51560.060.030</a> | 10X80MM    | 25  | <a href="#">51560.100.080</a> |
| 3X32MM *   | 100 | <a href="#">51560.030.032</a> | 6X32MM * | 100 | <a href="#">51560.060.032</a> | 10X100MM * | 25  | <a href="#">51560.100.100</a> |
| 3X40MM *   | 100 | <a href="#">51560.030.040</a> | 6X40MM   | 50  | <a href="#">51560.060.040</a> |            |     |                               |
| 3X45MM *   | 100 | <a href="#">51560.030.045</a> | 6X45MM * | 100 | <a href="#">51560.060.045</a> |            |     |                               |
|            |     |                               | 6X50MM   | 50  | <a href="#">51560.060.050</a> |            |     |                               |

## Parallel pin (dowel pin)



ISO 2338  
 DIN 7  
 NEN 2281  
 BS 1804-2



### Technical data

| d1 (m6) | c (max.) | d1 (m6) | c (max.) | d1 (m6) | c (max.) |
|---------|----------|---------|----------|---------|----------|
| 1       | 0,15     | 4       | 0,6      | 12      | 1,8      |
| 1,5     | 0,23     | 5       | 0,75     | 14      | 2        |
| 2       | 0,3      | 6       | 0,9      | 16      | 2,5      |
| 2,5     | 0,4      | 8       | 1,2      |         |          |
| 3       | 0,45     | 10      | 1,5      |         |          |

- Parallel pins are designed for the fastening of two or more individual elements. A friction type connection can be achieved by the selection of suitable fits. If such connection is meant to be disconnected repeatedly, then it becomes preferable to use taper pins in accordance with DIN 1.
- d x L: The nominal length (L) does not include the rounded ends.

### Article groups

| Material           | Packaging | Code  | Page |
|--------------------|-----------|-------|------|
| Free-cutting steel | Standard  | 39070 | 9-4  |
| St.St. A1/A2       | Standard  | 51580 | 9-5  |
| St.St. A4          | Standard  | 55580 | 9-6  |

### 39070 Parallel pin (dowel pin)

L11A

**Material** Free-cutting steel  
**Packaging** Standard



9

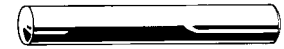
| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L   | ☒  | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|----------|----|-------------------------------|
| 2X10MM   | 200 | <a href="#">39070.020.010</a> | 5X10MM | 100 | <a href="#">39070.050.010</a> | 8X14MM   | 50 | <a href="#">39070.080.014</a> |
| 2X12MM   | 200 | <a href="#">39070.020.012</a> | 5X12MM | 100 | <a href="#">39070.050.012</a> | 8X16MM   | 50 | <a href="#">39070.080.016</a> |
| 2X14MM   | 200 | <a href="#">39070.020.014</a> | 5X14MM | 100 | <a href="#">39070.050.014</a> | 8X18MM   | 50 | <a href="#">39070.080.018</a> |
| 2X16MM   | 200 | <a href="#">39070.020.016</a> | 5X16MM | 100 | <a href="#">39070.050.016</a> | 8X20MM   | 50 | <a href="#">39070.080.020</a> |
| 2X18MM   | 200 | <a href="#">39070.020.018</a> | 5X18MM | 100 | <a href="#">39070.050.018</a> | 8X24MM   | 50 | <a href="#">39070.080.024</a> |
| 2X20MM   | 200 | <a href="#">39070.020.020</a> | 5X20MM | 100 | <a href="#">39070.050.020</a> | 8X28MM   | 50 | <a href="#">39070.080.028</a> |
| 2X24MM   | 200 | <a href="#">39070.020.024</a> | 5X22MM | 100 | <a href="#">39070.050.022</a> | 8X30MM   | 50 | <a href="#">39070.080.030</a> |
|          |     |                               | 5X24MM | 100 | <a href="#">39070.050.024</a> | 8X32MM   | 50 | <a href="#">39070.080.032</a> |
| 2,5X10MM | 200 | <a href="#">39070.025.010</a> | 5X28MM | 100 | <a href="#">39070.050.028</a> | 8X36MM   | 50 | <a href="#">39070.080.036</a> |
| 2,5X12MM | 200 | <a href="#">39070.025.012</a> | 5X30MM | 100 | <a href="#">39070.050.030</a> | 8X40MM   | 25 | <a href="#">39070.080.040</a> |
| 2,5X14MM | 200 | <a href="#">39070.025.014</a> | 5X32MM | 100 | <a href="#">39070.050.032</a> | 8X50MM   | 25 | <a href="#">39070.080.050</a> |
| 2,5X16MM | 200 | <a href="#">39070.025.016</a> | 5X36MM | 100 | <a href="#">39070.050.036</a> | 8X60MM   | 25 | <a href="#">39070.080.060</a> |
| 2,5X20MM | 200 | <a href="#">39070.025.020</a> | 5X40MM | 50  | <a href="#">39070.050.040</a> | 8X70MM   | 25 | <a href="#">39070.080.070</a> |
|          |     |                               | 5X45MM | 50  | <a href="#">39070.050.045</a> | 8X80MM   | 25 | <a href="#">39070.080.080</a> |
| 3X10MM   | 200 | <a href="#">39070.030.010</a> | 5X50MM | 50  | <a href="#">39070.050.050</a> | 8X100MM  | 25 | <a href="#">39070.080.100</a> |
| 3X12MM   | 200 | <a href="#">39070.030.012</a> | 5X60MM | 50  | <a href="#">39070.050.060</a> | 8X120MM  | 25 | <a href="#">39070.080.120</a> |
| 3X14MM   | 200 | <a href="#">39070.030.014</a> | 5X70MM | 50  | <a href="#">39070.050.070</a> |          |    |                               |
| 3X16MM   | 200 | <a href="#">39070.030.016</a> |        |     |                               | 10X16MM  | 25 | <a href="#">39070.100.016</a> |
| 3X18MM   | 200 | <a href="#">39070.030.018</a> | 6X10MM | 100 | <a href="#">39070.060.010</a> | 10X18MM  | 25 | <a href="#">39070.100.018</a> |
| 3X20MM   | 200 | <a href="#">39070.030.020</a> | 6X12MM | 100 | <a href="#">39070.060.012</a> | 10X20MM  | 25 | <a href="#">39070.100.020</a> |
| 3X24MM   | 100 | <a href="#">39070.030.024</a> | 6X14MM | 100 | <a href="#">39070.060.014</a> | 10X24MM  | 25 | <a href="#">39070.100.024</a> |
| 3X26MM   | 100 | <a href="#">39070.030.026</a> | 6X16MM | 100 | <a href="#">39070.060.016</a> | 10X28MM  | 25 | <a href="#">39070.100.028</a> |
| 3X28MM   | 100 | <a href="#">39070.030.028</a> | 6X18MM | 100 | <a href="#">39070.060.018</a> | 10X30MM  | 25 | <a href="#">39070.100.030</a> |
| 3X30MM   | 100 | <a href="#">39070.030.030</a> | 6X20MM | 100 | <a href="#">39070.060.020</a> | 10X32MM  | 25 | <a href="#">39070.100.032</a> |
|          |     |                               | 6X24MM | 50  | <a href="#">39070.060.024</a> | 10X36MM  | 25 | <a href="#">39070.100.036</a> |
| 4X8MM    | 100 | <a href="#">39070.040.008</a> | 6X28MM | 50  | <a href="#">39070.060.028</a> | 10X40MM  | 25 | <a href="#">39070.100.040</a> |
| 4X10MM   | 100 | <a href="#">39070.040.010</a> | 6X30MM | 50  | <a href="#">39070.060.030</a> | 10X50MM  | 25 | <a href="#">39070.100.050</a> |
| 4X12MM   | 100 | <a href="#">39070.040.012</a> | 6X32MM | 50  | <a href="#">39070.060.032</a> | 10X60MM  | 25 | <a href="#">39070.100.060</a> |
| 4X14MM   | 100 | <a href="#">39070.040.014</a> | 6X36MM | 50  | <a href="#">39070.060.036</a> | 10X70MM  | 25 | <a href="#">39070.100.070</a> |
| 4X16MM   | 100 | <a href="#">39070.040.016</a> | 6X40MM | 50  | <a href="#">39070.060.040</a> | 10X80MM  | 25 | <a href="#">39070.100.080</a> |
| 4X18MM   | 100 | <a href="#">39070.040.018</a> | 6X45MM | 50  | <a href="#">39070.060.045</a> | 10X100MM | 25 | <a href="#">39070.100.100</a> |
| 4X20MM   | 100 | <a href="#">39070.040.020</a> | 6X50MM | 50  | <a href="#">39070.060.050</a> | 10X120MM | 25 | <a href="#">39070.100.120</a> |
| 4X24MM   | 100 | <a href="#">39070.040.024</a> | 6X60MM | 25  | <a href="#">39070.060.060</a> |          |    |                               |
| 4X28MM   | 100 | <a href="#">39070.040.028</a> | 6X70MM | 25  | <a href="#">39070.060.070</a> | 12X24MM  | 25 | <a href="#">39070.120.024</a> |
| 4X30MM   | 100 | <a href="#">39070.040.030</a> | 6X80MM | 25  | <a href="#">39070.060.080</a> | 12X30MM  | 25 | <a href="#">39070.120.030</a> |
| 4X36MM   | 100 | <a href="#">39070.040.036</a> |        |     |                               | 12X32MM  | 25 | <a href="#">39070.120.032</a> |
| 4X40MM   | 100 | <a href="#">39070.040.040</a> | 8X10MM | 50  | <a href="#">39070.080.010</a> | 12X36MM  | 25 | <a href="#">39070.120.036</a> |
| 4X50MM   | 100 | <a href="#">39070.040.050</a> | 8X12MM | 50  | <a href="#">39070.080.012</a> | 12X40MM  | 25 | <a href="#">39070.120.040</a> |
| 4X60MM   | 100 | <a href="#">39070.040.060</a> |        |     |                               | 12X45MM  | 25 | <a href="#">39070.120.045</a> |

**39070 Parallel pin (dowel pin)**

| d1 x L  | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| 12X50MM | 10 | <a href="#">39070.120.050</a> | 12X80MM  | 10 | <a href="#">39070.120.080</a> | 12X120MM | 10 | <a href="#">39070.120.120</a> |
| 12X60MM | 10 | <a href="#">39070.120.060</a> | 12X100MM | 10 | <a href="#">39070.120.100</a> |          |    |                               |
| 12X70MM | 10 | <a href="#">39070.120.070</a> |          |    |                               |          |    |                               |

**51580 Parallel pin (dowel pin)**
**R09A**

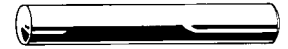
**Material** Stainless steel A1/A2  
**Packaging** Standard



| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L   | ☒  | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|----------|----|-------------------------------|
| 1X4MM    | 100 | <a href="#">51580.010.004</a> | 4X16MM | 100 | <a href="#">51580.040.016</a> | 8X50MM   | 25 | <a href="#">51580.080.050</a> |
| 1X5MM    | 100 | <a href="#">51580.010.005</a> | 4X18MM | 100 | <a href="#">51580.040.018</a> | 8X55MM   | 25 | <a href="#">51580.080.055</a> |
| 1X6MM    | 100 | <a href="#">51580.010.006</a> | 4X20MM | 100 | <a href="#">51580.040.020</a> | 8X60MM   | 25 | <a href="#">51580.080.060</a> |
| 1X8MM    | 100 | <a href="#">51580.010.008</a> | 4X24MM | 100 | <a href="#">51580.040.024</a> | 8X70MM   | 25 | <a href="#">51580.080.070</a> |
| 1X10MM   | 100 | <a href="#">51580.010.010</a> | 4X28MM | 100 | <a href="#">51580.040.028</a> | 8X80MM   | 25 | <a href="#">51580.080.080</a> |
| 1X12MM   | 100 | <a href="#">51580.010.012</a> | 4X30MM | 100 | <a href="#">51580.040.030</a> |          |    |                               |
|          |     |                               | 4X32MM | 100 | <a href="#">51580.040.032</a> | 10X12MM  | 25 | <a href="#">51580.100.012</a> |
| 1,5X4MM  | 100 | <a href="#">51580.015.004</a> | 4X36MM | 100 | <a href="#">51580.040.036</a> | 10X14MM  | 25 | <a href="#">51580.100.014</a> |
| 1,5X5MM  | 100 | <a href="#">51580.015.005</a> | 4X40MM | 100 | <a href="#">51580.040.040</a> | 10X16MM  | 50 | <a href="#">51580.100.016</a> |
| 1,5X6MM  | 100 | <a href="#">51580.015.006</a> | 4X50MM | 100 | <a href="#">51580.040.050</a> | 10X18MM  | 25 | <a href="#">51580.100.018</a> |
| 1,5X8MM  | 100 | <a href="#">51580.015.008</a> |        |     |                               | 10X20MM  | 50 | <a href="#">51580.100.020</a> |
| 1,5X10MM | 100 | <a href="#">51580.015.010</a> | 5X6MM  | 100 | <a href="#">51580.050.006</a> | 10X24MM  | 50 | <a href="#">51580.100.024</a> |
| 1,5X12MM | 100 | <a href="#">51580.015.012</a> | 5X8MM  | 100 | <a href="#">51580.050.008</a> | 10X28MM  | 25 | <a href="#">51580.100.028</a> |
| 1,5X14MM | 100 | <a href="#">51580.015.014</a> | 5X10MM | 100 | <a href="#">51580.050.010</a> | 10X30MM  | 50 | <a href="#">51580.100.030</a> |
| 1,5X16MM | 100 | <a href="#">51580.015.016</a> | 5X12MM | 100 | <a href="#">51580.050.012</a> | 10X32MM  | 25 | <a href="#">51580.100.032</a> |
| 1,5X18MM | 100 | <a href="#">51580.015.018</a> | 5X14MM | 100 | <a href="#">51580.050.014</a> | 10X36MM  | 25 | <a href="#">51580.100.036</a> |
| 1,5X20MM | 100 | <a href="#">51580.015.020</a> | 5X16MM | 100 | <a href="#">51580.050.016</a> | 10X40MM  | 25 | <a href="#">51580.100.040</a> |
|          |     |                               | 5X18MM | 100 | <a href="#">51580.050.018</a> | 10X45MM  | 25 | <a href="#">51580.100.045</a> |
| 2X5MM    | 100 | <a href="#">51580.020.005</a> | 5X20MM | 100 | <a href="#">51580.050.020</a> | 10X50MM  | 25 | <a href="#">51580.100.050</a> |
| 2X6MM    | 100 | <a href="#">51580.020.006</a> | 5X24MM | 100 | <a href="#">51580.050.024</a> | 10X55MM  | 25 | <a href="#">51580.100.055</a> |
| 2X8MM    | 100 | <a href="#">51580.020.008</a> | 5X28MM | 100 | <a href="#">51580.050.028</a> | 10X60MM  | 25 | <a href="#">51580.100.060</a> |
| 2X10MM   | 100 | <a href="#">51580.020.010</a> | 5X30MM | 100 | <a href="#">51580.050.030</a> | 10X70MM  | 25 | <a href="#">51580.100.070</a> |
| 2X12MM   | 100 | <a href="#">51580.020.012</a> | 5X32MM | 100 | <a href="#">51580.050.032</a> | 10X80MM  | 25 | <a href="#">51580.100.080</a> |
| 2X14MM   | 100 | <a href="#">51580.020.014</a> | 5X36MM | 100 | <a href="#">51580.050.036</a> | 10X90MM  | 25 | <a href="#">51580.100.090</a> |
| 2X16MM   | 100 | <a href="#">51580.020.016</a> | 5X40MM | 100 | <a href="#">51580.050.040</a> | 10X100MM | 25 | <a href="#">51580.100.100</a> |
| 2X18MM   | 100 | <a href="#">51580.020.018</a> | 5X45MM | 50  | <a href="#">51580.050.045</a> |          |    |                               |
| 2X20MM   | 100 | <a href="#">51580.020.020</a> | 5X50MM | 50  | <a href="#">51580.050.050</a> | 12X20MM  | 25 | <a href="#">51580.120.020</a> |
| 2X24MM   | 100 | <a href="#">51580.020.024</a> | 5X60MM | 50  | <a href="#">51580.050.060</a> | 12X32MM  | 25 | <a href="#">51580.120.032</a> |
| 2X28MM   | 100 | <a href="#">51580.020.028</a> |        |     |                               | 12X36MM  | 25 | <a href="#">51580.120.036</a> |
| 2X32MM   | 100 | <a href="#">51580.020.032</a> | 6X10MM | 100 | <a href="#">51580.060.010</a> | 12X40MM  | 25 | <a href="#">51580.120.040</a> |
|          |     |                               | 6X12MM | 100 | <a href="#">51580.060.012</a> | 12X45MM  | 10 | <a href="#">51580.120.045</a> |
| 2,5X5MM  | 100 | <a href="#">51580.025.005</a> | 6X14MM | 100 | <a href="#">51580.060.014</a> | 12X50MM  | 10 | <a href="#">51580.120.050</a> |
| 2,5X6MM  | 100 | <a href="#">51580.025.006</a> | 6X16MM | 100 | <a href="#">51580.060.016</a> | 12X55MM  | 10 | <a href="#">51580.120.055</a> |
| 2,5X8MM  | 100 | <a href="#">51580.025.008</a> | 6X18MM | 100 | <a href="#">51580.060.018</a> | 12X60MM  | 10 | <a href="#">51580.120.060</a> |
| 2,5X10MM | 100 | <a href="#">51580.025.010</a> | 6X20MM | 100 | <a href="#">51580.060.020</a> | 12X70MM  | 10 | <a href="#">51580.120.070</a> |
| 2,5X12MM | 100 | <a href="#">51580.025.012</a> | 6X24MM | 100 | <a href="#">51580.060.024</a> | 12X80MM  | 10 | <a href="#">51580.120.080</a> |
| 2,5X14MM | 100 | <a href="#">51580.025.014</a> | 6X28MM | 50  | <a href="#">51580.060.028</a> | 12X90MM  | 10 | <a href="#">51580.120.090</a> |
| 2,5X16MM | 100 | <a href="#">51580.025.016</a> | 6X30MM | 50  | <a href="#">51580.060.030</a> | 12X100MM | 10 | <a href="#">51580.120.100</a> |
| 2,5X20MM | 100 | <a href="#">51580.025.020</a> | 6X32MM | 50  | <a href="#">51580.060.032</a> |          |    |                               |
| 2,5X24MM | 100 | <a href="#">51580.025.024</a> | 6X36MM | 50  | <a href="#">51580.060.036</a> | 14X20MM  | 25 | <a href="#">51580.140.020</a> |
|          |     |                               | 6X40MM | 50  | <a href="#">51580.060.040</a> | 14X24MM  | 25 | <a href="#">51580.140.024</a> |
| 3X6MM    | 100 | <a href="#">51580.030.006</a> | 6X45MM | 50  | <a href="#">51580.060.045</a> | 14X28MM  | 25 | <a href="#">51580.140.028</a> |
| 3X8MM    | 100 | <a href="#">51580.030.008</a> | 6X50MM | 50  | <a href="#">51580.060.050</a> | 14X32MM  | 25 | <a href="#">51580.140.032</a> |
| 3X10MM   | 100 | <a href="#">51580.030.010</a> | 6X60MM | 50  | <a href="#">51580.060.060</a> | 14X36MM  | 25 | <a href="#">51580.140.036</a> |
| 3X12MM   | 100 | <a href="#">51580.030.012</a> | 6X70MM | 25  | <a href="#">51580.060.070</a> | 14X40MM  | 25 | <a href="#">51580.140.040</a> |
| 3X14MM   | 100 | <a href="#">51580.030.014</a> | 6X80MM | 25  | <a href="#">51580.060.080</a> | 14X50MM  | 10 | <a href="#">51580.140.050</a> |
| 3X16MM   | 100 | <a href="#">51580.030.016</a> |        |     |                               | 14X100MM | 10 | <a href="#">51580.140.100</a> |
| 3X18MM   | 100 | <a href="#">51580.030.018</a> | 8X8MM  | 100 | <a href="#">51580.080.008</a> |          |    |                               |
| 3X20MM   | 100 | <a href="#">51580.030.020</a> | 8X10MM | 100 | <a href="#">51580.080.010</a> | 16X24MM  | 25 | <a href="#">51580.160.024</a> |
| 3X24MM   | 100 | <a href="#">51580.030.024</a> | 8X12MM | 100 | <a href="#">51580.080.012</a> | 16X28MM  | 25 | <a href="#">51580.160.028</a> |
| 3X28MM   | 100 | <a href="#">51580.030.028</a> | 8X14MM | 100 | <a href="#">51580.080.014</a> | 16X32MM  | 25 | <a href="#">51580.160.032</a> |
| 3X30MM   | 100 | <a href="#">51580.030.030</a> | 8X16MM | 100 | <a href="#">51580.080.016</a> | 16X36MM  | 25 | <a href="#">51580.160.036</a> |
| 3X32MM   | 100 | <a href="#">51580.030.032</a> | 8X18MM | 50  | <a href="#">51580.080.018</a> | 16X40MM  | 25 | <a href="#">51580.160.040</a> |
| 3X36MM   | 100 | <a href="#">51580.030.036</a> | 8X20MM | 100 | <a href="#">51580.080.020</a> | 16X45MM  | 10 | <a href="#">51580.160.045</a> |
| 3X40MM   | 100 | <a href="#">51580.030.040</a> | 8X24MM | 50  | <a href="#">51580.080.024</a> | 16X50MM  | 10 | <a href="#">51580.160.050</a> |
|          |     |                               | 8X28MM | 50  | <a href="#">51580.080.028</a> | 16X55MM  | 10 | <a href="#">51580.160.055</a> |
| 4X6MM    | 100 | <a href="#">51580.040.006</a> | 8X30MM | 50  | <a href="#">51580.080.030</a> | 16X60MM  | 10 | <a href="#">51580.160.060</a> |
| 4X8MM    | 100 | <a href="#">51580.040.008</a> | 8X32MM | 50  | <a href="#">51580.080.032</a> | 16X70MM  | 10 | <a href="#">51580.160.070</a> |
| 4X10MM   | 100 | <a href="#">51580.040.010</a> | 8X36MM | 50  | <a href="#">51580.080.036</a> | 16X80MM  | 10 | <a href="#">51580.160.080</a> |
| 4X12MM   | 100 | <a href="#">51580.040.012</a> | 8X40MM | 50  | <a href="#">51580.080.040</a> |          |    |                               |
| 4X14MM   | 100 | <a href="#">51580.040.014</a> | 8X45MM | 25  | <a href="#">51580.080.045</a> |          |    |                               |

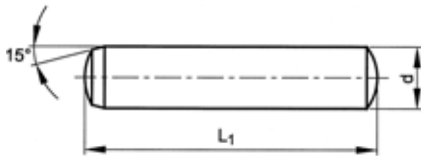
• Depending on availability A1 can be supplied as well as A2.

|                                       |                    |             |
|---------------------------------------|--------------------|-------------|
| <b>55580 Parallel pin (dowel pin)</b> |                    | <b>R49A</b> |
| <b>Material</b>                       | Stainless steel A4 |             |
| <b>Packaging</b>                      | Standard           |             |

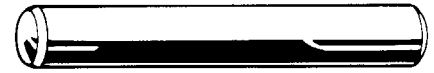


| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|----------|-----|-------------------------------|
| 1X5MM    | 100 | <a href="#">55580.010.005</a> | 4X18MM | 100 | <a href="#">55580.040.018</a> | 8X18MM   | 50  | <a href="#">55580.080.018</a> |
| 1X8MM    | 100 | <a href="#">55580.010.008</a> | 4X20MM | 100 | <a href="#">55580.040.020</a> | 8X20MM   | 100 | <a href="#">55580.080.020</a> |
|          |     |                               | 4X24MM | 100 | <a href="#">55580.040.024</a> | 8X24MM   | 50  | <a href="#">55580.080.024</a> |
| 1,5X5MM  | 100 | <a href="#">55580.015.005</a> | 4X28MM | 100 | <a href="#">55580.040.028</a> | 8X28MM   | 50  | <a href="#">55580.080.028</a> |
| 1,5X6MM  | 100 | <a href="#">55580.015.006</a> | 4X30MM | 100 | <a href="#">55580.040.030</a> | 8X30MM   | 50  | <a href="#">55580.080.030</a> |
| 1,5X8MM  | 100 | <a href="#">55580.015.008</a> | 4X32MM | 100 | <a href="#">55580.040.032</a> | 8X32MM   | 50  | <a href="#">55580.080.032</a> |
| 1,5X10MM | 100 | <a href="#">55580.015.010</a> | 4X36MM | 100 | <a href="#">55580.040.036</a> | 8X36MM   | 50  | <a href="#">55580.080.036</a> |
| 1,5X12MM | 100 | <a href="#">55580.015.012</a> | 4X40MM | 100 | <a href="#">55580.040.040</a> | 8X40MM   | 50  | <a href="#">55580.080.040</a> |
| 1,5X14MM | 100 | <a href="#">55580.015.014</a> | 4X50MM | 100 | <a href="#">55580.040.050</a> | 8X45MM   | 25  | <a href="#">55580.080.045</a> |
| 1,5X16MM | 100 | <a href="#">55580.015.016</a> |        |     |                               | 8X50MM   | 25  | <a href="#">55580.080.050</a> |
|          |     |                               | 5X8MM  | 100 | <a href="#">55580.050.008</a> | 8X60MM   | 25  | <a href="#">55580.080.060</a> |
| 2X6MM    | 100 | <a href="#">55580.020.006</a> | 5X10MM | 100 | <a href="#">55580.050.010</a> | 8X70MM   | 25  | <a href="#">55580.080.070</a> |
| 2X8MM    | 100 | <a href="#">55580.020.008</a> | 5X12MM | 100 | <a href="#">55580.050.012</a> | 8X80MM   | 25  | <a href="#">55580.080.080</a> |
| 2X10MM   | 100 | <a href="#">55580.020.010</a> | 5X14MM | 100 | <a href="#">55580.050.014</a> |          |     |                               |
| 2X12MM   | 100 | <a href="#">55580.020.012</a> | 5X16MM | 100 | <a href="#">55580.050.016</a> | 10X14MM  | 25  | <a href="#">55580.100.014</a> |
| 2X14MM   | 100 | <a href="#">55580.020.014</a> | 5X18MM | 100 | <a href="#">55580.050.018</a> | 10X16MM  | 50  | <a href="#">55580.100.016</a> |
| 2X16MM   | 100 | <a href="#">55580.020.016</a> | 5X20MM | 100 | <a href="#">55580.050.020</a> | 10X18MM  | 25  | <a href="#">55580.100.018</a> |
| 2X18MM   | 100 | <a href="#">55580.020.018</a> | 5X24MM | 100 | <a href="#">55580.050.024</a> | 10X20MM  | 50  | <a href="#">55580.100.020</a> |
| 2X20MM   | 100 | <a href="#">55580.020.020</a> | 5X28MM | 100 | <a href="#">55580.050.028</a> | 10X24MM  | 50  | <a href="#">55580.100.024</a> |
|          |     |                               | 5X30MM | 100 | <a href="#">55580.050.030</a> | 10X28MM  | 25  | <a href="#">55580.100.028</a> |
| 2,5X6MM  | 100 | <a href="#">55580.025.006</a> | 5X32MM | 100 | <a href="#">55580.050.032</a> | 10X30MM  | 50  | <a href="#">55580.100.030</a> |
| 2,5X8MM  | 100 | <a href="#">55580.025.008</a> | 5X36MM | 100 | <a href="#">55580.050.036</a> | 10X32MM  | 25  | <a href="#">55580.100.032</a> |
| 2,5X10MM | 100 | <a href="#">55580.025.010</a> | 5X40MM | 100 | <a href="#">55580.050.040</a> | 10X36MM  | 25  | <a href="#">55580.100.036</a> |
| 2,5X12MM | 100 | <a href="#">55580.025.012</a> | 5X45MM | 50  | <a href="#">55580.050.045</a> | 10X40MM  | 25  | <a href="#">55580.100.040</a> |
| 2,5X14MM | 100 | <a href="#">55580.025.014</a> | 5X50MM | 50  | <a href="#">55580.050.050</a> | 10X45MM  | 25  | <a href="#">55580.100.045</a> |
| 2,5X16MM | 100 | <a href="#">55580.025.016</a> | 5X60MM | 50  | <a href="#">55580.050.060</a> | 10X50MM  | 25  | <a href="#">55580.100.050</a> |
| 2,5X20MM | 100 | <a href="#">55580.025.020</a> |        |     |                               | 10X55MM  | 25  | <a href="#">55580.100.055</a> |
|          |     |                               | 6X10MM | 100 | <a href="#">55580.060.010</a> | 10X60MM  | 25  | <a href="#">55580.100.060</a> |
| 3X8MM    | 100 | <a href="#">55580.030.008</a> | 6X12MM | 100 | <a href="#">55580.060.012</a> | 10X70MM  | 25  | <a href="#">55580.100.070</a> |
| 3X10MM   | 100 | <a href="#">55580.030.010</a> | 6X14MM | 100 | <a href="#">55580.060.014</a> | 10X80MM  | 25  | <a href="#">55580.100.080</a> |
| 3X12MM   | 100 | <a href="#">55580.030.012</a> | 6X16MM | 100 | <a href="#">55580.060.016</a> | 10X90MM  | 25  | <a href="#">55580.100.090</a> |
| 3X14MM   | 100 | <a href="#">55580.030.014</a> | 6X18MM | 100 | <a href="#">55580.060.018</a> | 10X100MM | 25  | <a href="#">55580.100.100</a> |
| 3X16MM   | 100 | <a href="#">55580.030.016</a> | 6X20MM | 100 | <a href="#">55580.060.020</a> |          |     |                               |
| 3X18MM   | 100 | <a href="#">55580.030.018</a> | 6X24MM | 100 | <a href="#">55580.060.024</a> | 12X16MM  | 25  | <a href="#">55580.120.016</a> |
| 3X20MM   | 100 | <a href="#">55580.030.020</a> | 6X28MM | 50  | <a href="#">55580.060.028</a> | 12X18MM  | 25  | <a href="#">55580.120.018</a> |
| 3X24MM   | 100 | <a href="#">55580.030.024</a> | 6X30MM | 50  | <a href="#">55580.060.030</a> | 12X20MM  | 25  | <a href="#">55580.120.020</a> |
| 3X28MM   | 100 | <a href="#">55580.030.028</a> | 6X32MM | 50  | <a href="#">55580.060.032</a> | 12X32MM  | 25  | <a href="#">55580.120.032</a> |
| 3X30MM   | 100 | <a href="#">55580.030.030</a> | 6X36MM | 50  | <a href="#">55580.060.036</a> | 12X36MM  | 25  | <a href="#">55580.120.036</a> |
| 3X32MM   | 100 | <a href="#">55580.030.032</a> | 6X40MM | 50  | <a href="#">55580.060.040</a> | 12X40MM  | 25  | <a href="#">55580.120.040</a> |
| 3X36MM   | 100 | <a href="#">55580.030.036</a> | 6X45MM | 50  | <a href="#">55580.060.045</a> | 12X45MM  | 10  | <a href="#">55580.120.045</a> |
| 3X40MM   | 100 | <a href="#">55580.030.040</a> | 6X50MM | 50  | <a href="#">55580.060.050</a> | 12X50MM  | 10  | <a href="#">55580.120.050</a> |
|          |     |                               | 6X60MM | 50  | <a href="#">55580.060.060</a> | 12X55MM  | 10  | <a href="#">55580.120.055</a> |
| 4X8MM    | 100 | <a href="#">55580.040.008</a> |        |     |                               | 12X60MM  | 10  | <a href="#">55580.120.060</a> |
| 4X10MM   | 100 | <a href="#">55580.040.010</a> | 8X10MM | 100 | <a href="#">55580.080.010</a> | 12X80MM  | 10  | <a href="#">55580.120.080</a> |
| 4X12MM   | 100 | <a href="#">55580.040.012</a> | 8X12MM | 100 | <a href="#">55580.080.012</a> | 12X90MM  | 10  | <a href="#">55580.120.090</a> |
| 4X14MM   | 100 | <a href="#">55580.040.014</a> | 8X14MM | 100 | <a href="#">55580.080.014</a> | 12X100MM | 10  | <a href="#">55580.120.100</a> |
| 4X16MM   | 100 | <a href="#">55580.040.016</a> | 8X16MM | 100 | <a href="#">55580.080.016</a> |          |     |                               |

## Parallel pin (dowel pin) hardened tolerance zone m6



ISO 8734 A  
 DIN 6325  
 NEN 2282  
 NF E27-475



- Parallel pins are used mainly as dowels for tools, clamping devices and measuring devices.
- The nominal length ( $L_1$ ) is inclusive the rounded ends (tolerance js14).

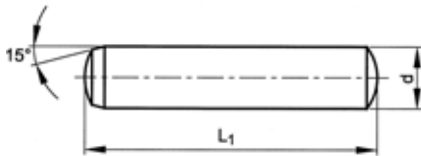
| 39080 Parallel pin (dowel pin) hardened tolerance zone m6 |                 | L11A  |
|---|-----------------|---|
| <b>Material</b>   | Steel 60 ± 2HRC |   |
| <b>Packaging</b>  | Standard        |  |

| d x L1   | ✉   | Art.number                    | d x L1 | ✉   | Art.number                    | d x L1   | ✉   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|----------|-----|-------------------------------|
| 1X4MM    | 100 | <a href="#">39080.010.004</a> | 3X30MM | 100 | <a href="#">39080.030.030</a> | 6X55MM   | 50  | <a href="#">39080.060.055</a> |
| 1X5MM    | 100 | <a href="#">39080.010.005</a> | 3X32MM | 100 | <a href="#">39080.030.032</a> | 6X60MM   | 50  | <a href="#">39080.060.060</a> |
| 1X6MM    | 100 | <a href="#">39080.010.006</a> | 3X36MM | 100 | <a href="#">39080.030.036</a> | 6X70MM   | 25  | <a href="#">39080.060.070</a> |
| 1X8MM    | 100 | <a href="#">39080.010.008</a> | 3X40MM | 100 | <a href="#">39080.030.040</a> | 6X80MM   | 25  | <a href="#">39080.060.080</a> |
| 1X10MM   | 100 | <a href="#">39080.010.010</a> | 3X50MM | 100 | <a href="#">39080.030.050</a> |          |     |                               |
| 1X12MM   | 100 | <a href="#">39080.010.012</a> | 3X60MM | 100 | <a href="#">39080.030.060</a> |          |     |                               |
|          |     |                               |        |     |                               | 8X10MM   | 100 | <a href="#">39080.080.010</a> |
| 1,5X5MM  | 100 | <a href="#">39080.015.005</a> | 4X6MM  | 100 | <a href="#">39080.040.006</a> | 8X12MM   | 100 | <a href="#">39080.080.012</a> |
| 1,5X6MM  | 100 | <a href="#">39080.015.006</a> | 4X8MM  | 100 | <a href="#">39080.040.008</a> | 8X14MM   | 100 | <a href="#">39080.080.014</a> |
| 1,5X8MM  | 100 | <a href="#">39080.015.008</a> | 4X10MM | 100 | <a href="#">39080.040.010</a> | 8X16MM   | 100 | <a href="#">39080.080.016</a> |
| 1,5X10MM | 100 | <a href="#">39080.015.010</a> | 4X12MM | 100 | <a href="#">39080.040.012</a> | 8X18MM   | 100 | <a href="#">39080.080.018</a> |
| 1,5X12MM | 100 | <a href="#">39080.015.012</a> | 4X14MM | 100 | <a href="#">39080.040.014</a> | 8X20MM   | 100 | <a href="#">39080.080.020</a> |
| 1,5X14MM | 100 | <a href="#">39080.015.014</a> | 4X16MM | 100 | <a href="#">39080.040.016</a> | 8X24MM   | 50  | <a href="#">39080.080.024</a> |
| 1,5X16MM | 100 | <a href="#">39080.015.016</a> | 4X18MM | 100 | <a href="#">39080.040.018</a> | 8X26MM   | 50  | <a href="#">39080.080.026</a> |
| 1,5X18MM | 100 | <a href="#">39080.015.018</a> | 4X20MM | 100 | <a href="#">39080.040.020</a> | 8X28MM   | 50  | <a href="#">39080.080.028</a> |
| 1,5X20MM | 100 | <a href="#">39080.015.020</a> | 4X24MM | 100 | <a href="#">39080.040.024</a> | 8X30MM   | 50  | <a href="#">39080.080.030</a> |
| 1,5X24MM | 100 | <a href="#">39080.015.024</a> | 4X26MM | 100 | <a href="#">39080.040.026</a> | 8X32MM   | 50  | <a href="#">39080.080.032</a> |
| 1,5X28MM | 100 | <a href="#">39080.015.028</a> | 4X28MM | 100 | <a href="#">39080.040.028</a> | 8X36MM   | 50  | <a href="#">39080.080.036</a> |
| 1,5X32MM | 100 | <a href="#">39080.015.032</a> | 4X30MM | 100 | <a href="#">39080.040.030</a> | 8X40MM   | 50  | <a href="#">39080.080.040</a> |
|          |     |                               | 4X32MM | 100 | <a href="#">39080.040.032</a> | 8X45MM   | 50  | <a href="#">39080.080.045</a> |
| 2X5MM    | 100 | <a href="#">39080.020.005</a> | 4X36MM | 100 | <a href="#">39080.040.036</a> | 8X50MM   | 25  | <a href="#">39080.080.050</a> |
| 2X6MM    | 100 | <a href="#">39080.020.006</a> | 4X40MM | 100 | <a href="#">39080.040.040</a> | 8X55MM   | 25  | <a href="#">39080.080.055</a> |
| 2X8MM    | 100 | <a href="#">39080.020.008</a> | 4X45MM | 100 | <a href="#">39080.040.045</a> | 8X60MM   | 25  | <a href="#">39080.080.060</a> |
| 2X10MM   | 100 | <a href="#">39080.020.010</a> | 4X50MM | 100 | <a href="#">39080.040.050</a> | 8X70MM   | 25  | <a href="#">39080.080.070</a> |
| 2X12MM   | 100 | <a href="#">39080.020.012</a> | 4X60MM | 100 | <a href="#">39080.040.060</a> | 8X80MM   | 25  | <a href="#">39080.080.080</a> |
| 2X14MM   | 100 | <a href="#">39080.020.014</a> |        |     |                               | 8X90MM   | 25  | <a href="#">39080.080.090</a> |
| 2X16MM   | 100 | <a href="#">39080.020.016</a> | 5X8MM  | 100 | <a href="#">39080.050.008</a> | 8X100MM  | 25  | <a href="#">39080.080.100</a> |
| 2X20MM   | 100 | <a href="#">39080.020.020</a> | 5X10MM | 100 | <a href="#">39080.050.010</a> |          |     |                               |
| 2X24MM   | 100 | <a href="#">39080.020.024</a> | 5X12MM | 100 | <a href="#">39080.050.012</a> | 10X12MM  | 50  | <a href="#">39080.100.012</a> |
| 2X28MM   | 100 | <a href="#">39080.020.028</a> | 5X14MM | 100 | <a href="#">39080.050.014</a> | 10X14MM  | 50  | <a href="#">39080.100.014</a> |
| 2X30MM   | 100 | <a href="#">39080.020.030</a> | 5X16MM | 100 | <a href="#">39080.050.016</a> | 10X16MM  | 50  | <a href="#">39080.100.016</a> |
| 2X32MM   | 100 | <a href="#">39080.020.032</a> | 5X18MM | 100 | <a href="#">39080.050.018</a> | 10X20MM  | 50  | <a href="#">39080.100.020</a> |
| 2X36MM   | 100 | <a href="#">39080.020.036</a> | 5X20MM | 100 | <a href="#">39080.050.020</a> | 10X24MM  | 50  | <a href="#">39080.100.024</a> |
| 2X40MM   | 100 | <a href="#">39080.020.040</a> | 5X24MM | 100 | <a href="#">39080.050.024</a> | 10X28MM  | 50  | <a href="#">39080.100.028</a> |
|          |     |                               | 5X26MM | 100 | <a href="#">39080.050.026</a> | 10X30MM  | 50  | <a href="#">39080.100.030</a> |
| 2,5X6MM  | 100 | <a href="#">39080.025.006</a> | 5X28MM | 100 | <a href="#">39080.050.028</a> | 10X32MM  | 50  | <a href="#">39080.100.032</a> |
| 2,5X8MM  | 100 | <a href="#">39080.025.008</a> | 5X30MM | 100 | <a href="#">39080.050.030</a> | 10X36MM  | 25  | <a href="#">39080.100.036</a> |
| 2,5X10MM | 100 | <a href="#">39080.025.010</a> | 5X32MM | 100 | <a href="#">39080.050.032</a> | 10X40MM  | 25  | <a href="#">39080.100.040</a> |
| 2,5X12MM | 100 | <a href="#">39080.025.012</a> | 5X36MM | 100 | <a href="#">39080.050.036</a> | 10X45MM  | 25  | <a href="#">39080.100.045</a> |
| 2,5X14MM | 100 | <a href="#">39080.025.014</a> | 5X40MM | 100 | <a href="#">39080.050.040</a> | 10X50MM  | 25  | <a href="#">39080.100.050</a> |
| 2,5X16MM | 100 | <a href="#">39080.025.016</a> | 5X45MM | 50  | <a href="#">39080.050.045</a> | 10X55MM  | 25  | <a href="#">39080.100.055</a> |
| 2,5X18MM | 100 | <a href="#">39080.025.018</a> | 5X50MM | 50  | <a href="#">39080.050.050</a> | 10X60MM  | 25  | <a href="#">39080.100.060</a> |
| 2,5X20MM | 100 | <a href="#">39080.025.020</a> | 5X55MM | 50  | <a href="#">39080.050.055</a> | 10X70MM  | 25  | <a href="#">39080.100.070</a> |
| 2,5X24MM | 100 | <a href="#">39080.025.024</a> | 5X60MM | 50  | <a href="#">39080.050.060</a> | 10X80MM  | 25  | <a href="#">39080.100.080</a> |
| 2,5X28MM | 100 | <a href="#">39080.025.028</a> |        |     |                               | 10X90MM  | 25  | <a href="#">39080.100.090</a> |
| 2,5X32MM | 100 | <a href="#">39080.025.032</a> | 6X8MM  | 100 | <a href="#">39080.060.008</a> | 10X100MM | 25  | <a href="#">39080.100.100</a> |
| 2,5X36MM | 100 | <a href="#">39080.025.036</a> | 6X10MM | 100 | <a href="#">39080.060.010</a> |          |     |                               |
| 2,5X40MM | 100 | <a href="#">39080.025.040</a> | 6X12MM | 100 | <a href="#">39080.060.012</a> | 12X16MM  | 25  | <a href="#">39080.120.016</a> |
| 2,5X45MM | 100 | <a href="#">39080.025.045</a> | 6X14MM | 100 | <a href="#">39080.060.014</a> | 12X20MM  | 25  | <a href="#">39080.120.020</a> |
| 2,5X50MM | 100 | <a href="#">39080.025.050</a> | 6X16MM | 100 | <a href="#">39080.060.016</a> | 12X24MM  | 25  | <a href="#">39080.120.024</a> |
|          |     |                               | 6X18MM | 100 | <a href="#">39080.060.018</a> | 12X26MM  | 25  | <a href="#">39080.120.026</a> |
| 3X6MM    | 100 | <a href="#">39080.030.006</a> | 6X20MM | 100 | <a href="#">39080.060.020</a> | 12X28MM  | 25  | <a href="#">39080.120.028</a> |
| 3X8MM    | 100 | <a href="#">39080.030.008</a> | 6X24MM | 100 | <a href="#">39080.060.024</a> | 12X30MM  | 25  | <a href="#">39080.120.030</a> |
| 3X10MM   | 100 | <a href="#">39080.030.010</a> | 6X26MM | 100 | <a href="#">39080.060.026</a> | 12X32MM  | 25  | <a href="#">39080.120.032</a> |
| 3X12MM   | 100 | <a href="#">39080.030.012</a> | 6X28MM | 100 | <a href="#">39080.060.028</a> | 12X36MM  | 25  | <a href="#">39080.120.036</a> |
| 3X14MM   | 100 | <a href="#">39080.030.014</a> | 6X30MM | 100 | <a href="#">39080.060.030</a> | 12X40MM  | 25  | <a href="#">39080.120.040</a> |
| 3X16MM   | 100 | <a href="#">39080.030.016</a> | 6X32MM | 50  | <a href="#">39080.060.032</a> | 12X45MM  | 25  | <a href="#">39080.120.045</a> |
| 3X18MM   | 100 | <a href="#">39080.030.018</a> | 6X36MM | 50  | <a href="#">39080.060.036</a> | 12X50MM  | 25  | <a href="#">39080.120.050</a> |
| 3X20MM   | 100 | <a href="#">39080.030.020</a> | 6X40MM | 50  | <a href="#">39080.060.040</a> | 12X55MM  | 25  | <a href="#">39080.120.055</a> |
| 3X24MM   | 100 | <a href="#">39080.030.024</a> | 6X45MM | 50  | <a href="#">39080.060.045</a> | 12X60MM  | 25  | <a href="#">39080.120.060</a> |
| 3X28MM   | 100 | <a href="#">39080.030.028</a> | 6X50MM | 50  | <a href="#">39080.060.050</a> | 12X70MM  | 25  | <a href="#">39080.120.070</a> |
|          |     |                               |        |     |                               | 12X80MM  | 10  | <a href="#">39080.120.080</a> |

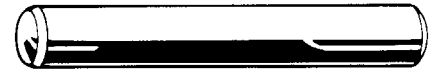
**39080 Parallel pin (dowel pin) hardened tolerance zone m6**

| <b>d x L1</b> | <b>Art.number</b>                | <b>d x L1</b> | <b>Art.number</b>                 | <b>d x L1</b> | <b>Art.number</b>                |
|---------------|----------------------------------|---------------|-----------------------------------|---------------|----------------------------------|
| 12X90MM       | 10 <a href="#">39080.120.090</a> | 14X120MM      | 10 <a href="#">39080.140.120</a>  | 20X32MM       | 10 <a href="#">39080.200.032</a> |
| 12X100MM      | 10 <a href="#">39080.120.100</a> | 16X36MM       | 10 <a href="#">39080.160.036</a>  | 20X36MM       | 10 <a href="#">39080.200.036</a> |
| 12X120MM      | 10 <a href="#">39080.120.120</a> | 16X40MM       | 10 <a href="#">39080.160.040</a>  | 20X40MM       | 10 <a href="#">39080.200.040</a> |
| 14X32MM       | 25 <a href="#">39080.140.032</a> | 16X50MM       | 10 <a href="#">39080.160.050</a>  | 20X50MM       | 10 <a href="#">39080.200.050</a> |
| 14X36MM       | 25 <a href="#">39080.140.036</a> | 16X60MM       | 10 <a href="#">39080.160.060</a>  | 20X60MM       | 10 <a href="#">39080.200.060</a> |
| 14X40MM       | 25 <a href="#">39080.140.040</a> | 16X80MM       | 10 <a href="#">39080.160.080</a>  | 20X70MM       | 10 <a href="#">39080.200.070</a> |
| 14X50MM       | 25 <a href="#">39080.140.050</a> | 16X100MM      | 10 <a href="#">39080.160.100</a>  | 20X80MM       | 10 <a href="#">39080.200.080</a> |
| 14X60MM       | 10 <a href="#">39080.140.060</a> | 16X120MM      | 10 <a href="#">39080.160.120</a>  | 20X100MM      | 10 <a href="#">39080.200.100</a> |
| 14X80MM       | 10 <a href="#">39080.140.080</a> | 20X30MM       | 100 <a href="#">39080.200.030</a> | 20X120MM      | 10 <a href="#">39080.200.120</a> |
| 14X100MM      | 10 <a href="#">39080.140.100</a> |               |                                   |               |                                  |

## Parallel pin (dowel pin) hardened tolerance zone h6



ISO ≈8734 A  
 DIN ≈6325  
 NEN ≈2282  
 NF ≈E27-475



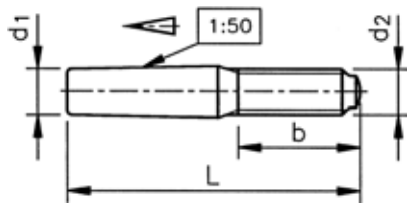
- Parallel pins are used mainly as dowels for tools, clamping devices and measuring devices.
- $d \times L_1$ : The nominal length ( $L_1$ ) is inclusive the rounded ends (tolerance js14).

| 39078 Parallel pin (dowel pin) hardened tolerance zone h6 |                 | L11A |
|---|-----------------|------|
| <b>Material</b>   | Steel 60 ± 2HRC |      |
| <b>Packaging</b>  | Standard        |      |

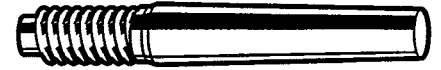
| $d \times L_1$ | ✉   | Art.number                    | $d \times L_1$ | ✉   | Art.number                    | $d \times L_1$ | ✉  | Art.number                    |
|----------------|-----|-------------------------------|----------------|-----|-------------------------------|----------------|----|-------------------------------|
| 2X5MM          | 100 | <a href="#">39078.020.005</a> | 4X40MM         | 100 | <a href="#">39078.040.040</a> | 8X32MM         | 50 | <a href="#">39078.080.032</a> |
| 2X6MM          | 100 | <a href="#">39078.020.006</a> | 4X50MM         | 100 | <a href="#">39078.040.050</a> | 8X36MM         | 50 | <a href="#">39078.080.036</a> |
| 2X8MM          | 100 | <a href="#">39078.020.008</a> |                |     |                               | 8X40MM         | 50 | <a href="#">39078.080.040</a> |
| 2X10MM         | 100 | <a href="#">39078.020.010</a> | 5X8MM          | 100 | <a href="#">39078.050.008</a> | 8X50MM         | 25 | <a href="#">39078.080.050</a> |
| 2X12MM         | 100 | <a href="#">39078.020.012</a> | 5X10MM         | 100 | <a href="#">39078.050.010</a> | 8X60MM         | 25 | <a href="#">39078.080.060</a> |
| 2X14MM         | 100 | <a href="#">39078.020.014</a> | 5X12MM         | 100 | <a href="#">39078.050.012</a> | 8X70MM         | 25 | <a href="#">39078.080.070</a> |
| 2X16MM         | 100 | <a href="#">39078.020.016</a> | 5X14MM         | 100 | <a href="#">39078.050.014</a> | 8X80MM         | 25 | <a href="#">39078.080.080</a> |
| 2X20MM         | 100 | <a href="#">39078.020.020</a> | 5X16MM         | 100 | <a href="#">39078.050.016</a> |                |    |                               |
| 2X24MM         | 100 | <a href="#">39078.020.024</a> | 5X20MM         | 100 | <a href="#">39078.050.020</a> | 10X20MM        | 50 | <a href="#">39078.100.020</a> |
| 2X28MM         | 100 | <a href="#">39078.020.028</a> | 5X24MM         | 100 | <a href="#">39078.050.024</a> | 10X24MM        | 50 | <a href="#">39078.100.024</a> |
|                |     |                               | 5X26MM         | 100 | <a href="#">39078.050.026</a> | 10X28MM        | 50 | <a href="#">39078.100.028</a> |
| 2,5X6MM        | 100 | <a href="#">39078.025.006</a> | 5X28MM         | 100 | <a href="#">39078.050.028</a> | 10X30MM        | 50 | <a href="#">39078.100.030</a> |
| 2,5X8MM        | 100 | <a href="#">39078.025.008</a> | 5X30MM         | 100 | <a href="#">39078.050.030</a> | 10X32MM        | 50 | <a href="#">39078.100.032</a> |
| 2,5X10MM       | 100 | <a href="#">39078.025.010</a> | 5X32MM         | 100 | <a href="#">39078.050.032</a> | 10X36MM        | 25 | <a href="#">39078.100.036</a> |
| 2,5X16MM       | 100 | <a href="#">39078.025.016</a> | 5X36MM         | 100 | <a href="#">39078.050.036</a> | 10X40MM        | 25 | <a href="#">39078.100.040</a> |
| 2,5X24MM       | 100 | <a href="#">39078.025.024</a> | 5X40MM         | 100 | <a href="#">39078.050.040</a> | 10X50MM        | 25 | <a href="#">39078.100.050</a> |
|                |     |                               | 5X50MM         | 100 | <a href="#">39078.050.050</a> | 10X60MM        | 25 | <a href="#">39078.100.060</a> |
| 3X6MM          | 100 | <a href="#">39078.030.006</a> | 5X60MM         | 100 | <a href="#">39078.050.060</a> | 10X80MM        | 25 | <a href="#">39078.100.080</a> |
| 3X8MM          | 100 | <a href="#">39078.030.008</a> |                |     |                               | 10X100MM       | 25 | <a href="#">39078.100.100</a> |
| 3X10MM         | 100 | <a href="#">39078.030.010</a> | 6X10MM         | 100 | <a href="#">39078.060.010</a> |                |    |                               |
| 3X12MM         | 100 | <a href="#">39078.030.012</a> | 6X12MM         | 100 | <a href="#">39078.060.012</a> | 12X24MM        | 25 | <a href="#">39078.120.024</a> |
| 3X14MM         | 100 | <a href="#">39078.030.014</a> | 6X14MM         | 100 | <a href="#">39078.060.014</a> | 12X32MM        | 25 | <a href="#">39078.120.032</a> |
| 3X16MM         | 100 | <a href="#">39078.030.016</a> | 6X16MM         | 100 | <a href="#">39078.060.016</a> | 12X36MM        | 25 | <a href="#">39078.120.036</a> |
| 3X20MM         | 100 | <a href="#">39078.030.020</a> | 6X18MM         | 100 | <a href="#">39078.060.018</a> | 12X40MM        | 25 | <a href="#">39078.120.040</a> |
| 3X24MM         | 100 | <a href="#">39078.030.024</a> | 6X20MM         | 100 | <a href="#">39078.060.020</a> | 12X45MM        | 25 | <a href="#">39078.120.045</a> |
| 3X28MM         | 100 | <a href="#">39078.030.028</a> | 6X24MM         | 100 | <a href="#">39078.060.024</a> | 12X50MM        | 25 | <a href="#">39078.120.050</a> |
| 3X30MM         | 100 | <a href="#">39078.030.030</a> | 6X26MM         | 100 | <a href="#">39078.060.026</a> | 12X60MM        | 25 | <a href="#">39078.120.060</a> |
| 3X32MM         | 100 | <a href="#">39078.030.032</a> | 6X28MM         | 100 | <a href="#">39078.060.028</a> | 12X80MM        | 10 | <a href="#">39078.120.080</a> |
| 3X40MM         | 100 | <a href="#">39078.030.040</a> | 6X30MM         | 100 | <a href="#">39078.060.030</a> | 12X100MM       | 10 | <a href="#">39078.120.100</a> |
|                |     |                               | 6X32MM         | 50  | <a href="#">39078.060.032</a> |                |    |                               |
| 4X8MM          | 100 | <a href="#">39078.040.008</a> | 6X36MM         | 50  | <a href="#">39078.060.036</a> | 16X40MM        | 10 | <a href="#">39078.160.040</a> |
| 4X10MM         | 100 | <a href="#">39078.040.010</a> | 6X40MM         | 50  | <a href="#">39078.060.040</a> | 16X50MM        | 10 | <a href="#">39078.160.050</a> |
| 4X12MM         | 100 | <a href="#">39078.040.012</a> | 6X45MM         | 50  | <a href="#">39078.060.045</a> | 16X60MM        | 10 | <a href="#">39078.160.060</a> |
| 4X14MM         | 100 | <a href="#">39078.040.014</a> | 6X50MM         | 50  | <a href="#">39078.060.050</a> | 16X80MM        | 10 | <a href="#">39078.160.080</a> |
| 4X16MM         | 100 | <a href="#">39078.040.016</a> | 6X60MM         | 50  | <a href="#">39078.060.060</a> | 16X100MM       | 10 | <a href="#">39078.160.100</a> |
| 4X18MM         | 100 | <a href="#">39078.040.018</a> |                |     |                               |                |    |                               |
| 4X20MM         | 100 | <a href="#">39078.040.020</a> | 8X16MM         | 100 | <a href="#">39078.080.016</a> | 20X40MM        | 10 | <a href="#">39078.200.040</a> |
| 4X24MM         | 100 | <a href="#">39078.040.024</a> | 8X20MM         | 100 | <a href="#">39078.080.020</a> | 20X50MM        | 10 | <a href="#">39078.200.050</a> |
| 4X28MM         | 100 | <a href="#">39078.040.028</a> | 8X24MM         | 50  | <a href="#">39078.080.024</a> | 20X60MM        | 10 | <a href="#">39078.200.060</a> |
| 4X30MM         | 100 | <a href="#">39078.040.030</a> | 8X28MM         | 50  | <a href="#">39078.080.028</a> | 20X80MM        | 10 | <a href="#">39078.200.080</a> |
| 4X32MM         | 100 | <a href="#">39078.040.032</a> | 8X30MM         | 50  | <a href="#">39078.080.030</a> |                |    |                               |



## Taper pin with external thread



ISO 8737  
 DIN 7977  
 NEN 2462



### Technical data

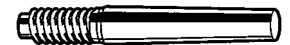
| d1 | d <sub>2</sub> | b  |
|----|----------------|----|
| 5  | M5             | 14 |
| 6  | M6             | 18 |
| 8  | M8             | 22 |
| 10 | M10            | 24 |
| 12 | M12            | 27 |
| 16 | M16            | 35 |
| 20 | M16            | 35 |

- d<sub>1</sub> x L: The nominal length (L) is inclusive the rounded ends (tolerance js15).

### 39011 Taper pin with external thread

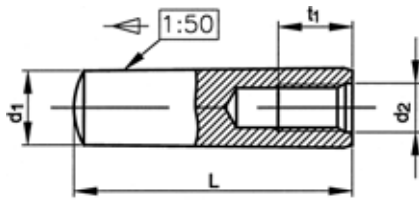
L11A

**Material** Free-cutting steel  
**Packaging** Standard

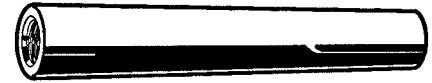


| d1 x L | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    | d1 x L   | ☒ | Art.number                    |
|--------|----|-------------------------------|----------|----|-------------------------------|----------|---|-------------------------------|
| 5X40MM | 50 | <a href="#">39011.050.040</a> | 8X75MM   | 10 | <a href="#">39011.080.075</a> | 16X85MM  | 5 | <a href="#">39011.160.085</a> |
| 5X45MM | 50 | <a href="#">39011.050.045</a> | 10X60MM  | 10 | <a href="#">39011.100.060</a> | 16X100MM | 5 | <a href="#">39011.160.100</a> |
| 5X50MM | 50 | <a href="#">39011.050.050</a> | 10X65MM  | 10 | <a href="#">39011.100.065</a> | 16X120MM | 5 | <a href="#">39011.160.120</a> |
| 6X45MM | 25 | <a href="#">39011.060.045</a> | 10X75MM  | 10 | <a href="#">39011.100.075</a> | 16X140MM | 5 | <a href="#">39011.160.140</a> |
| 6X50MM | 25 | <a href="#">39011.060.050</a> | 10X85MM  | 10 | <a href="#">39011.100.085</a> | 16X160MM | 5 | <a href="#">39011.160.160</a> |
| 6X55MM | 25 | <a href="#">39011.060.055</a> | 10X100MM | 10 | <a href="#">39011.100.100</a> | 20X100MM | 5 | <a href="#">39011.200.100</a> |
| 6X60MM | 25 | <a href="#">39011.060.060</a> | 12X85MM  | 5  | <a href="#">39011.120.085</a> | 20X120MM | 5 | <a href="#">39011.200.120</a> |
| 8X55MM | 10 | <a href="#">39011.080.055</a> | 12X100MM | 5  | <a href="#">39011.120.100</a> | 20X140MM | 5 | <a href="#">39011.200.140</a> |
| 8X60MM | 10 | <a href="#">39011.080.060</a> | 12X120MM | 5  | <a href="#">39011.120.120</a> | 20X160MM | 5 | <a href="#">39011.200.160</a> |
| 8X65MM | 10 | <a href="#">39011.080.065</a> |          |    |                               |          |   |                               |

## Taper pin with internal thread ground



ISO 8736 A  
 DIN 7978 A  
 NEN 2463  
 NF E27-479



### Technical data

| d1 | d2  | t1 |
|----|-----|----|
| 6  | M4  | 6  |
| 8  | M5  | 8  |
| 10 | M6  | 10 |
| 12 | M8  | 12 |
| 16 | M10 | 16 |
| 20 | M12 | 18 |

- d<sub>1</sub> x L: The nominal length (L) is inclusive the rounded ends (tolerance js15).

### 39012 Taper pin with internal thread ground

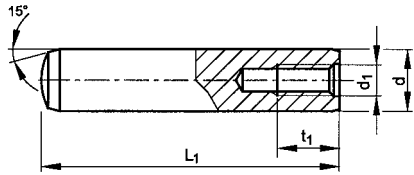
L11A

**Material** Free-cutting steel  
**Packaging** Standard

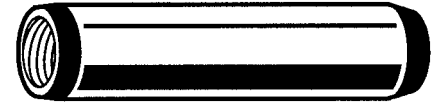


| d1 x L | ☒  | Art.number                    | d1 x L   | ☒  | Art.number                    | d1 x L   | ☒ | Art.number                    |
|--------|----|-------------------------------|----------|----|-------------------------------|----------|---|-------------------------------|
| 6X16MM | 50 | <a href="#">39012.060.016</a> | 8X60MM   | 10 | <a href="#">39012.080.060</a> | 12X80MM  | 5 | <a href="#">39012.120.080</a> |
| 6X24MM | 50 | <a href="#">39012.060.024</a> | 8X70MM   | 10 | <a href="#">39012.080.070</a> | 12X100MM | 5 | <a href="#">39012.120.100</a> |
| 6X28MM | 50 | <a href="#">39012.060.028</a> |          |    |                               |          |   |                               |
| 6X30MM | 50 | <a href="#">39012.060.030</a> | 10X24MM  | 25 | <a href="#">39012.100.024</a> | 16X40MM  | 5 | <a href="#">39012.160.040</a> |
| 6X32MM | 25 | <a href="#">39012.060.032</a> | 10X28MM  | 25 | <a href="#">39012.100.028</a> | 16X50MM  | 5 | <a href="#">39012.160.050</a> |
| 6X36MM | 25 | <a href="#">39012.060.036</a> | 10X32MM  | 25 | <a href="#">39012.100.032</a> | 16X60MM  | 5 | <a href="#">39012.160.060</a> |
| 6X40MM | 25 | <a href="#">39012.060.040</a> | 10X40MM  | 10 | <a href="#">39012.100.040</a> | 16X80MM  | 5 | <a href="#">39012.160.080</a> |
| 6X50MM | 25 | <a href="#">39012.060.050</a> | 10X50MM  | 10 | <a href="#">39012.100.050</a> | 16X90MM  | 5 | <a href="#">39012.160.090</a> |
| 6X60MM | 25 | <a href="#">39012.060.060</a> | 10X60MM  | 10 | <a href="#">39012.100.060</a> | 16X100MM | 5 | <a href="#">39012.160.100</a> |
|        |    |                               | 10X70MM  | 10 | <a href="#">39012.100.070</a> | 16X120MM | 5 | <a href="#">39012.160.120</a> |
| 8X20MM | 50 | <a href="#">39012.080.020</a> | 10X80MM  | 10 | <a href="#">39012.100.080</a> |          |   |                               |
| 8X24MM | 25 | <a href="#">39012.080.024</a> | 10X80MM  | 10 | <a href="#">39012.100.080</a> | 20X60MM  | 5 | <a href="#">39012.200.060</a> |
| 8X28MM | 25 | <a href="#">39012.080.028</a> | 10X100MM | 10 | <a href="#">39012.100.100</a> | 20X80MM  | 5 | <a href="#">39012.200.080</a> |
| 8X30MM | 25 | <a href="#">39012.080.030</a> |          |    |                               | 20X100MM | 5 | <a href="#">39012.200.100</a> |
| 8X32MM | 25 | <a href="#">39012.080.032</a> | 12X32MM  | 10 | <a href="#">39012.120.032</a> | 20X120MM | 5 | <a href="#">39012.200.120</a> |
| 8X36MM | 25 | <a href="#">39012.080.036</a> | 12X40MM  | 10 | <a href="#">39012.120.040</a> |          |   |                               |
| 8X40MM | 25 | <a href="#">39012.080.040</a> | 12X50MM  | 10 | <a href="#">39012.120.050</a> |          |   |                               |
| 8X50MM | 10 | <a href="#">39012.080.050</a> | 12X60MM  | 10 | <a href="#">39012.120.060</a> |          |   |                               |
|        |    |                               | 12X70MM  | 10 | <a href="#">39012.120.070</a> |          |   |                               |

## Parallel pin with internal thread hardened



ISO 8735 A  
 DIN 7979 D  
 NEN 2464  
 NF E27-475



### Technical data

| d (m6)   | d <sub>1</sub> | t <sub>1</sub> |
|----------|----------------|----------------|
| 5 (#DIN) | M3             | 4              |
| 6        | M4             | 6              |
| 8        | M5             | 8              |
| 10       | M6             | 10             |

| d (m6) | d <sub>1</sub> | t <sub>1</sub> |
|--------|----------------|----------------|
| 12     | M6             | 10             |
| 14     | M8             | 12             |
| 16     | M8             | 12             |
| 20     | M10            | 16             |

| d (m6) | d <sub>1</sub> | t <sub>1</sub> |
|--------|----------------|----------------|
| 25     | M16            | 24             |
| 30     | M20            | 30             |

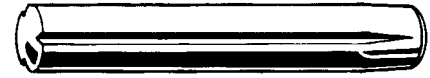
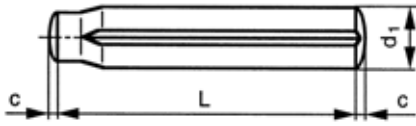
- d x L<sub>1</sub>: The nominal length (L<sub>1</sub>) is inclusive the rounded ends (tolerance js15).

| 39090 Parallel pin with internal thread hardened |                 | L11A  |
|--|-----------------|---|
| <b>Material</b>                                  | Steel 60 ± 2HRC |  |
| <b>Packaging</b>                                 | Standard        |   |

| d x L1 | ☒   | Art.number                    | d x L1  | ☒  | Art.number                    | d x L1   | ☒  | Art.number                    |
|--------|-----|-------------------------------|---------|----|-------------------------------|----------|----|-------------------------------|
| 5X12MM | 100 | <a href="#">39090.050.012</a> | 8X40MM  | 25 | <a href="#">39090.080.040</a> | 12X60MM  | 10 | <a href="#">39090.120.060</a> |
| 5X16MM | 50  | <a href="#">39090.050.016</a> | 8X45MM  | 25 | <a href="#">39090.080.045</a> | 12X70MM  | 10 | <a href="#">39090.120.070</a> |
| 5X20MM | 50  | <a href="#">39090.050.020</a> | 8X50MM  | 10 | <a href="#">39090.080.050</a> | 12X80MM  | 5  | <a href="#">39090.120.080</a> |
| 5X24MM | 50  | <a href="#">39090.050.024</a> | 8X60MM  | 10 | <a href="#">39090.080.060</a> | 12X100MM | 5  | <a href="#">39090.120.100</a> |
| 5X28MM | 50  | <a href="#">39090.050.028</a> | 8X70MM  | 10 | <a href="#">39090.080.070</a> |          |    |                               |
| 5X30MM | 25  | <a href="#">39090.050.030</a> | 8X80MM  | 50 | <a href="#">39090.080.080</a> | 14X60MM  | 5  | <a href="#">39090.140.060</a> |
| 5X32MM | 25  | <a href="#">39090.050.032</a> |         |    |                               | 16X32MM  | 5  | <a href="#">39090.160.032</a> |
| 5X36MM | 1   | <a href="#">39090.050.036</a> | 10X20MM | 25 | <a href="#">39090.100.020</a> | 16X40MM  | 5  | <a href="#">39090.160.040</a> |
| 5X40MM | 25  | <a href="#">39090.050.040</a> | 10X24MM | 25 | <a href="#">39090.100.024</a> | 16X50MM  | 5  | <a href="#">39090.160.050</a> |
|        |     |                               | 10X28MM | 25 | <a href="#">39090.100.028</a> | 16X60MM  | 5  | <a href="#">39090.160.060</a> |
| 6X16MM | 50  | <a href="#">39090.060.016</a> | 10X30MM | 25 | <a href="#">39090.100.030</a> | 16X70MM  | 5  | <a href="#">39090.160.070</a> |
| 6X20MM | 50  | <a href="#">39090.060.020</a> | 10X32MM | 25 | <a href="#">39090.100.032</a> | 16X80MM  | 5  | <a href="#">39090.160.080</a> |
| 6X24MM | 50  | <a href="#">39090.060.024</a> | 10X36MM | 10 | <a href="#">39090.100.036</a> | 16X90MM  | 5  | <a href="#">39090.160.090</a> |
| 6X28MM | 50  | <a href="#">39090.060.028</a> | 10X40MM | 10 | <a href="#">39090.100.040</a> | 16X100MM | 5  | <a href="#">39090.160.100</a> |
| 6X30MM | 50  | <a href="#">39090.060.030</a> | 10X45MM | 10 | <a href="#">39090.100.045</a> | 16X120MM | 5  | <a href="#">39090.160.120</a> |
| 6X32MM | 25  | <a href="#">39090.060.032</a> | 10X50MM | 10 | <a href="#">39090.100.050</a> |          |    |                               |
| 6X40MM | 25  | <a href="#">39090.060.040</a> | 10X60MM | 10 | <a href="#">39090.100.060</a> | 20X50MM  | 5  | <a href="#">39090.200.050</a> |
| 6X45MM | 25  | <a href="#">39090.060.045</a> | 10X70MM | 10 | <a href="#">39090.100.070</a> | 20X60MM  | 5  | <a href="#">39090.200.060</a> |
| 6X50MM | 25  | <a href="#">39090.060.050</a> | 10X80MM | 10 | <a href="#">39090.100.080</a> | 20X70MM  | 5  | <a href="#">39090.200.070</a> |
| 6X60MM | 25  | <a href="#">39090.060.060</a> |         |    |                               | 20X80MM  | 5  | <a href="#">39090.200.080</a> |
|        |     |                               | 12X24MM | 10 | <a href="#">39090.120.024</a> | 20X100MM | 5  | <a href="#">39090.200.100</a> |
| 8X16MM | 50  | <a href="#">39090.080.016</a> | 12X28MM | 10 | <a href="#">39090.120.028</a> | 20X120MM | 5  | <a href="#">39090.200.120</a> |
| 8X20MM | 50  | <a href="#">39090.080.020</a> | 12X30MM | 10 | <a href="#">39090.120.030</a> |          |    |                               |
| 8X24MM | 25  | <a href="#">39090.080.024</a> | 12X32MM | 10 | <a href="#">39090.120.032</a> | 25X60MM  | 5  | <a href="#">39090.250.060</a> |
| 8X28MM | 25  | <a href="#">39090.080.028</a> | 12X36MM | 10 | <a href="#">39090.120.036</a> | 25X70MM  | 5  | <a href="#">39090.250.070</a> |
| 8X30MM | 25  | <a href="#">39090.080.030</a> | 12X40MM | 10 | <a href="#">39090.120.040</a> |          |    |                               |
| 8X32MM | 25  | <a href="#">39090.080.032</a> | 12X45MM | 10 | <a href="#">39090.120.045</a> |          |    |                               |
| 8X36MM | 25  | <a href="#">39090.080.036</a> | 12X50MM | 10 | <a href="#">39090.120.050</a> |          |    |                               |

## Grooved pin, full length parallel grooved with pilot

ISO 8739  
DIN 1470  
NEN 2601

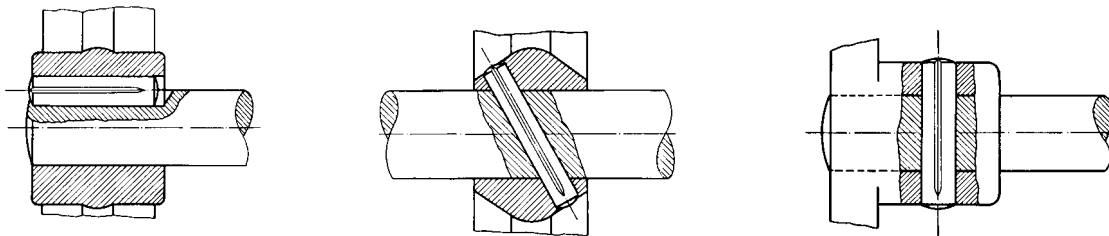


### Technical data

| d1  | Tolerance | c ≈  | V    |
|-----|-----------|------|------|
| 1,5 | h9        | 0,2  | 1,6  |
| 2   | h9        | 0,25 | 2,85 |
| 2,5 | h9        | 0,3  | 4,25 |
| 3   | h9        | 0,4  | 6,15 |
| 4   | h11       | 0,5  | 10,6 |
| 5   | h11       | 0,6  | 16,5 |
| 6   | h11       | 0,8  | 22,8 |
| 8   | h11       | 1    | 40,5 |

- V = Shear strength double min. in kN.
- For the hole diameter  $d_1$ (nom.) with tolerance field H11 is recommended.
- The nominal length (L) does not include the rounded ends (tolerance js15).

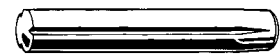
### Examples of application



### 39700 Grooved pin, full length parallel grooved with pilot

L11F

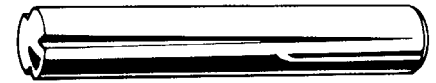
**Material** Free-cutting steel  
**Packaging** Standard



| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,5X4MM  | 200 | <a href="#">39700.015.004</a> | 3X20MM | 200 | <a href="#">39700.030.020</a> | 6X16MM | 100 | <a href="#">39700.060.016</a> |
| 1,5X6MM  | 200 | <a href="#">39700.015.006</a> | 3X30MM | 200 | <a href="#">39700.030.030</a> | 6X20MM | 100 | <a href="#">39700.060.020</a> |
| 1,5X8MM  | 200 | <a href="#">39700.015.008</a> |        |     |                               | 6X24MM | 100 | <a href="#">39700.060.024</a> |
| 1,5X10MM | 200 | <a href="#">39700.015.010</a> | 4X8MM  | 200 | <a href="#">39700.040.008</a> | 6X30MM | 100 | <a href="#">39700.060.030</a> |
| 1,5X16MM | 200 | <a href="#">39700.015.016</a> | 4X10MM | 200 | <a href="#">39700.040.010</a> | 6X36MM | 100 | <a href="#">39700.060.036</a> |
|          |     |                               | 4X12MM | 200 | <a href="#">39700.040.012</a> | 6X40MM | 100 | <a href="#">39700.060.040</a> |
| 2X5MM    | 200 | <a href="#">39700.020.005</a> | 4X16MM | 200 | <a href="#">39700.040.016</a> | 6X45MM | 100 | <a href="#">39700.060.045</a> |
| 2X6MM    | 200 | <a href="#">39700.020.006</a> | 4X20MM | 200 | <a href="#">39700.040.020</a> | 6X50MM | 100 | <a href="#">39700.060.050</a> |
| 2X8MM    | 200 | <a href="#">39700.020.008</a> | 4X24MM | 200 | <a href="#">39700.040.024</a> | 6X60MM | 100 | <a href="#">39700.060.060</a> |
| 2X10MM   | 200 | <a href="#">39700.020.010</a> | 4X30MM | 200 | <a href="#">39700.040.030</a> |        |     |                               |
| 2X16MM   | 200 | <a href="#">39700.020.016</a> | 4X36MM | 100 | <a href="#">39700.040.036</a> | 8X12MM | 100 | <a href="#">39700.080.012</a> |
| 2X20MM   | 200 | <a href="#">39700.020.020</a> | 4X40MM | 100 | <a href="#">39700.040.040</a> | 8X16MM | 100 | <a href="#">39700.080.016</a> |
| 2X24MM   | 200 | <a href="#">39700.020.024</a> |        |     |                               | 8X20MM | 100 | <a href="#">39700.080.020</a> |
|          |     |                               | 5X12MM | 200 | <a href="#">39700.050.012</a> | 8X24MM | 100 | <a href="#">39700.080.024</a> |
| 2,5X10MM | 200 | <a href="#">39700.025.010</a> | 5X16MM | 200 | <a href="#">39700.050.016</a> | 8X30MM | 100 | <a href="#">39700.080.030</a> |
| 2,5X12MM | 200 | <a href="#">39700.025.012</a> | 5X20MM | 100 | <a href="#">39700.050.020</a> | 8X36MM | 50  | <a href="#">39700.080.036</a> |
| 2,5X16MM | 200 | <a href="#">39700.025.016</a> | 5X24MM | 100 | <a href="#">39700.050.024</a> | 8X40MM | 50  | <a href="#">39700.080.040</a> |
| 2,5X20MM | 200 | <a href="#">39700.025.020</a> | 5X30MM | 100 | <a href="#">39700.050.030</a> | 8X45MM | 50  | <a href="#">39700.080.045</a> |
|          |     |                               | 5X36MM | 100 | <a href="#">39700.050.036</a> | 8X50MM | 50  | <a href="#">39700.080.050</a> |
| 3X10MM   | 200 | <a href="#">39700.030.010</a> | 5X40MM | 100 | <a href="#">39700.050.040</a> | 8X60MM | 50  | <a href="#">39700.080.060</a> |
| 3X12MM   | 200 | <a href="#">39700.030.012</a> |        |     |                               | 8X70MM | 50  | <a href="#">39700.080.070</a> |
| 3X16MM   | 200 | <a href="#">39700.030.016</a> | 6X10MM | 100 | <a href="#">39700.060.010</a> |        |     |                               |

## Grooved pin, full length taper grooved

ISO 8744  
 DIN 1471  
 NEN 2602

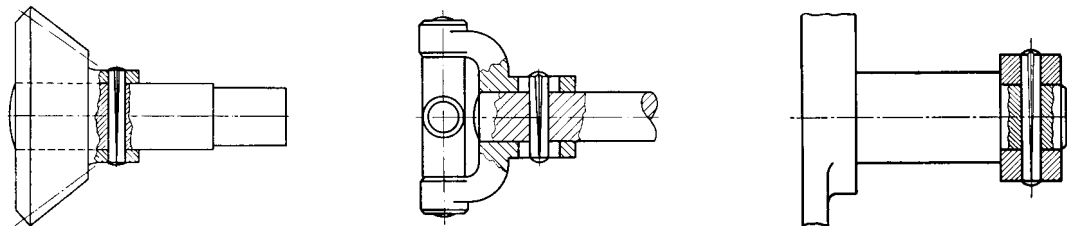


### Technical data

| d1  | Tolerance | c ≈  | V    |
|-----|-----------|------|------|
| 1,5 | h9        | 0,2  | 1,6  |
| 2   | h9        | 0,25 | 2,85 |
| 2,5 | h9        | 0,3  | 4,25 |
| 3   | h9        | 0,4  | 6,15 |
| 4   | h11       | 0,5  | 10,6 |
| 5   | h11       | 0,63 | 16,5 |
| 6   | h11       | 0,8  | 22,8 |
| 8   | h11       | 1    | 40,5 |

- V = Shear strength double min. in kN.
- For the hole diameter  $d_1$ (nom.) with tolerance field H11 is recommended.
- The nominal length (L) does not include the rounded ends (tolerance js15).

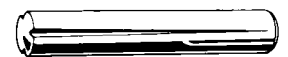
### Examples of application



### 39710 Grooved pin, full length taper grooved

L11F

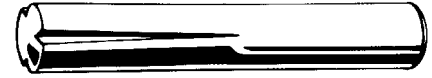
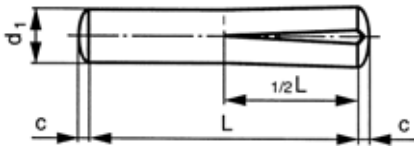
**Material** Free-cutting steel  
**Packaging** Standard



| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,5X4MM  | 200 | <a href="#">39710.015.004</a> | 3X6MM  | 200 | <a href="#">39710.030.006</a> | 5X40MM | 100 | <a href="#">39710.050.040</a> |
| 1,5X5MM  | 200 | <a href="#">39710.015.005</a> | 3X8MM  | 200 | <a href="#">39710.030.008</a> |        |     |                               |
| 1,5X8MM  | 200 | <a href="#">39710.015.008</a> | 3X10MM | 200 | <a href="#">39710.030.010</a> | 6X10MM | 100 | <a href="#">39710.060.010</a> |
| 1,5X10MM | 200 | <a href="#">39710.015.010</a> | 3X12MM | 200 | <a href="#">39710.030.012</a> | 6X12MM | 100 | <a href="#">39710.060.012</a> |
| 1,5X16MM | 200 | <a href="#">39710.015.016</a> | 3X16MM | 200 | <a href="#">39710.030.016</a> | 6X16MM | 100 | <a href="#">39710.060.016</a> |
| 1,5X20MM | 200 | <a href="#">39710.015.020</a> | 3X20MM | 200 | <a href="#">39710.030.020</a> | 6X20MM | 100 | <a href="#">39710.060.020</a> |
|          |     |                               | 3X24MM | 200 | <a href="#">39710.030.024</a> | 6X24MM | 100 | <a href="#">39710.060.024</a> |
| 2X5MM    | 200 | <a href="#">39710.020.005</a> |        |     |                               | 6X30MM | 100 | <a href="#">39710.060.030</a> |
| 2X6MM    | 200 | <a href="#">39710.020.006</a> | 4X8MM  | 200 | <a href="#">39710.040.008</a> | 6X30MM | 100 | <a href="#">39710.060.040</a> |
| 2X8MM    | 200 | <a href="#">39710.020.008</a> | 4X10MM | 200 | <a href="#">39710.040.010</a> | 6X40MM | 100 | <a href="#">39710.060.040</a> |
| 2X10MM   | 200 | <a href="#">39710.020.010</a> | 4X12MM | 200 | <a href="#">39710.040.012</a> | 6X45MM | 100 | <a href="#">39710.060.045</a> |
| 2X12MM   | 200 | <a href="#">39710.020.012</a> | 4X16MM | 200 | <a href="#">39710.040.016</a> | 6X50MM | 100 | <a href="#">39710.060.050</a> |
| 2X16MM   | 200 | <a href="#">39710.020.016</a> | 4X20MM | 200 | <a href="#">39710.040.020</a> | 6X60MM | 100 | <a href="#">39710.060.060</a> |
| 2X20MM   | 200 | <a href="#">39710.020.020</a> | 4X24MM | 200 | <a href="#">39710.040.024</a> |        |     |                               |
| 2X24MM   | 200 | <a href="#">39710.020.024</a> | 4X30MM | 200 | <a href="#">39710.040.030</a> | 8X12MM | 100 | <a href="#">39710.080.012</a> |
| 2X30MM   | 200 | <a href="#">39710.020.030</a> | 4X36MM | 100 | <a href="#">39710.040.036</a> | 8X16MM | 100 | <a href="#">39710.080.016</a> |
|          |     |                               | 4X40MM | 100 | <a href="#">39710.040.040</a> | 8X20MM | 100 | <a href="#">39710.080.020</a> |
| 2,5X6MM  | 200 | <a href="#">39710.025.006</a> |        |     |                               | 8X24MM | 100 | <a href="#">39710.080.024</a> |
| 2,5X8MM  | 200 | <a href="#">39710.025.008</a> | 5X10MM | 200 | <a href="#">39710.050.010</a> | 8X30MM | 100 | <a href="#">39710.080.030</a> |
| 2,5X10MM | 200 | <a href="#">39710.025.010</a> | 5X12MM | 200 | <a href="#">39710.050.012</a> | 8X40MM | 50  | <a href="#">39710.080.040</a> |
| 2,5X12MM | 200 | <a href="#">39710.025.012</a> | 5X16MM | 200 | <a href="#">39710.050.016</a> | 8X50MM | 50  | <a href="#">39710.080.050</a> |
| 2,5X16MM | 200 | <a href="#">39710.025.016</a> | 5X20MM | 100 | <a href="#">39710.050.020</a> | 8X60MM | 50  | <a href="#">39710.080.060</a> |
| 2,5X20MM | 200 | <a href="#">39710.025.020</a> | 5X24MM | 100 | <a href="#">39710.050.024</a> | 8X70MM | 50  | <a href="#">39710.080.070</a> |
| 2,5X30MM | 200 | <a href="#">39710.025.030</a> | 5X30MM | 100 | <a href="#">39710.050.030</a> |        |     |                               |
|          |     |                               | 5X36MM | 100 | <a href="#">39710.050.036</a> |        |     |                               |

## Grooved pin, half length taper grooved

ISO 8745  
DIN 1472  
NEN 2603

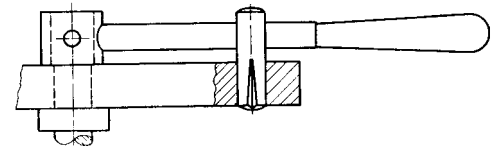
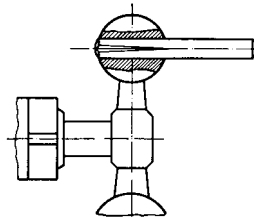
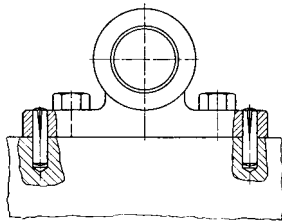


### Technical data

| d1  | Tolerance | c ≈  | V    |
|-----|-----------|------|------|
| 1,5 | h9        | 0,2  | 1,6  |
| 2   | h9        | 0,25 | 2,85 |
| 2,5 | h9        | 0,3  | 4,25 |
| 3   | h9        | 0,4  | 6,15 |
| 4   | h11       | 0,5  | 10,6 |
| 5   | h11       | 0,6  | 16,5 |
| 6   | h11       | 0,8  | 22,8 |
| 8   | h11       | 1    | 40,5 |

- V = Shear strength double min. in kN.
- For the hole diameter d<sub>1</sub>(nom.) with tolerance field H11 is recommended.
- The nominal length (L) does not include the rounded ends (tolerance js15).

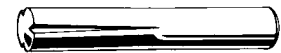
### Examples of application



### 39720 Grooved pin, half length taper grooved

L11F

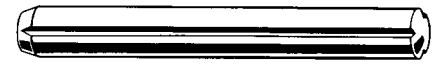
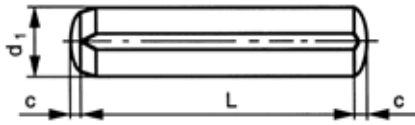
**Material** Free-cutting steel  
**Packaging** Standard



| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,5X4MM  | 200 | <a href="#">39720.015.004</a> | 3X24MM | 200 | <a href="#">39720.030.024</a> | 6X12MM | 100 | <a href="#">39720.060.012</a> |
| 1,5X6MM  | 200 | <a href="#">39720.015.006</a> | 3X30MM | 200 | <a href="#">39720.030.030</a> | 6X16MM | 100 | <a href="#">39720.060.016</a> |
| 1,5X8MM  | 200 | <a href="#">39720.015.008</a> |        |     |                               | 6X20MM | 100 | <a href="#">39720.060.020</a> |
| 1,5X12MM | 200 | <a href="#">39720.015.012</a> | 4X8MM  | 200 | <a href="#">39720.040.008</a> | 6X24MM | 100 | <a href="#">39720.060.024</a> |
| 1,5X16MM | 200 | <a href="#">39720.015.016</a> | 4X10MM | 200 | <a href="#">39720.040.010</a> | 6X30MM | 100 | <a href="#">39720.060.030</a> |
|          |     |                               | 4X12MM | 200 | <a href="#">39720.040.012</a> | 6X36MM | 100 | <a href="#">39720.060.036</a> |
| 2X6MM    | 200 | <a href="#">39720.020.006</a> | 4X16MM | 200 | <a href="#">39720.040.016</a> | 6X40MM | 100 | <a href="#">39720.060.040</a> |
| 2X8MM    | 200 | <a href="#">39720.020.008</a> | 4X20MM | 200 | <a href="#">39720.040.020</a> | 6X50MM | 100 | <a href="#">39720.060.050</a> |
| 2X10MM   | 200 | <a href="#">39720.020.010</a> | 4X24MM | 200 | <a href="#">39720.040.024</a> | 6X60MM | 100 | <a href="#">39720.060.060</a> |
| 2X12MM   | 200 | <a href="#">39720.020.012</a> | 4X28MM | 200 | <a href="#">39720.040.028</a> |        |     |                               |
| 2X16MM   | 200 | <a href="#">39720.020.016</a> | 4X30MM | 200 | <a href="#">39720.040.030</a> | 8X12MM | 100 | <a href="#">39720.080.012</a> |
| 2X20MM   | 200 | <a href="#">39720.020.020</a> | 4X36MM | 100 | <a href="#">39720.040.036</a> | 8X16MM | 100 | <a href="#">39720.080.016</a> |
|          |     |                               |        |     |                               | 8X20MM | 100 | <a href="#">39720.080.020</a> |
| 2,5X6MM  | 200 | <a href="#">39720.025.006</a> | 5X8MM  | 200 | <a href="#">39720.050.008</a> | 8X24MM | 100 | <a href="#">39720.080.024</a> |
| 2,5X10MM | 200 | <a href="#">39720.025.010</a> | 5X10MM | 200 | <a href="#">39720.050.010</a> | 8X30MM | 100 | <a href="#">39720.080.030</a> |
| 2,5X12MM | 200 | <a href="#">39720.025.012</a> | 5X12MM | 200 | <a href="#">39720.050.012</a> | 8X36MM | 50  | <a href="#">39720.080.036</a> |
| 2,5X16MM | 200 | <a href="#">39720.025.016</a> | 5X16MM | 200 | <a href="#">39720.050.016</a> | 8X40MM | 50  | <a href="#">39720.080.040</a> |
|          |     |                               | 5X20MM | 100 | <a href="#">39720.050.020</a> | 8X45MM | 50  | <a href="#">39720.080.045</a> |
| 3X8MM    | 200 | <a href="#">39720.030.008</a> | 5X24MM | 100 | <a href="#">39720.050.024</a> | 8X50MM | 50  | <a href="#">39720.080.050</a> |
| 3X10MM   | 200 | <a href="#">39720.030.010</a> | 5X30MM | 100 | <a href="#">39720.050.030</a> | 8X60MM | 50  | <a href="#">39720.080.060</a> |
| 3X12MM   | 200 | <a href="#">39720.030.012</a> | 5X40MM | 100 | <a href="#">39720.050.040</a> | 8X70MM | 50  | <a href="#">39720.080.070</a> |
| 3X16MM   | 200 | <a href="#">39720.030.016</a> |        |     |                               |        |     |                               |
| 3X20MM   | 200 | <a href="#">39720.030.020</a> | 6X10MM | 100 | <a href="#">39720.060.010</a> |        |     |                               |

## Grooved pin, full length parallel grooved with chamfer

ISO 8740  
 DIN 1473  
 NEN 2604

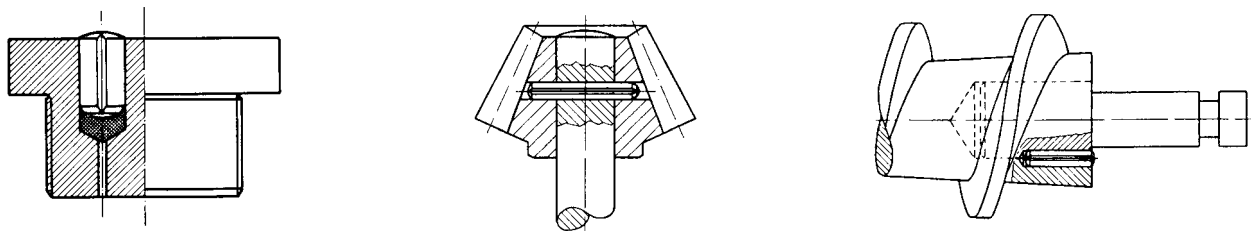


### Technical data

| d1  | Tolerance | c ≈  | V    |
|-----|-----------|------|------|
| 1,5 | h9        | 0,2  | 1,6  |
| 2   | h9        | 0,25 | 2,85 |
| 2,5 | h9        | 0,3  | 4,25 |
| 3   | h9        | 0,4  | 6,15 |
| 4   | h11       | 0,4  | 10,6 |
| 5   | h11       | 0,6  | 16,5 |
| 6   | h11       | 0,8  | 22,8 |
| 8   | h11       | 1    | 40,5 |

- V = Shear strength double min. in kN.
- For the hole diameter  $d_1$ (nom.) with tolerance field H11 is recommended.
- The nominal length (L) does not include the rounded ends (tolerance js15).

### Examples of application



### 39730 Grooved pin, full length parallel grooved with chamfer

L11F

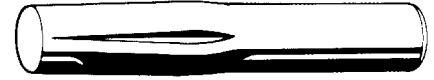
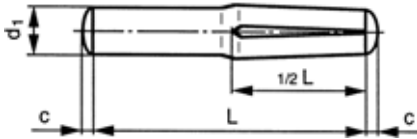
**Material** Free-cutting steel  
**Packaging** Standard



| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,5X5MM  | 200 | <a href="#">39730.015.005</a> | 3X12MM | 200 | <a href="#">39730.030.012</a> | 6X10MM | 100 | <a href="#">39730.060.010</a> |
| 1,5X6MM  | 200 | <a href="#">39730.015.006</a> | 3X16MM | 200 | <a href="#">39730.030.016</a> | 6X12MM | 100 | <a href="#">39730.060.012</a> |
| 1,5X8MM  | 200 | <a href="#">39730.015.008</a> | 3X20MM | 200 | <a href="#">39730.030.020</a> | 6X16MM | 100 | <a href="#">39730.060.016</a> |
| 1,5X10MM | 200 | <a href="#">39730.015.010</a> | 3X24MM | 200 | <a href="#">39730.030.024</a> | 6X20MM | 100 | <a href="#">39730.060.020</a> |
| 1,5X12MM | 200 | <a href="#">39730.015.012</a> | 3X30MM | 200 | <a href="#">39730.030.030</a> | 6X24MM | 100 | <a href="#">39730.060.024</a> |
| 1,5X16MM | 200 | <a href="#">39730.015.016</a> |        |     |                               | 6X30MM | 100 | <a href="#">39730.060.030</a> |
|          |     |                               | 4X8MM  | 200 | <a href="#">39730.040.008</a> | 6X36MM | 100 | <a href="#">39730.060.036</a> |
| 2X5MM    | 200 | <a href="#">39730.020.005</a> | 4X10MM | 200 | <a href="#">39730.040.010</a> | 6X40MM | 100 | <a href="#">39730.060.040</a> |
| 2X6MM    | 200 | <a href="#">39730.020.006</a> | 4X12MM | 200 | <a href="#">39730.040.012</a> | 6X45MM | 100 | <a href="#">39730.060.045</a> |
| 2X8MM    | 200 | <a href="#">39730.020.008</a> | 4X16MM | 200 | <a href="#">39730.040.016</a> | 6X50MM | 100 | <a href="#">39730.060.050</a> |
| 2X10MM   | 200 | <a href="#">39730.020.010</a> | 4X20MM | 200 | <a href="#">39730.040.020</a> | 6X60MM | 100 | <a href="#">39730.060.060</a> |
| 2X12MM   | 200 | <a href="#">39730.020.012</a> | 4X24MM | 200 | <a href="#">39730.040.024</a> |        |     |                               |
| 2X16MM   | 200 | <a href="#">39730.020.016</a> | 4X30MM | 200 | <a href="#">39730.040.030</a> | 8X12MM | 100 | <a href="#">39730.080.012</a> |
| 2X20MM   | 200 | <a href="#">39730.020.020</a> | 4X36MM | 100 | <a href="#">39730.040.036</a> | 8X16MM | 100 | <a href="#">39730.080.016</a> |
| 2X24MM   | 200 | <a href="#">39730.020.024</a> | 4X40MM | 100 | <a href="#">39730.040.040</a> | 8X20MM | 100 | <a href="#">39730.080.020</a> |
| 2X30MM   | 200 | <a href="#">39730.020.030</a> |        |     |                               | 8X24MM | 100 | <a href="#">39730.080.024</a> |
|          |     |                               | 5X8MM  | 200 | <a href="#">39730.050.008</a> | 8X30MM | 100 | <a href="#">39730.080.030</a> |
| 2,5X10MM | 200 | <a href="#">39730.025.010</a> | 5X10MM | 200 | <a href="#">39730.050.010</a> | 8X36MM | 50  | <a href="#">39730.080.036</a> |
| 2,5X12MM | 200 | <a href="#">39730.025.012</a> | 5X12MM | 200 | <a href="#">39730.050.012</a> | 8X40MM | 50  | <a href="#">39730.080.040</a> |
| 2,5X16MM | 200 | <a href="#">39730.025.016</a> | 5X16MM | 200 | <a href="#">39730.050.016</a> | 8X45MM | 50  | <a href="#">39730.080.045</a> |
| 2,5X20MM | 200 | <a href="#">39730.025.020</a> | 5X20MM | 100 | <a href="#">39730.050.020</a> | 8X50MM | 50  | <a href="#">39730.080.050</a> |
| 2,5X24MM | 200 | <a href="#">39730.025.024</a> | 5X24MM | 100 | <a href="#">39730.050.024</a> | 8X60MM | 50  | <a href="#">39730.080.060</a> |
|          |     |                               | 5X30MM | 100 | <a href="#">39730.050.030</a> | 8X70MM | 50  | <a href="#">39730.080.070</a> |
| 3X6MM    | 200 | <a href="#">39730.030.006</a> | 5X36MM | 100 | <a href="#">39730.050.036</a> |        |     |                               |
| 3X8MM    | 200 | <a href="#">39730.030.008</a> | 5X40MM | 100 | <a href="#">39730.050.040</a> |        |     |                               |
| 3X10MM   | 200 | <a href="#">39730.030.010</a> |        |     |                               |        |     |                               |

## Grooved pin, half length reverse grooved

ISO 8741  
DIN 1474  
NEN 2605

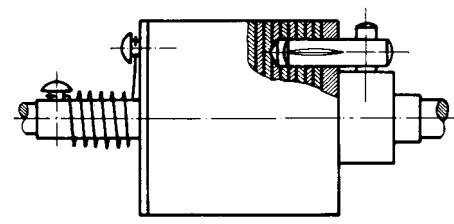
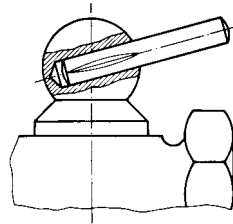
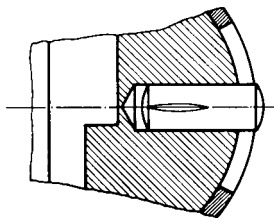


### Technical data

| d1  | Tolerance | c ≈  | V    |
|-----|-----------|------|------|
| 1,5 | h9        | 0,2  | 1,6  |
| 2   | h9        | 0,25 | 2,85 |
| 2,5 | h9        | 0,3  | 4,25 |
| 3   | h9        | 0,4  | 6,15 |
| 4   | h11       | 0,5  | 10,6 |
| 5   | h11       | 0,63 | 16,5 |
| 6   | h11       | 0,8  | 22,8 |
| 8   | h11       | 1    | 40,5 |

- V = Shear strength double min. in kN.
- For the hole diameter  $d_1$ (nom.) with tolerance field H11 is recommended.
- The nominal length (L) does not include the rounded ends (tolerance js15).

### Examples of application



### 39740 Grooved pin, half length reverse grooved

L11F

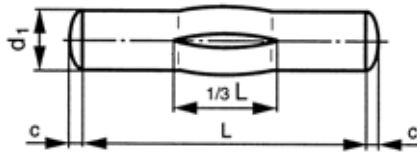
**Material** Free-cutting steel  
**Packaging** Standard



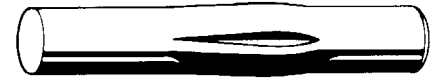
| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,5X5MM  | 200 | <a href="#">39740.015.005</a> | 3X20MM | 200 | <a href="#">39740.030.020</a> | 6X20MM | 100 | <a href="#">39740.060.020</a> |
| 1,5X6MM  | 200 | <a href="#">39740.015.006</a> | 3X24MM | 200 | <a href="#">39740.030.024</a> | 6X24MM | 100 | <a href="#">39740.060.024</a> |
| 1,5X8MM  | 200 | <a href="#">39740.015.008</a> | 3X30MM | 200 | <a href="#">39740.030.030</a> | 6X30MM | 100 | <a href="#">39740.060.030</a> |
| 1,5X10MM | 200 | <a href="#">39740.015.010</a> |        |     |                               | 6X40MM | 100 | <a href="#">39740.060.040</a> |
| 1,5X12MM | 200 | <a href="#">39740.015.012</a> | 4X8MM  | 200 | <a href="#">39740.040.008</a> | 6X45MM | 100 | <a href="#">39740.060.045</a> |
|          |     |                               | 4X10MM | 200 | <a href="#">39740.040.010</a> | 6X50MM | 100 | <a href="#">39740.060.050</a> |
| 2X5MM    | 200 | <a href="#">39740.020.005</a> | 4X12MM | 200 | <a href="#">39740.040.012</a> | 6X60MM | 100 | <a href="#">39740.060.060</a> |
| 2X6MM    | 200 | <a href="#">39740.020.006</a> | 4X16MM | 200 | <a href="#">39740.040.016</a> |        |     |                               |
| 2X8MM    | 200 | <a href="#">39740.020.008</a> | 4X20MM | 200 | <a href="#">39740.040.020</a> | 8X12MM | 100 | <a href="#">39740.080.012</a> |
| 2X10MM   | 200 | <a href="#">39740.020.010</a> | 4X24MM | 200 | <a href="#">39740.040.024</a> | 8X16MM | 100 | <a href="#">39740.080.016</a> |
| 2X12MM   | 200 | <a href="#">39740.020.012</a> | 4X30MM | 200 | <a href="#">39740.040.030</a> | 8X20MM | 100 | <a href="#">39740.080.020</a> |
| 2X16MM   | 200 | <a href="#">39740.020.016</a> | 4X36MM | 100 | <a href="#">39740.040.036</a> | 8X24MM | 100 | <a href="#">39740.080.024</a> |
|          |     |                               |        |     |                               | 8X30MM | 100 | <a href="#">39740.080.030</a> |
| 2,5X6MM  | 200 | <a href="#">39740.025.006</a> | 5X8MM  | 200 | <a href="#">39740.050.008</a> | 8X36MM | 50  | <a href="#">39740.080.036</a> |
| 2,5X8MM  | 200 | <a href="#">39740.025.008</a> | 5X10MM | 200 | <a href="#">39740.050.010</a> | 8X40MM | 50  | <a href="#">39740.080.040</a> |
| 2,5X10MM | 200 | <a href="#">39740.025.010</a> | 5X12MM | 200 | <a href="#">39740.050.012</a> | 8X45MM | 50  | <a href="#">39740.080.045</a> |
| 2,5X12MM | 200 | <a href="#">39740.025.012</a> | 5X16MM | 200 | <a href="#">39740.050.016</a> | 8X50MM | 50  | <a href="#">39740.080.050</a> |
| 2,5X16MM | 200 | <a href="#">39740.025.016</a> | 5X20MM | 100 | <a href="#">39740.050.020</a> | 8X60MM | 50  | <a href="#">39740.080.060</a> |
|          |     |                               | 5X24MM | 100 | <a href="#">39740.050.024</a> | 8X70MM | 50  | <a href="#">39740.080.070</a> |
| 3X6MM    | 200 | <a href="#">39740.030.006</a> | 5X30MM | 100 | <a href="#">39740.050.030</a> |        |     |                               |
| 3X8MM    | 200 | <a href="#">39740.030.008</a> | 5X36MM | 100 | <a href="#">39740.050.036</a> |        |     |                               |
| 3X10MM   | 200 | <a href="#">39740.030.010</a> |        |     |                               |        |     |                               |
| 3X12MM   | 200 | <a href="#">39740.030.012</a> | 6X12MM | 100 | <a href="#">39740.060.012</a> |        |     |                               |
| 3X16MM   | 200 | <a href="#">39740.030.016</a> | 6X16MM | 100 | <a href="#">39740.060.016</a> |        |     |                               |



## Grooved pin, third length center grooved



ISO 8742  
 DIN 1475  
 NEN 2606

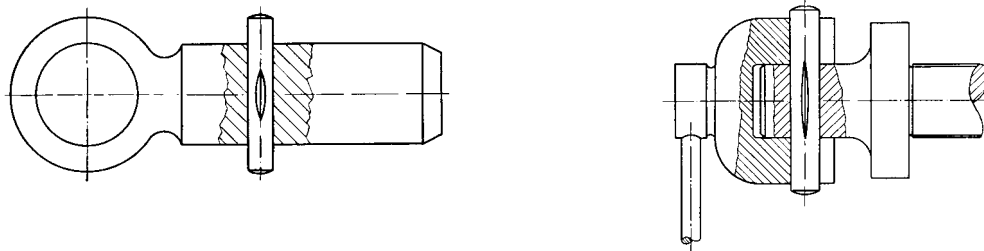


### Technical data

| d1  | Tolerance | c ≈  | V    |
|-----|-----------|------|------|
| 1,5 | h9        | 0,2  | 1,6  |
| 2   | h9        | 0,25 | 2,85 |
| 2,5 | h9        | 0,3  | 4,25 |
| 3   | h11       | 0,4  | 6,15 |
| 4   | h11       | 0,5  | 10,6 |
| 5   | h11       | 0,6  | 16,5 |
| 6   | h11       | 0,8  | 22,8 |
| 8   | h11       | 1    | 40,5 |

- V = Shear strength double min. in kN.
- For the hole diameter  $d_1$ (nom.) with tolerance field H11 is recommended.
- The nominal length (L) does not include the rounded ends (tolerance js15).

### Examples of application



### 39750 Grooved pin, third length center grooved

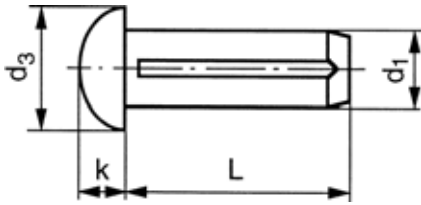
L11F

**Material** Free-cutting steel  
**Packaging** Standard

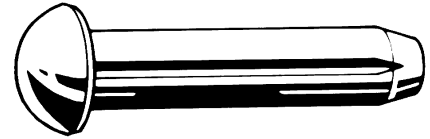


| d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,5X8MM  | 200 | <a href="#">39750.015.008</a> | 3X12MM | 200 | <a href="#">39750.030.012</a> | 6X12MM | 100 | <a href="#">39750.060.012</a> |
| 1,5X10MM | 200 | <a href="#">39750.015.010</a> | 3X16MM | 200 | <a href="#">39750.030.016</a> | 6X16MM | 100 | <a href="#">39750.060.016</a> |
| 1,5X16MM | 200 | <a href="#">39750.015.016</a> | 3X20MM | 200 | <a href="#">39750.030.020</a> | 6X20MM | 100 | <a href="#">39750.060.020</a> |
| 2X6MM    | 200 | <a href="#">39750.020.006</a> | 3X24MM | 200 | <a href="#">39750.030.024</a> | 6X24MM | 100 | <a href="#">39750.060.024</a> |
| 2X10MM   | 200 | <a href="#">39750.020.010</a> | 3X30MM | 200 | <a href="#">39750.030.030</a> | 6X30MM | 100 | <a href="#">39750.060.030</a> |
| 2X12MM   | 200 | <a href="#">39750.020.012</a> | 4X12MM | 200 | <a href="#">39750.040.012</a> | 6X36MM | 100 | <a href="#">39750.060.036</a> |
| 2X16MM   | 200 | <a href="#">39750.020.016</a> | 4X16MM | 200 | <a href="#">39750.040.016</a> | 6X40MM | 100 | <a href="#">39750.060.040</a> |
| 2X20MM   | 200 | <a href="#">39750.020.020</a> | 4X20MM | 200 | <a href="#">39750.040.020</a> | 6X45MM | 100 | <a href="#">39750.060.045</a> |
| 2X24MM   | 200 | <a href="#">39750.020.024</a> | 4X24MM | 200 | <a href="#">39750.040.024</a> | 6X50MM | 100 | <a href="#">39750.060.050</a> |
| 2,5X8MM  | 200 | <a href="#">39750.025.008</a> | 4X30MM | 200 | <a href="#">39750.040.030</a> | 6X60MM | 100 | <a href="#">39750.060.060</a> |
| 2,5X10MM | 200 | <a href="#">39750.025.010</a> | 4X36MM | 100 | <a href="#">39750.040.036</a> | 8X20MM | 100 | <a href="#">39750.080.020</a> |
| 2,5X12MM | 200 | <a href="#">39750.025.012</a> | 4X40MM | 100 | <a href="#">39750.040.040</a> | 8X24MM | 100 | <a href="#">39750.080.024</a> |
| 2,5X16MM | 200 | <a href="#">39750.025.016</a> | 5X10MM | 200 | <a href="#">39750.050.010</a> | 8X30MM | 100 | <a href="#">39750.080.030</a> |
| 2,5X20MM | 200 | <a href="#">39750.025.020</a> | 5X12MM | 200 | <a href="#">39750.050.012</a> | 8X36MM | 50  | <a href="#">39750.080.036</a> |
| 2,5X24MM | 200 | <a href="#">39750.025.024</a> | 5X16MM | 200 | <a href="#">39750.050.016</a> | 8X40MM | 50  | <a href="#">39750.080.040</a> |
| 2,5X30MM | 200 | <a href="#">39750.025.030</a> | 5X20MM | 100 | <a href="#">39750.050.020</a> | 8X45MM | 50  | <a href="#">39750.080.045</a> |
| 3X6MM    | 200 | <a href="#">39750.030.006</a> | 5X24MM | 100 | <a href="#">39750.050.024</a> | 8X50MM | 50  | <a href="#">39750.080.050</a> |
| 3X8MM    | 200 | <a href="#">39750.030.008</a> | 5X30MM | 100 | <a href="#">39750.050.030</a> | 8X60MM | 50  | <a href="#">39750.080.060</a> |
| 3X10MM   | 200 | <a href="#">39750.030.010</a> | 5X36MM | 100 | <a href="#">39750.050.036</a> |        |     |                               |
|          |     |                               | 5X40MM | 100 | <a href="#">39750.050.040</a> |        |     |                               |

## Round head grooved pin



ISO 8746  
 DIN 1476  
 NEN 2460



### Technical data

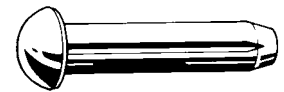
| d1         | Tolerance  | d3   | k   |
|------------|------------|------|-----|
| 1,4        | 0/ - 0,05  | 2,4  | 0,8 |
| 1,7 (#DIN) | 0/ - 0,05  | 3    | 1   |
| 2          | 0/ - 0,05  | 3,5  | 1,2 |
| 2,5        | -          | 4,4  | 1,4 |
| 2,6 (#DIN) | 0/ - 0,075 | 4,5  | 1,6 |
| 3          | 0/ - 0,075 | 5,2  | 1,8 |
| 4          | 0/ - 0,1   | 7    | 2,4 |
| 5          | 0/ - 0,1   | 8,8  | 3   |
| 6          | 0/ - 0,1   | 10,5 | 3,6 |

- For the hole diameter  $d_1$  (nom.) with tolerance field H11 is recommended.
- The nominal length (L) is with tolerance js15.

### 39760 Round head grooved pin

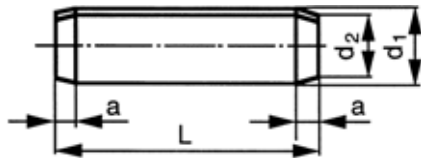
L11F

**Material** Steel USt 36-2  
**Packaging** Standard

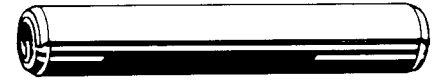


| d1 x L  | ☒   | Art.number                    | d1 x L   | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|--------|-----|-------------------------------|
| 1,4X3MM | 200 | <a href="#">39760.014.003</a> | 2,6X4MM  | 200 | <a href="#">39760.026.004</a> | 4X12MM | 200 | <a href="#">39760.040.012</a> |
| 1,4X4MM | 200 | <a href="#">39760.014.004</a> | 2,6X5MM  | 200 | <a href="#">39760.026.005</a> | 4X15MM | 200 | <a href="#">39760.040.015</a> |
| 1,4X6MM | 200 | <a href="#">39760.014.006</a> | 2,6X6MM  | 200 | <a href="#">39760.026.006</a> |        |     |                               |
|         |     |                               | 2,6X8MM  | 200 | <a href="#">39760.026.008</a> | 5X8MM  | 200 | <a href="#">39760.050.008</a> |
| 1,7X3MM | 200 | <a href="#">39760.017.003</a> | 2,6X10MM | 200 | <a href="#">39760.026.010</a> | 5X10MM | 200 | <a href="#">39760.050.010</a> |
| 1,7X4MM | 200 | <a href="#">39760.017.004</a> |          |     |                               | 5X12MM | 200 | <a href="#">39760.050.012</a> |
| 1,7X5MM | 200 | <a href="#">39760.017.005</a> | 3X4MM    | 200 | <a href="#">39760.030.004</a> | 5X15MM | 200 | <a href="#">39760.050.015</a> |
| 1,7X6MM | 200 | <a href="#">39760.017.006</a> | 3X5MM    | 200 | <a href="#">39760.030.005</a> | 5X20MM | 200 | <a href="#">39760.050.020</a> |
|         |     |                               | 3X6MM    | 200 | <a href="#">39760.030.006</a> | 5X25MM | 200 | <a href="#">39760.050.025</a> |
| 2X3MM   | 200 | <a href="#">39760.020.003</a> | 3X8MM    | 200 | <a href="#">39760.030.008</a> |        |     |                               |
| 2X4MM   | 200 | <a href="#">39760.020.004</a> | 3X10MM   | 200 | <a href="#">39760.030.010</a> | 6X10MM | 200 | <a href="#">39760.060.010</a> |
| 2X5MM   | 200 | <a href="#">39760.020.005</a> | 3X12MM   | 200 | <a href="#">39760.030.012</a> | 6X12MM | 200 | <a href="#">39760.060.012</a> |
| 2X6MM   | 200 | <a href="#">39760.020.006</a> | 3X15MM   | 200 | <a href="#">39760.030.015</a> | 6X15MM | 200 | <a href="#">39760.060.015</a> |
| 2X8MM   | 200 | <a href="#">39760.020.008</a> |          |     |                               | 6X20MM | 200 | <a href="#">39760.060.020</a> |
| 2X10MM  | 200 | <a href="#">39760.020.010</a> | 4X6MM    | 200 | <a href="#">39760.040.006</a> | 6X25MM | 200 | <a href="#">39760.060.025</a> |
|         |     |                               | 4X8MM    | 200 | <a href="#">39760.040.008</a> |        |     |                               |
| 2,6X3MM | 200 | <a href="#">39760.026.003</a> | 4X10MM   | 200 | <a href="#">39760.040.010</a> |        |     |                               |

## Spring-type straight pin (spiral pin) coiled, standard duty



ISO 8750  
 DIN 7343  
 NEN 2553

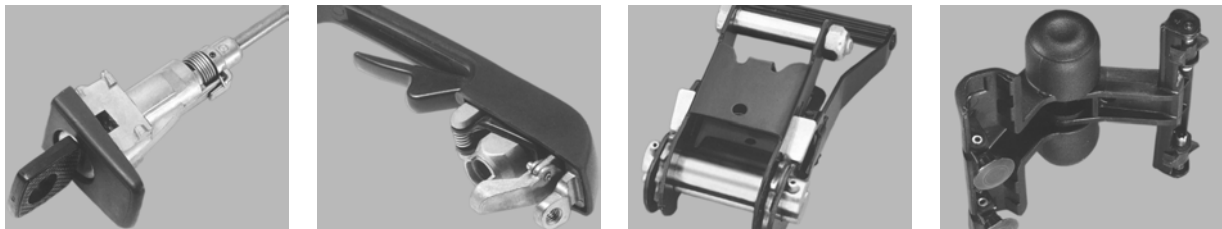


### Technical data

| d (nom.) | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> | a ≈ | V    |
|----------|-----------------------|-----------------------|----------------|-----|------|
| 1        | 1,05                  | 1,15                  | 0,95           | 0,3 | 0,6  |
| 1,5      | 1,62                  | 1,73                  | 1,4            | 0,5 | 1,45 |
| 2        | 2,13                  | 2,25                  | 1,9            | 0,7 | 2,5  |
| 2,5      | 2,65                  | 2,78                  | 2,4            | 0,7 | 3,9  |
| 3        | 3,15                  | 3,3                   | 2,9            | 0,9 | 5,5  |
| 4        | 4,2                   | 4,4                   | 3,9            | 1,1 | 9,6  |
| 5        | 5,25                  | 5,5                   | 4,85           | 1,3 | 15   |
| 6        | 6,25                  | 6,5                   | 5,85           | 1,5 | 22   |
| 8        | 8,3                   | 8,63                  | 7,8            | 2   | 39   |
| 10       | 10,35                 | 10,8                  | 9,75           | 2,5 | 62   |
| 12       | 12,4                  | 12,85                 | 11,7           | 3   | 89   |
| 14       | 14,45                 | 14,95                 | 13,6           | 3,5 | 120  |
| 16       | 16,45                 | 17                    | 15,6           | 4   | 155  |

- V = Shear strength double min. in kN.
- Special features of spring-type straight pins (spiral pins):
- Are used for the dismantable connection (positioning) of two or more parts and can also be applied as shafts and hinge-, stop- or carrierpins.
- Due to the spiral shaped cross section (approx. 2.1/4 coils) the spring-type straight pins (spiral pins) are very flexible and suitable to be used more times for dynamic loads. Equal stress distribution throughout its cross section against the hole wall produces a good press fit, which can absorb shear forces unaffected by the direction.
- Swaged chamfer at both ends, so they can easily be inserted and installed automatically.
- For the hole diameter d (nom.) the tolerance H12 is recommended except for d (nom.)1mm, the tolerance H10 is recommended.

### Examples of application



### 39140 Spring-type straight pin (spiral pin) coiled, standard duty

L09A

**Material** Spring steel 420-560 HV30  
**Packaging** Standard



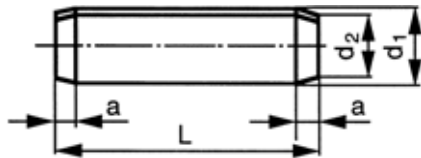
| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,5X4MM      | 200 | <a href="#">39140.015.004</a> | 2,5X10MM     | 200 | <a href="#">39140.025.010</a> | 3X28MM       | 200 | <a href="#">39140.030.028</a> |
| 1,5X6MM      | 200 | <a href="#">39140.015.006</a> | 2,5X12MM     | 200 | <a href="#">39140.025.012</a> | 3X30MM       | 200 | <a href="#">39140.030.030</a> |
| 1,5X8MM      | 200 | <a href="#">39140.015.008</a> | 2,5X14MM     | 200 | <a href="#">39140.025.014</a> |              |     |                               |
| 1,5X10MM     | 200 | <a href="#">39140.015.010</a> | 2,5X16MM     | 200 | <a href="#">39140.025.016</a> | 4X10MM       | 200 | <a href="#">39140.040.010</a> |
| 1,5X12MM     | 200 | <a href="#">39140.015.012</a> | 2,5X18MM     | 200 | <a href="#">39140.025.018</a> | 4X12MM       | 200 | <a href="#">39140.040.012</a> |
| 1,5X14MM     | 200 | <a href="#">39140.015.014</a> | 2,5X20MM     | 200 | <a href="#">39140.025.020</a> | 4X16MM       | 200 | <a href="#">39140.040.016</a> |
| 1,5X16MM     | 200 | <a href="#">39140.015.016</a> | 2,5X24MM     | 200 | <a href="#">39140.025.024</a> | 4X18MM       | 200 | <a href="#">39140.040.018</a> |
|              |     |                               |              |     |                               | 4X20MM       | 200 | <a href="#">39140.040.020</a> |
| 2X6MM        | 200 | <a href="#">39140.020.006</a> | 3X8MM        | 200 | <a href="#">39140.030.008</a> | 4X22MM       | 200 | <a href="#">39140.040.022</a> |
| 2X8MM        | 200 | <a href="#">39140.020.008</a> | 3X10MM       | 200 | <a href="#">39140.030.010</a> | 4X24MM       | 200 | <a href="#">39140.040.024</a> |
| 2X10MM       | 200 | <a href="#">39140.020.010</a> | 3X12MM       | 200 | <a href="#">39140.030.012</a> | 4X26MM       | 200 | <a href="#">39140.040.026</a> |
| 2X12MM       | 200 | <a href="#">39140.020.012</a> | 3X14MM       | 200 | <a href="#">39140.030.014</a> | 4X28MM       | 200 | <a href="#">39140.040.028</a> |
| 2X14MM       | 200 | <a href="#">39140.020.014</a> | 3X16MM       | 200 | <a href="#">39140.030.016</a> | 4X30MM       | 200 | <a href="#">39140.040.030</a> |
| 2X16MM       | 200 | <a href="#">39140.020.016</a> | 3X20MM       | 200 | <a href="#">39140.030.020</a> | 4X32MM       | 100 | <a href="#">39140.040.032</a> |
| 2X20MM       | 200 | <a href="#">39140.020.020</a> | 3X22MM       | 200 | <a href="#">39140.030.022</a> | 4X35MM       | 100 | <a href="#">39140.040.035</a> |
|              |     |                               | 3X24MM       | 200 | <a href="#">39140.030.024</a> | 4X40MM       | 100 | <a href="#">39140.040.040</a> |
| 2,5X8MM      | 200 | <a href="#">39140.025.008</a> | 3X26MM       | 200 | <a href="#">39140.030.026</a> |              |     |                               |

**39140 Spring-type straight pin (spiral pin) coiled, standard duty**

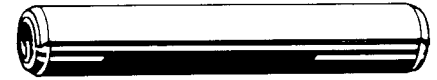
| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|----|-------------------------------|
| 5X12MM       | 200 | <a href="#">39140.050.012</a> | 6X50MM       | 50  | <a href="#">39140.060.050</a> |              |    |                               |
| 5X16MM       | 200 | <a href="#">39140.050.016</a> |              |     |                               | 12X30MM      | 25 | <a href="#">39140.120.030</a> |
| 5X20MM       | 100 | <a href="#">39140.050.020</a> | 8X20MM       | 100 | <a href="#">39140.080.020</a> | 12X35MM      | 25 | <a href="#">39140.120.035</a> |
| 5X22MM       | 100 | <a href="#">39140.050.022</a> | 8X24MM       | 100 | <a href="#">39140.080.024</a> | 12X40MM      | 25 | <a href="#">39140.120.040</a> |
| 5X24MM       | 100 | <a href="#">39140.050.024</a> | 8X30MM       | 50  | <a href="#">39140.080.030</a> | 12X50MM      | 10 | <a href="#">39140.120.050</a> |
| 5X26MM       | 100 | <a href="#">39140.050.026</a> | 8X32MM       | 50  | <a href="#">39140.080.032</a> | 12X55MM      | 10 | <a href="#">39140.120.055</a> |
| 5X28MM       | 100 | <a href="#">39140.050.028</a> | 8X35MM       | 50  | <a href="#">39140.080.035</a> | 12X60MM      | 10 | <a href="#">39140.120.060</a> |
| 5X30MM       | 100 | <a href="#">39140.050.030</a> | 8X40MM       | 50  | <a href="#">39140.080.040</a> | 12X70MM      | 10 | <a href="#">39140.120.070</a> |
| 5X32MM       | 100 | <a href="#">39140.050.032</a> | 8X50MM       | 50  | <a href="#">39140.080.050</a> | 12X80MM      | 10 | <a href="#">39140.120.080</a> |
| 5X35MM       | 100 | <a href="#">39140.050.035</a> | 8X60MM       | 50  | <a href="#">39140.080.060</a> | 12X85MM      | 10 | <a href="#">39140.120.085</a> |
| 5X40MM       | 100 | <a href="#">39140.050.040</a> | 8X70MM       | 25  | <a href="#">39140.080.070</a> | 12X90MM      | 10 | <a href="#">39140.120.090</a> |
| 5X45MM       | 100 | <a href="#">39140.050.045</a> |              |     |                               | 12X100MM     | 10 | <a href="#">39140.120.100</a> |
|              |     |                               | 10X20MM      | 50  | <a href="#">39140.100.020</a> | 12X120MM     | 10 | <a href="#">39140.120.120</a> |
| 6X12MM       | 200 | <a href="#">39140.060.012</a> | 10X22MM      | 50  | <a href="#">39140.100.022</a> |              |    |                               |
| 6X16MM       | 200 | <a href="#">39140.060.016</a> | 10X24MM      | 50  | <a href="#">39140.100.024</a> | 16X40MM      | 5  | <a href="#">39140.160.040</a> |
| 6X20MM       | 100 | <a href="#">39140.060.020</a> | 10X28MM      | 50  | <a href="#">39140.100.028</a> | 16X50MM      | 5  | <a href="#">39140.160.050</a> |
| 6X24MM       | 100 | <a href="#">39140.060.024</a> | 10X30MM      | 50  | <a href="#">39140.100.030</a> | 16X60MM      | 5  | <a href="#">39140.160.060</a> |
| 6X26MM       | 100 | <a href="#">39140.060.026</a> | 10X35MM      | 25  | <a href="#">39140.100.035</a> | 16X80MM      | 5  | <a href="#">39140.160.080</a> |
| 6X28MM       | 100 | <a href="#">39140.060.028</a> | 10X40MM      | 25  | <a href="#">39140.100.040</a> | 16X90MM      | 5  | <a href="#">39140.160.090</a> |
| 6X30MM       | 100 | <a href="#">39140.060.030</a> | 10X45MM      | 25  | <a href="#">39140.100.045</a> | 16X100MM     | 5  | <a href="#">39140.160.100</a> |
| 6X32MM       | 100 | <a href="#">39140.060.032</a> | 10X50MM      | 25  | <a href="#">39140.100.050</a> | 16X120MM     | 5  | <a href="#">39140.160.120</a> |
| 6X35MM       | 100 | <a href="#">39140.060.035</a> | 10X60MM      | 25  | <a href="#">39140.100.060</a> |              |    |                               |
| 6X40MM       | 100 | <a href="#">39140.060.040</a> | 10X70MM      | 25  | <a href="#">39140.100.070</a> |              |    |                               |
| 6X45MM       | 50  | <a href="#">39140.060.045</a> | 10X80MM      | 10  | <a href="#">39140.100.080</a> |              |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Spring-type straight pin (spiral pin) coiled, standard duty A2



ISO ≈8750  
 DIN ≈7343  
 NEN ≈2553



### Technical data

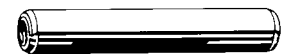
| d (nom.) | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> | a ≈ | V    |
|----------|-----------------------|-----------------------|----------------|-----|------|
| 1        | 1,05                  | 1,15                  | 0,95           | 0,3 | 0,45 |
| 1,5      | 1,62                  | 1,73                  | 1,4            | 0,5 | 1,05 |
| 2        | 2,13                  | 2,25                  | 1,9            | 0,7 | 1,9  |
| 2,5      | 2,65                  | 2,78                  | 2,4            | 0,7 | 2,9  |
| 3        | 3,15                  | 3,3                   | 2,9            | 0,9 | 4,2  |
| 4        | 4,2                   | 4,4                   | 3,9            | 1,1 | 7,6  |
| 5        | 5,25                  | 5,5                   | 4,85           | 1,3 | 11,5 |
| 6        | 6,25                  | 6,5                   | 5,85           | 1,5 | 16,8 |
| 8        | 8,3                   | 8,63                  | 7,8            | 2   | 30   |

- V = Shear strength double min. in kN.
- Special features of spring-type straight pins (spiral pins):
- Are used for the dismantlable connection (positioning) of two or more parts and can also be applied as shafts and hinge-, stop- or carrierpins.
- Due to the spiral shaped cross section (approx. 2.1/4 coils) the spring-type straight pins (spiral pins) are very flexible and suitable to be used more times for dynamic loads.
- Equal stress distribution throughout its cross section against the hole wall produces a good press fit, which can absorb shear forces unaffected by the direction.
- Swaged chamfer at both ends, so they can easily be inserted and installed automatically.
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.
- For the hole diameter d (nom.) with tolerance H12 is recommended except for d (nom.) 1mm the tolerance H10 is recommended.

### 51430 Spring-type straight pin (spiral pin) coiled, standard duty

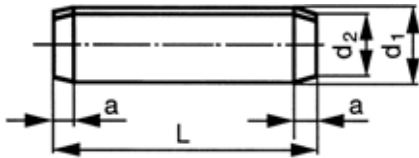
R09A

**Material** Stainless steel A2  
**Packaging** Standard

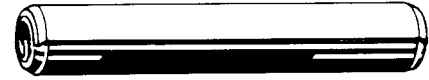


| d x L    | ☒   | Art.number                    | d x L  | ☒   | Art.number                    | d x L  | ☒   | Art.number                    |
|----------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 1X4MM    | 200 | <a href="#">51430.010.004</a> | 3X12MM | 200 | <a href="#">51430.030.012</a> | 5X30MM | 100 | <a href="#">51430.050.030</a> |
| 1X6MM    | 200 | <a href="#">51430.010.006</a> | 3X14MM | 200 | <a href="#">51430.030.014</a> | 5X32MM | 100 | <a href="#">51430.050.032</a> |
| 1X8MM    | 200 | <a href="#">51430.010.008</a> | 3X16MM | 200 | <a href="#">51430.030.016</a> | 5X35MM | 100 | <a href="#">51430.050.035</a> |
| 1X10MM   | 200 | <a href="#">51430.010.010</a> | 3X18MM | 200 | <a href="#">51430.030.018</a> | 5X40MM | 100 | <a href="#">51430.050.040</a> |
| 1X12MM   | 200 | <a href="#">51430.010.012</a> | 3X20MM | 200 | <a href="#">51430.030.020</a> | 5X45MM | 100 | <a href="#">51430.050.045</a> |
|          |     |                               | 3X22MM | 200 | <a href="#">51430.030.022</a> |        |     |                               |
| 1,5X4MM  | 200 | <a href="#">51430.015.004</a> | 3X24MM | 200 | <a href="#">51430.030.024</a> | 6X12MM | 200 | <a href="#">51430.060.012</a> |
| 1,5X5MM  | 200 | <a href="#">51430.015.005</a> | 3X26MM | 200 | <a href="#">51430.030.026</a> | 6X14MM | 200 | <a href="#">51430.060.014</a> |
| 1,5X8MM  | 200 | <a href="#">51430.015.008</a> | 3X28MM | 200 | <a href="#">51430.030.028</a> | 6X16MM | 200 | <a href="#">51430.060.016</a> |
| 1,5X10MM | 200 | <a href="#">51430.015.010</a> | 3X30MM | 200 | <a href="#">51430.030.030</a> | 6X18MM | 100 | <a href="#">51430.060.018</a> |
| 1,5X12MM | 200 | <a href="#">51430.015.012</a> |        |     |                               | 6X20MM | 100 | <a href="#">51430.060.020</a> |
| 1,5X14MM | 200 | <a href="#">51430.015.014</a> | 4X8MM  | 200 | <a href="#">51430.040.008</a> | 6X22MM | 100 | <a href="#">51430.060.022</a> |
| 1,5X16MM | 200 | <a href="#">51430.015.016</a> | 4X10MM | 200 | <a href="#">51430.040.010</a> | 6X24MM | 100 | <a href="#">51430.060.024</a> |
|          |     |                               | 4X12MM | 200 | <a href="#">51430.040.012</a> | 6X26MM | 100 | <a href="#">51430.060.026</a> |
| 2X6MM    | 200 | <a href="#">51430.020.006</a> | 4X14MM | 200 | <a href="#">51430.040.014</a> | 6X28MM | 100 | <a href="#">51430.060.028</a> |
| 2X8MM    | 200 | <a href="#">51430.020.008</a> | 4X16MM | 200 | <a href="#">51430.040.016</a> | 6X30MM | 100 | <a href="#">51430.060.030</a> |
| 2X10MM   | 200 | <a href="#">51430.020.010</a> | 4X18MM | 200 | <a href="#">51430.040.018</a> | 6X32MM | 100 | <a href="#">51430.060.032</a> |
| 2X12MM   | 200 | <a href="#">51430.020.012</a> | 4X20MM | 200 | <a href="#">51430.040.020</a> | 6X35MM | 100 | <a href="#">51430.060.035</a> |
| 2X14MM   | 200 | <a href="#">51430.020.014</a> | 4X22MM | 200 | <a href="#">51430.040.022</a> | 6X40MM | 100 | <a href="#">51430.060.040</a> |
| 2X16MM   | 200 | <a href="#">51430.020.016</a> | 4X24MM | 200 | <a href="#">51430.040.024</a> | 6X45MM | 100 | <a href="#">51430.060.045</a> |
| 2X18MM   | 200 | <a href="#">51430.020.018</a> | 4X26MM | 200 | <a href="#">51430.040.026</a> | 6X50MM | 100 | <a href="#">51430.060.050</a> |
| 2X20MM   | 200 | <a href="#">51430.020.020</a> | 4X28MM | 200 | <a href="#">51430.040.028</a> |        |     |                               |
|          |     |                               | 4X30MM | 200 | <a href="#">51430.040.030</a> | 8X16MM | 100 | <a href="#">51430.080.016</a> |
| 2,5X8MM  | 200 | <a href="#">51430.025.008</a> | 4X35MM | 100 | <a href="#">51430.040.035</a> | 8X20MM | 100 | <a href="#">51430.080.020</a> |
| 2,5X10MM | 200 | <a href="#">51430.025.010</a> | 4X40MM | 100 | <a href="#">51430.040.040</a> | 8X24MM | 100 | <a href="#">51430.080.024</a> |
| 2,5X12MM | 200 | <a href="#">51430.025.012</a> |        |     |                               | 8X26MM | 50  | <a href="#">51430.080.026</a> |
| 2,5X14MM | 200 | <a href="#">51430.025.014</a> | 5X12MM | 200 | <a href="#">51430.050.012</a> | 8X28MM | 50  | <a href="#">51430.080.028</a> |
| 2,5X16MM | 200 | <a href="#">51430.025.016</a> | 5X14MM | 200 | <a href="#">51430.050.014</a> | 8X30MM | 50  | <a href="#">51430.080.030</a> |
| 2,5X18MM | 200 | <a href="#">51430.025.018</a> | 5X16MM | 200 | <a href="#">51430.050.016</a> | 8X32MM | 50  | <a href="#">51430.080.032</a> |
| 2,5X20MM | 200 | <a href="#">51430.025.020</a> | 5X18MM | 100 | <a href="#">51430.050.018</a> | 8X35MM | 50  | <a href="#">51430.080.035</a> |
| 2,5X24MM | 200 | <a href="#">51430.025.024</a> | 5X20MM | 100 | <a href="#">51430.050.020</a> | 8X40MM | 50  | <a href="#">51430.080.040</a> |
|          |     |                               | 5X24MM | 100 | <a href="#">51430.050.024</a> | 8X45MM | 50  | <a href="#">51430.080.045</a> |
| 3X8MM    | 200 | <a href="#">51430.030.008</a> | 5X26MM | 100 | <a href="#">51430.050.026</a> | 8X50MM | 50  | <a href="#">51430.080.050</a> |
| 3X10MM   | 200 | <a href="#">51430.030.010</a> | 5X28MM | 100 | <a href="#">51430.050.028</a> |        |     |                               |

## Spring-type straight pin (spiral pin) coiled, heavy duty



ISO 8748  
DIN 7344  
NEN 2554



### Technical data

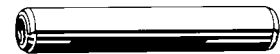
| d (nom.) | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> | a ≈ | V    |
|----------|-----------------------|-----------------------|----------------|-----|------|
| 1,5      | 1,61                  | 1,71                  | 1,4            | 0,5 | 1,9  |
| 2        | 2,11                  | 2,21                  | 1,9            | 0,7 | 3,5  |
| 2,5      | 2,62                  | 2,73                  | 2,4            | 0,7 | 5,5  |
| 3        | 3,12                  | 3,25                  | 2,9            | 0,9 | 7,6  |
| 4        | 4,15                  | 4,3                   | 3,9            | 1,1 | 13,5 |
| 5        | 5,15                  | 5,35                  | 4,85           | 1,3 | 20   |
| 6        | 6,18                  | 6,4                   | 5,85           | 1,5 | 30   |

- V = Shear strength double min. in kN.
- Special features of spring-type straight pins (spiral pins):
- Are used for the dismantable connection (positioning) of two or more parts and can also be applied as shafts and hinge-, stop- or carrierpins.
- Due to the spiral shaped cross section (approx. 2. 1/4 coils) the spring-type straight pins (spiral pins) are very flexible and suitable to be used more times for dynamic loads. Equal stress distribution throughout its cross section against the hole wall produces a good press fit, which can.
- Absorb shear forces unaffected by the direction.
- Swaged chamfer at both ends, so they can easily be inserted and installed automatically.
- For the hole diameter d (nom.) the tolerance H12 is recommended except for d (nom.)1mm, the tolerance H10 is recommended.

### 39150 Spring-type straight pin (spiral pin) coiled, heavy duty

L09A

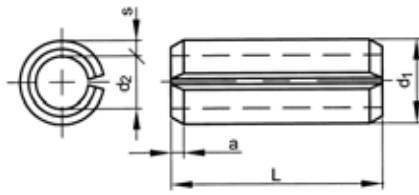
**Material** Spring steel 420-560 HV30  
**Packaging** Standard



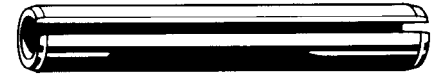
| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,5X4MM      | 200 | <a href="#">39150.015.004</a> | 3X10MM       | 200 | <a href="#">39150.030.010</a> | 5X16MM       | 200 | <a href="#">39150.050.016</a> |
| 1,5X5MM      | 200 | <a href="#">39150.015.005</a> | 3X12MM       | 200 | <a href="#">39150.030.012</a> | 5X18MM       | 100 | <a href="#">39150.050.018</a> |
| 1,5X6MM      | 200 | <a href="#">39150.015.006</a> | 3X14MM       | 200 | <a href="#">39150.030.014</a> | 5X20MM       | 100 | <a href="#">39150.050.020</a> |
| 1,5X8MM      | 200 | <a href="#">39150.015.008</a> | 3X16MM       | 200 | <a href="#">39150.030.016</a> | 5X22MM       | 100 | <a href="#">39150.050.022</a> |
| 1,5X10MM     | 200 | <a href="#">39150.015.010</a> | 3X20MM       | 200 | <a href="#">39150.030.020</a> | 5X24MM       | 100 | <a href="#">39150.050.024</a> |
| 1,5X12MM     | 200 | <a href="#">39150.015.012</a> | 3X22MM       | 200 | <a href="#">39150.030.022</a> | 5X26MM       | 100 | <a href="#">39150.050.026</a> |
| 1,5X14MM     | 200 | <a href="#">39150.015.014</a> | 3X24MM       | 200 | <a href="#">39150.030.024</a> | 5X28MM       | 100 | <a href="#">39150.050.028</a> |
| 1,5X16MM     | 200 | <a href="#">39150.015.016</a> | 3X28MM       | 200 | <a href="#">39150.030.028</a> | 5X30MM       | 100 | <a href="#">39150.050.030</a> |
|              |     |                               | 3X30MM       | 200 | <a href="#">39150.030.030</a> | 5X32MM       | 100 | <a href="#">39150.050.032</a> |
| 2X6MM        | 200 | <a href="#">39150.020.006</a> |              |     |                               | 5X35MM       | 100 | <a href="#">39150.050.035</a> |
| 2X8MM        | 200 | <a href="#">39150.020.008</a> | 4X10MM       | 200 | <a href="#">39150.040.010</a> | 5X40MM       | 100 | <a href="#">39150.050.040</a> |
| 2X10MM       | 200 | <a href="#">39150.020.010</a> | 4X12MM       | 200 | <a href="#">39150.040.012</a> | 5X45MM       | 100 | <a href="#">39150.050.045</a> |
| 2X12MM       | 200 | <a href="#">39150.020.012</a> | 4X14MM       | 200 | <a href="#">39150.040.014</a> |              |     |                               |
| 2X14MM       | 200 | <a href="#">39150.020.014</a> | 4X16MM       | 200 | <a href="#">39150.040.016</a> | 6X14MM       | 100 | <a href="#">39150.060.014</a> |
| 2X16MM       | 200 | <a href="#">39150.020.016</a> | 4X18MM       | 200 | <a href="#">39150.040.018</a> | 6X16MM       | 100 | <a href="#">39150.060.016</a> |
| 2X20MM       | 200 | <a href="#">39150.020.020</a> | 4X20MM       | 200 | <a href="#">39150.040.020</a> | 6X18MM       | 100 | <a href="#">39150.060.018</a> |
|              |     |                               | 4X22MM       | 200 | <a href="#">39150.040.022</a> | 6X20MM       | 100 | <a href="#">39150.060.020</a> |
| 2,5X10MM     | 200 | <a href="#">39150.025.010</a> | 4X24MM       | 200 | <a href="#">39150.040.024</a> | 6X22MM       | 100 | <a href="#">39150.060.022</a> |
| 2,5X12MM     | 200 | <a href="#">39150.025.012</a> | 4X26MM       | 200 | <a href="#">39150.040.026</a> | 6X24MM       | 100 | <a href="#">39150.060.024</a> |
| 2,5X14MM     | 200 | <a href="#">39150.025.014</a> | 4X28MM       | 200 | <a href="#">39150.040.028</a> | 6X26MM       | 100 | <a href="#">39150.060.026</a> |
| 2,5X16MM     | 200 | <a href="#">39150.025.016</a> | 4X30MM       | 200 | <a href="#">39150.040.030</a> | 6X28MM       | 100 | <a href="#">39150.060.028</a> |
| 2,5X18MM     | 200 | <a href="#">39150.025.018</a> | 4X32MM       | 100 | <a href="#">39150.040.032</a> | 6X30MM       | 100 | <a href="#">39150.060.030</a> |
| 2,5X20MM     | 200 | <a href="#">39150.025.020</a> | 4X35MM       | 100 | <a href="#">39150.040.035</a> | 6X32MM       | 100 | <a href="#">39150.060.032</a> |
| 2,5X22MM     | 200 | <a href="#">39150.025.022</a> | 4X40MM       | 100 | <a href="#">39150.040.040</a> | 6X35MM       | 100 | <a href="#">39150.060.035</a> |
| 2,5X24MM     | 200 | <a href="#">39150.025.024</a> |              |     |                               | 6X40MM       | 100 | <a href="#">39150.060.040</a> |
|              |     |                               | 5X12MM       | 200 | <a href="#">39150.050.012</a> | 6X50MM       | 100 | <a href="#">39150.060.050</a> |
| 3X8MM        | 200 | <a href="#">39150.030.008</a> | 5X14MM       | 200 | <a href="#">39150.050.014</a> |              |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Spring-type straight pin slotted, heavy duty



ISO 8752  
 DIN 1481  
 NEN 2458  
 BS 7060



### Technical data

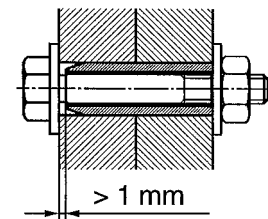
| d (nom.) | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> ≈ | s    | a (min.) | V     |
|----------|-----------------------|-----------------------|------------------|------|----------|-------|
| 1,5      | 1,7                   | 1,8                   | 1,1              | 0,3  | 0,25     | 1,58  |
| 2        | 2,3                   | 2,4                   | 1,5              | 0,4  | 0,35     | 2,82  |
| 2,5      | 2,8                   | 2,9                   | 1,8              | 0,5  | 0,4      | 4,38  |
| 3        | 3,3                   | 3,5                   | 2,1              | 0,6  | 0,5      | 6,32  |
| 3,5      | 3,8                   | 4                     | 2,3              | 0,75 | 0,6      | 9,06  |
| 4        | 4,4                   | 4,6                   | 2,8              | 0,8  | 0,65     | 11,24 |
| 4,5      | 4,9                   | 5,1                   | 2,9              | 1    | 0,8      | 15,36 |
| 5        | 5,4                   | 5,6                   | 3,4              | 1    | 0,9      | 17,54 |
| 6        | 6,4                   | 6,7                   | 3,9              | 1,25 | 1,2      | 26,04 |
| 7 (#DIN) | 7,5                   | 7,8                   | 4,5              | 1,5  | 2        | 31,4  |
| 8        | 8,5                   | 8,8                   | 5,5              | 1,5  | 1,6      | 42,76 |
| 9 (#DIN) | 9,5                   | 9,8                   | 5,5              | 2    | 2        | 60,66 |
| 10       | 10,5                  | 10,8                  | 6,5              | 2    | 2        | 70,16 |
| 12       | 12,5                  | 12,8                  | 7,5              | 2,5  | 2        | 104,1 |
| 13       | 13,5                  | 13,8                  | 8,5              | 2,5  | 2        | 115,1 |
| 14       | 14,4                  | 14,8                  | 8,5              | 3    | 2        | 144,7 |
| 16       | 16,5                  | 16,8                  | 10,5             | 3    | 2        | 171   |
| 18       | 18,5                  | 18,9                  | 11,5             | 3,5  | 2        | 222,5 |
| 20       | 20,5                  | 20,9                  | 12,5             | 4    | 3        | 280,6 |

- V = Shear strength double min. in kN.
- For the hole diameter d(nom.) with tolerance field H12 is recommended.

Special features spring-type straight pins:

- are used to connect two or more construction elements to each other
- highly suitable to absorb shear forces
- to avoid movements in light bolt connections spring-type straight pins can be used accordingly to information stated below:

| d (nom.) spring-type straight pin   | 6   | 8   | 10  | 12  | 16  | 18   |
|-------------------------------------|-----|-----|-----|-----|-----|------|
| intended for bolt size              | M3  | M4  | M5  | M6  | M8  | M10  |
| associated washers acc. to DIN 7349 | 3,2 | 4,3 | 5,3 | 6,4 | 8,4 | 10,5 |



### 39100 Spring-type straight pin slotted, heavy duty

L09A

**Material** Spring steel 420-560 HV30  
**Packaging** Standard



9

| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,5X6MM      | 200 | <a href="#">39100.015.006</a> | 2,5X8MM      | 200 | <a href="#">39100.025.008</a> | 3X14MM       | 200 | <a href="#">39100.030.014</a> |
| 1,5X8MM      | 200 | <a href="#">39100.015.008</a> | 2,5X10MM     | 200 | <a href="#">39100.025.010</a> | 3X16MM       | 200 | <a href="#">39100.030.016</a> |
| 1,5X10MM     | 200 | <a href="#">39100.015.010</a> | 2,5X12MM     | 200 | <a href="#">39100.025.012</a> | 3X18MM       | 200 | <a href="#">39100.030.018</a> |
| 1,5X12MM     | 200 | <a href="#">39100.015.012</a> | 2,5X16MM     | 200 | <a href="#">39100.025.016</a> | 3X20MM       | 200 | <a href="#">39100.030.020</a> |
| 1,5X16MM     | 200 | <a href="#">39100.015.016</a> | 2,5X18MM     | 200 | <a href="#">39100.025.018</a> | 3X22MM       | 200 | <a href="#">39100.030.022</a> |
| 1,5X20MM     | 200 | <a href="#">39100.015.020</a> | 2,5X20MM     | 200 | <a href="#">39100.025.020</a> | 3X24MM       | 200 | <a href="#">39100.030.024</a> |
| 2X4MM        | 200 | <a href="#">39100.020.004</a> | 2,5X24MM     | 200 | <a href="#">39100.025.024</a> | 3X26MM       | 200 | <a href="#">39100.030.026</a> |
| 2X8MM        | 200 | <a href="#">39100.020.008</a> | 2,5X26MM     | 200 | <a href="#">39100.025.026</a> | 3X28MM       | 200 | <a href="#">39100.030.028</a> |
| 2X10MM       | 200 | <a href="#">39100.020.010</a> | 2,5X28MM     | 200 | <a href="#">39100.025.028</a> | 3X30MM       | 200 | <a href="#">39100.030.030</a> |
| 2X12MM       | 200 | <a href="#">39100.020.012</a> | 2,5X30MM     | 200 | <a href="#">39100.025.030</a> | 3X32MM       | 200 | <a href="#">39100.030.032</a> |
| 2X14MM       | 200 | <a href="#">39100.020.014</a> | 2,5X35MM     | 200 | <a href="#">39100.025.035</a> | 3X35MM       | 200 | <a href="#">39100.030.035</a> |
| 2X16MM       | 200 | <a href="#">39100.020.016</a> | 2,5X40MM     | 200 | <a href="#">39100.025.040</a> | 3X40MM       | 200 | <a href="#">39100.030.040</a> |
| 2X20MM       | 200 | <a href="#">39100.020.020</a> |              |     |                               | 3X45MM       | 200 | <a href="#">39100.030.045</a> |
| 2X24MM       | 200 | <a href="#">39100.020.024</a> | 3X6MM        | 200 | <a href="#">39100.030.006</a> | 3X50MM       | 200 | <a href="#">39100.030.050</a> |
| 2X26MM       | 200 | <a href="#">39100.020.026</a> | 3X8MM        | 200 | <a href="#">39100.030.008</a> |              |     |                               |
| 2X30MM       | 200 | <a href="#">39100.020.030</a> | 3X10MM       | 200 | <a href="#">39100.030.010</a> | 3,5X10MM     | 200 | <a href="#">39100.035.010</a> |
| 2X40MM       | 200 | <a href="#">39100.020.040</a> | 3X12MM       | 200 | <a href="#">39100.030.012</a> | 3,5X12MM     | 200 | <a href="#">39100.035.012</a> |
|              |     |                               |              |     |                               | 3,5X16MM     | 200 | <a href="#">39100.035.016</a> |

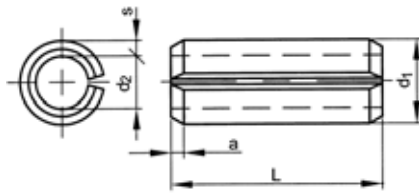
**39100 Spring-type straight pin slotted, heavy duty**

| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3,5X18MM     | 200 | <a href="#">39100.035.018</a> | 5X32MM       | 100 | <a href="#">39100.050.032</a> | 10X24MM      | 50  | <a href="#">39100.100.024</a> |
| 3,5X20MM     | 200 | <a href="#">39100.035.020</a> | 5X35MM       | 100 | <a href="#">39100.050.035</a> | 10X26MM      | 50  | <a href="#">39100.100.026</a> |
| 3,5X22MM     | 200 | <a href="#">39100.035.022</a> | 5X40MM       | 100 | <a href="#">39100.050.040</a> | 10X30MM      | 50  | <a href="#">39100.100.030</a> |
| 3,5X26MM     | 200 | <a href="#">39100.035.026</a> | 5X45MM       | 100 | <a href="#">39100.050.045</a> | 10X35MM      | 50  | <a href="#">39100.100.035</a> |
| 3,5X30MM     | 200 | <a href="#">39100.035.030</a> | 5X50MM       | 100 | <a href="#">39100.050.050</a> | 10X40MM      | 25  | <a href="#">39100.100.040</a> |
| 3,5X32MM     | 200 | <a href="#">39100.035.032</a> | 5X55MM       | 100 | <a href="#">39100.050.055</a> | 10X45MM      | 25  | <a href="#">39100.100.045</a> |
| 3,5X35MM     | 200 | <a href="#">39100.035.035</a> | 5X60MM       | 100 | <a href="#">39100.050.060</a> | 10X50MM      | 25  | <a href="#">39100.100.050</a> |
| 3,5X40MM     | 200 | <a href="#">39100.035.040</a> | 5X70MM       | 50  | <a href="#">39100.050.070</a> | 10X55MM      | 25  | <a href="#">39100.100.055</a> |
| 3,5X45MM     | 200 | <a href="#">39100.035.045</a> | 5X80MM       | 50  | <a href="#">39100.050.080</a> | 10X60MM      | 25  | <a href="#">39100.100.060</a> |
| 3,5X50MM     | 200 | <a href="#">39100.035.050</a> |              |     |                               | 10X70MM      | 25  | <a href="#">39100.100.070</a> |
|              |     |                               | 6X12MM       | 200 | <a href="#">39100.060.012</a> | 10X75MM      | 25  | <a href="#">39100.100.075</a> |
| 4X8MM        | 200 | <a href="#">39100.040.008</a> | 6X16MM       | 100 | <a href="#">39100.060.016</a> | 10X80MM      | 10  | <a href="#">39100.100.080</a> |
| 4X10MM       | 200 | <a href="#">39100.040.010</a> | 6X18MM       | 100 | <a href="#">39100.060.018</a> | 10X90MM      | 10  | <a href="#">39100.100.090</a> |
| 4X12MM       | 200 | <a href="#">39100.040.012</a> | 6X20MM       | 100 | <a href="#">39100.060.020</a> | 10X100MM     | 10  | <a href="#">39100.100.100</a> |
| 4X14MM       | 200 | <a href="#">39100.040.014</a> | 6X22MM       | 100 | <a href="#">39100.060.022</a> |              |     |                               |
| 4X16MM       | 200 | <a href="#">39100.040.016</a> | 6X24MM       | 100 | <a href="#">39100.060.024</a> | 12X24MM      | 25  | <a href="#">39100.120.024</a> |
| 4X18MM       | 200 | <a href="#">39100.040.018</a> | 6X26MM       | 100 | <a href="#">39100.060.026</a> | 12X30MM      | 25  | <a href="#">39100.120.030</a> |
| 4X20MM       | 200 | <a href="#">39100.040.020</a> | 6X28MM       | 100 | <a href="#">39100.060.028</a> | 12X36MM      | 25  | <a href="#">39100.120.036</a> |
| 4X22MM       | 200 | <a href="#">39100.040.022</a> | 6X30MM       | 100 | <a href="#">39100.060.030</a> | 12X40MM      | 25  | <a href="#">39100.120.040</a> |
| 4X24MM       | 200 | <a href="#">39100.040.024</a> | 6X32MM       | 100 | <a href="#">39100.060.032</a> | 12X45MM      | 100 | <a href="#">39100.120.045</a> |
| 4X26MM       | 200 | <a href="#">39100.040.026</a> | 6X35MM       | 100 | <a href="#">39100.060.035</a> | 12X50MM      | 10  | <a href="#">39100.120.050</a> |
| 4X28MM       | 200 | <a href="#">39100.040.028</a> | 6X40MM       | 100 | <a href="#">39100.060.040</a> | 12X60MM      | 10  | <a href="#">39100.120.060</a> |
| 4X30MM       | 200 | <a href="#">39100.040.030</a> | 6X45MM       | 50  | <a href="#">39100.060.045</a> | 12X65MM      | 10  | <a href="#">39100.120.065</a> |
| 4X32MM       | 100 | <a href="#">39100.040.032</a> | 6X50MM       | 50  | <a href="#">39100.060.050</a> | 12X70MM      | 10  | <a href="#">39100.120.070</a> |
| 4X35MM       | 100 | <a href="#">39100.040.035</a> | 6X55MM       | 50  | <a href="#">39100.060.055</a> | 12X80MM      | 10  | <a href="#">39100.120.080</a> |
| 4X40MM       | 100 | <a href="#">39100.040.040</a> | 6X60MM       | 50  | <a href="#">39100.060.060</a> | 12X90MM      | 10  | <a href="#">39100.120.090</a> |
| 4X45MM       | 100 | <a href="#">39100.040.045</a> | 6X65MM       | 50  | <a href="#">39100.060.065</a> | 12X100MM     | 10  | <a href="#">39100.120.100</a> |
| 4X50MM       | 100 | <a href="#">39100.040.050</a> | 6X70MM       | 50  | <a href="#">39100.060.070</a> |              |     |                               |
| 4X60MM       | 100 | <a href="#">39100.040.060</a> | 6X80MM       | 50  | <a href="#">39100.060.080</a> | 16X36MM      | 5   | <a href="#">39100.160.036</a> |
|              |     |                               | 6X90MM       | 50  | <a href="#">39100.060.090</a> | 16X40MM      | 5   | <a href="#">39100.160.040</a> |
| 4,5X10MM     | 200 | <a href="#">39100.045.010</a> | 6X100MM      | 50  | <a href="#">39100.060.100</a> | 16X50MM      | 5   | <a href="#">39100.160.050</a> |
| 4,5X12MM     | 200 | <a href="#">39100.045.012</a> |              |     |                               | 16X60MM      | 5   | <a href="#">39100.160.060</a> |
| 4,5X14MM     | 200 | <a href="#">39100.045.014</a> | 8X16MM       | 500 | <a href="#">39100.080.016</a> | 16X70MM      | 5   | <a href="#">39100.160.070</a> |
| 4,5X16MM     | 200 | <a href="#">39100.045.016</a> | 8X20MM       | 50  | <a href="#">39100.080.020</a> | 16X75MM      | 5   | <a href="#">39100.160.075</a> |
| 4,5X20MM     | 200 | <a href="#">39100.045.020</a> | 8X24MM       | 50  | <a href="#">39100.080.024</a> | 16X80MM      | 5   | <a href="#">39100.160.080</a> |
| 4,5X30MM     | 100 | <a href="#">39100.045.030</a> | 8X26MM       | 50  | <a href="#">39100.080.026</a> | 16X90MM      | 5   | <a href="#">39100.160.090</a> |
| 4,5X40MM     | 100 | <a href="#">39100.045.040</a> | 8X30MM       | 50  | <a href="#">39100.080.030</a> | 16X100MM     | 5   | <a href="#">39100.160.100</a> |
| 4,5X45MM     | 100 | <a href="#">39100.045.045</a> | 8X32MM       | 50  | <a href="#">39100.080.032</a> | 16X120MM     | 5   | <a href="#">39100.160.120</a> |
| 4,5X50MM     | 200 | <a href="#">39100.045.050</a> | 8X35MM       | 50  | <a href="#">39100.080.035</a> |              |     |                               |
| 4,5X60MM     | 200 | <a href="#">39100.045.060</a> | 8X40MM       | 50  | <a href="#">39100.080.040</a> | 20X60MM      | 5   | <a href="#">39100.200.060</a> |
|              |     |                               | 8X45MM       | 50  | <a href="#">39100.080.045</a> | 20X70MM      | 5   | <a href="#">39100.200.070</a> |
| 5X10MM       | 200 | <a href="#">39100.050.010</a> | 8X50MM       | 50  | <a href="#">39100.080.050</a> | 20X80MM      | 5   | <a href="#">39100.200.080</a> |
| 5X12MM       | 200 | <a href="#">39100.050.012</a> | 8X55MM       | 50  | <a href="#">39100.080.055</a> | 20X85MM      | 5   | <a href="#">39100.200.085</a> |
| 5X16MM       | 100 | <a href="#">39100.050.016</a> | 8X60MM       | 50  | <a href="#">39100.080.060</a> | 20X90MM      | 5   | <a href="#">39100.200.090</a> |
| 5X18MM       | 100 | <a href="#">39100.050.018</a> | 8X70MM       | 25  | <a href="#">39100.080.070</a> | 20X95MM      | 5   | <a href="#">39100.200.095</a> |
| 5X20MM       | 100 | <a href="#">39100.050.020</a> | 8X80MM       | 25  | <a href="#">39100.080.080</a> | 20X100MM     | 5   | <a href="#">39100.200.100</a> |
| 5X24MM       | 100 | <a href="#">39100.050.024</a> | 8X100MM      | 10  | <a href="#">39100.080.100</a> | 20X120MM     | 5   | <a href="#">39100.200.120</a> |
| 5X26MM       | 100 | <a href="#">39100.050.026</a> |              |     |                               |              |     |                               |
| 5X28MM       | 100 | <a href="#">39100.050.028</a> | 10X20MM      | 50  | <a href="#">39100.100.020</a> |              |     |                               |
| 5X30MM       | 100 | <a href="#">39100.050.030</a> | 10X22MM      | 50  | <a href="#">39100.100.022</a> |              |     |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.



## Spring-type straight pin slotted, light duty



ISO 13337  
 DIN 7346  
 NEN 2459



### Technical data

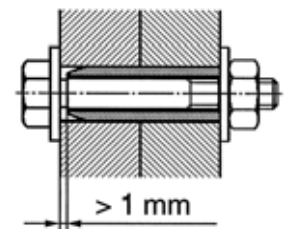
| d (nom.) | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> ≈ | s    | a    | V    |
|----------|-----------------------|-----------------------|------------------|------|------|------|
| 2        | 2,3                   | 2,4                   | 1,9              | 0,2  | 0,2  | 1,5  |
| 2,5      | 2,8                   | 2,9                   | 2,3              | 0,25 | 0,25 | 2,4  |
| 3        | 3,3                   | 3,5                   | 2,7              | 0,3  | 0,25 | 3,5  |
| 4        | 4,4                   | 4,6                   | 3,4              | 0,5  | 0,5  | 8    |
| 5        | 5,4                   | 5,6                   | 4,4              | 0,5  | 0,5  | 10,4 |
| 6        | 6,4                   | 6,7                   | 4,9              | 0,75 | 0,7  | 18   |
| 8        | 8,5                   | 8,8                   | 7                | 0,75 | 1,5  | 24   |
| 10       | 10,5                  | 10,8                  | 8,5              | 1    | 2    | 40   |
| 13       | 13,5                  | 13,8                  | 11               | 1,25 | 2    | 66   |

- V = Shear strength double min. in kN.
- For the hole diameter d(nom.) with tolerance field H12 is recommended.
- a: pins over 10mm have a single bevelled edge.

Special features spring type straight pins:

- are used to connect two or more construction elements to each other
- highly suitable to absorb shear forces
- to avoid movements in light bolt connections spring type straight pins can be used acc. to information below

| d (nom.) spring type straight pin slotted | 6   | 7   | 8   | 11  | 13   | 16  | 18  |
|---|-----|-----|-----|-----|------|-----|-----|
| intended for bolt size                    | M4  | M5  | M6  | M8  | M10  | M12 | M14 |
| associated washers acc. to DIN 125-1A     | 4,3 | 5,3 | 6,4 | 8,4 | 10,5 | 13  | 15  |



### 39060 Spring-type straight pin slotted, light duty

L09A

**Material** Spring steel 420-560 HV30  
**Packaging** Standard

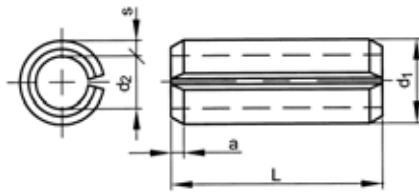


| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2X8MM        | 200 | <a href="#">39060.020.008</a> | 4X10MM       | 200 | <a href="#">39060.040.010</a> | 6X20MM       | 100 | <a href="#">39060.060.020</a> |
| 2X10MM       | 200 | <a href="#">39060.020.010</a> | 4X12MM       | 200 | <a href="#">39060.040.012</a> | 6X24MM       | 100 | <a href="#">39060.060.024</a> |
| 2X12MM       | 200 | <a href="#">39060.020.012</a> | 4X14MM       | 200 | <a href="#">39060.040.014</a> | 6X28MM       | 100 | <a href="#">39060.060.028</a> |
| 2X14MM       | 200 | <a href="#">39060.020.014</a> | 4X16MM       | 200 | <a href="#">39060.040.016</a> | 6X30MM       | 100 | <a href="#">39060.060.030</a> |
| 2X16MM       | 200 | <a href="#">39060.020.016</a> | 4X18MM       | 200 | <a href="#">39060.040.018</a> | 6X32MM       | 100 | <a href="#">39060.060.032</a> |
| 2X18MM       | 200 | <a href="#">39060.020.018</a> | 4X20MM       | 200 | <a href="#">39060.040.020</a> | 6X36MM       | 100 | <a href="#">39060.060.036</a> |
| 2X20MM       | 200 | <a href="#">39060.020.020</a> | 4X22MM       | 200 | <a href="#">39060.040.022</a> | 6X40MM       | 100 | <a href="#">39060.060.040</a> |
| 2X24MM       | 200 | <a href="#">39060.020.024</a> | 4X24MM       | 200 | <a href="#">39060.040.024</a> | 6X50MM       | 50  | <a href="#">39060.060.050</a> |
| 2X28MM       | 200 | <a href="#">39060.020.028</a> | 4X28MM       | 200 | <a href="#">39060.040.028</a> |              |     |                               |
|              |     |                               | 4X30MM       | 200 | <a href="#">39060.040.030</a> | 8X10MM       | 100 | <a href="#">39060.080.010</a> |
| 2,5X6MM      | 200 | <a href="#">39060.025.006</a> | 4X36MM       | 100 | <a href="#">39060.040.036</a> | 8X12MM       | 100 | <a href="#">39060.080.012</a> |
| 2,5X8MM      | 200 | <a href="#">39060.025.008</a> | 4X40MM       | 100 | <a href="#">39060.040.040</a> | 8X16MM       | 100 | <a href="#">39060.080.016</a> |
| 2,5X10MM     | 200 | <a href="#">39060.025.010</a> | 4X45MM       | 100 | <a href="#">39060.040.045</a> | 8X20MM       | 100 | <a href="#">39060.080.020</a> |
| 2,5X12MM     | 200 | <a href="#">39060.025.012</a> | 4X50MM       | 100 | <a href="#">39060.040.050</a> | 8X22MM       | 100 | <a href="#">39060.080.022</a> |
| 2,5X14MM     | 200 | <a href="#">39060.025.014</a> |              |     |                               | 8X24MM       | 100 | <a href="#">39060.080.024</a> |
| 2,5X16MM     | 200 | <a href="#">39060.025.016</a> | 5X6MM        | 200 | <a href="#">39060.050.006</a> | 8X26MM       | 100 | <a href="#">39060.080.026</a> |
| 2,5X20MM     | 200 | <a href="#">39060.025.020</a> | 5X8MM        | 200 | <a href="#">39060.050.008</a> | 8X30MM       | 50  | <a href="#">39060.080.030</a> |
| 2,5X24MM     | 200 | <a href="#">39060.025.024</a> | 5X10MM       | 200 | <a href="#">39060.050.010</a> | 8X32MM       | 50  | <a href="#">39060.080.032</a> |
| 2,5X30MM     | 200 | <a href="#">39060.025.030</a> | 5X12MM       | 200 | <a href="#">39060.050.012</a> | 8X36MM       | 50  | <a href="#">39060.080.036</a> |
|              |     |                               | 5X16MM       | 200 | <a href="#">39060.050.016</a> | 8X40MM       | 50  | <a href="#">39060.080.040</a> |
| 3X8MM        | 200 | <a href="#">39060.030.008</a> | 5X20MM       | 100 | <a href="#">39060.050.020</a> | 8X45MM       | 50  | <a href="#">39060.080.045</a> |
| 3X10MM       | 200 | <a href="#">39060.030.010</a> | 5X28MM       | 100 | <a href="#">39060.050.028</a> | 8X50MM       | 50  | <a href="#">39060.080.050</a> |
| 3X12MM       | 200 | <a href="#">39060.030.012</a> | 5X30MM       | 100 | <a href="#">39060.050.030</a> |              |     |                               |
| 3X16MM       | 200 | <a href="#">39060.030.016</a> | 5X36MM       | 100 | <a href="#">39060.050.036</a> | 10X12MM      | 50  | <a href="#">39060.100.012</a> |
| 3X20MM       | 200 | <a href="#">39060.030.020</a> | 5X40MM       | 100 | <a href="#">39060.050.040</a> | 10X16MM      | 50  | <a href="#">39060.100.016</a> |
| 3X22MM       | 200 | <a href="#">39060.030.022</a> |              |     |                               | 10X20MM      | 50  | <a href="#">39060.100.020</a> |
| 3X24MM       | 200 | <a href="#">39060.030.024</a> | 6X10MM       | 200 | <a href="#">39060.060.010</a> | 10X24MM      | 50  | <a href="#">39060.100.024</a> |
| 3X30MM       | 200 | <a href="#">39060.030.030</a> | 6X12MM       | 200 | <a href="#">39060.060.012</a> | 10X30MM      | 50  | <a href="#">39060.100.030</a> |
| 3X36MM       | 200 | <a href="#">39060.030.036</a> | 6X16MM       | 200 | <a href="#">39060.060.016</a> | 10X40MM      | 25  | <a href="#">39060.100.040</a> |
| 3X40MM       | 200 | <a href="#">39060.030.040</a> |              |     |                               | 10X50MM      | 25  | <a href="#">39060.100.050</a> |

| 39060 Spring-type straight pin slotted, light duty |    |                               |              | ← |            |              |   |            |
|--|----|-------------------------------|--------------|---|------------|--------------|---|------------|
| d (nom.) x L                                       | ☒  | Art.number                    | d (nom.) x L | ☒ | Art.number | d (nom.) x L | ☒ | Art.number |
| 10X60MM  | 25 | <a href="#">39060.100.060</a> |              |   |            |              |   |            |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Spring-type straight pin heavy type A2



ISO ≈8752  
 DIN ≈1481  
 NEN ≈2458  
 BS ≈7060



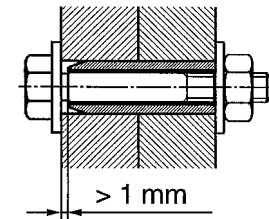
### Technical data

| d (nom.) | d <sub>1</sub> (min.) | d <sub>1</sub> (max.) | d <sub>2</sub> ≈ | s    | a    | V-1   | V-2   |
|----------|-----------------------|-----------------------|------------------|------|------|-------|-------|
| 1        | 1,2                   | 1,3                   | 0,8              | 0,2  | 0,15 | 0,22  | 0,44  |
| 1,5      | 1,7                   | 1,8                   | 1,1              | 0,3  | 0,25 | 0,49  | 0,98  |
| 2        | 2,3                   | 2,4                   | 1,5              | 0,4  | 0,35 | 0,9   | 1,8   |
| 2,5      | 2,8                   | 2,9                   | 1,8              | 0,5  | 0,4  | 1,42  | 2,84  |
| 3        | 3,3                   | 3,5                   | 2,1              | 0,6  | 0,5  | 2,03  | 4,06  |
| 4        | 4,4                   | 4,6                   | 2,8              | 0,8  | 0,65 | 3,62  | 7,24  |
| 5        | 5,4                   | 5,6                   | 3,4              | 1    | 0,9  | 5,37  | 10,74 |
| 6        | 6,4                   | 6,7                   | 3,9              | 1,25 | 1,2  | 8,08  | 16,16 |
| 8        | 8,5                   | 8,8                   | 5,5              | 1,5  | 2    | 13,23 | 26,46 |
| 10       | 10,5                  | 10,8                  | 6,5              | 2    | 2    | 21,07 | 42,14 |

- V-1 = Shear strength single min. in kN.
- V-2 = Shear strength double min. in kN.
- The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.
- For the hole diameter d(nom.) with tolerance field H12 is recommended.
- a: Bevelled edges of 30° on both sides for sizes up to and including 6mm, pins over 6mm have a single bevelled edge of 15°.

Special features spring-type straight pins:

- are used to connect two or more construction elements to each other
- highly suitable to absorb shear forces
- to avoid movements in light bolt connections, spring-type straight pins can be used according to information stated below:



| d (nom.) spring-type straight pin slotted | 6   | 8   | 10  | 12  | 16  | 18   |
|---|-----|-----|-----|-----|-----|------|
| intended for bolt size                    | M3  | M4  | M5  | M6  | M8  | M10  |
| associated washers acc. to DIN 7349       | 3,2 | 4,3 | 5,3 | 6,4 | 8,4 | 10,5 |

### 51428 Spring-type straight pin heavy type A2

R09A

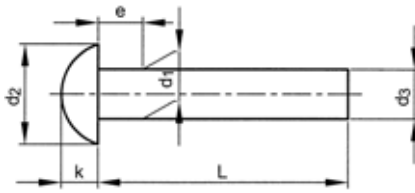
**Material** Stainless steel A2  
**Packaging** Standard



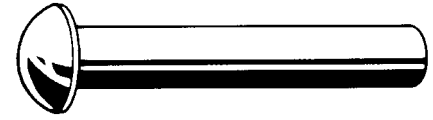
| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,5X6MM      | 200 | <a href="#">51428.015.006</a> | 3X12MM       | 200 | <a href="#">51428.030.012</a> | 5X26MM       | 100 | <a href="#">51428.050.026</a> |
| 1,5X8MM      | 200 | <a href="#">51428.015.008</a> | 3X14MM       | 200 | <a href="#">51428.030.014</a> | 5X28MM       | 100 | <a href="#">51428.050.028</a> |
| 1,5X10MM     | 200 | <a href="#">51428.015.010</a> | 3X16MM       | 200 | <a href="#">51428.030.016</a> | 5X30MM       | 100 | <a href="#">51428.050.030</a> |
| 1,5X12MM     | 200 | <a href="#">51428.015.012</a> | 3X18MM       | 200 | <a href="#">51428.030.018</a> | 5X35MM       | 100 | <a href="#">51428.050.035</a> |
| 1,5X16MM     | 200 | <a href="#">51428.015.016</a> | 3X20MM       | 200 | <a href="#">51428.030.020</a> | 5X40MM       | 100 | <a href="#">51428.050.040</a> |
| 1,5X20MM     | 200 | <a href="#">51428.015.020</a> | 3X24MM       | 200 | <a href="#">51428.030.024</a> | 5X45MM       | 100 | <a href="#">51428.050.045</a> |
|              |     |                               | 3X30MM       | 200 | <a href="#">51428.030.030</a> | 5X50MM       | 100 | <a href="#">51428.050.050</a> |
| 2X6MM        | 200 | <a href="#">51428.020.006</a> | 3X32MM       | 200 | <a href="#">51428.030.032</a> | 5X60MM       | 100 | <a href="#">51428.050.060</a> |
| 2X8MM        | 200 | <a href="#">51428.020.008</a> | 3X35MM       | 200 | <a href="#">51428.030.035</a> | 5X70MM       | 100 | <a href="#">51428.050.070</a> |
| 2X10MM       | 200 | <a href="#">51428.020.010</a> | 3X40MM       | 200 | <a href="#">51428.030.040</a> |              |     |                               |
| 2X12MM       | 200 | <a href="#">51428.020.012</a> |              |     |                               | 6X12MM       | 100 | <a href="#">51428.060.012</a> |
| 2X16MM       | 200 | <a href="#">51428.020.016</a> | 4X12MM       | 200 | <a href="#">51428.040.012</a> | 6X16MM       | 100 | <a href="#">51428.060.016</a> |
| 2X20MM       | 200 | <a href="#">51428.020.020</a> | 4X14MM       | 200 | <a href="#">51428.040.014</a> | 6X20MM       | 500 | <a href="#">51428.060.020</a> |
| 2X24MM       | 200 | <a href="#">51428.020.024</a> | 4X16MM       | 200 | <a href="#">51428.040.016</a> | 6X24MM       | 100 | <a href="#">51428.060.024</a> |
| 2X30MM       | 200 | <a href="#">51428.020.030</a> | 4X20MM       | 200 | <a href="#">51428.040.020</a> | 6X26MM       | 100 | <a href="#">51428.060.026</a> |
|              |     |                               | 4X24MM       | 200 | <a href="#">51428.040.024</a> | 6X30MM       | 100 | <a href="#">51428.060.030</a> |
| 2,5X12MM     | 200 | <a href="#">51428.025.012</a> | 4X26MM       | 200 | <a href="#">51428.040.026</a> | 6X32MM       | 100 | <a href="#">51428.060.032</a> |
| 2,5X14MM     | 200 | <a href="#">51428.025.014</a> | 4X30MM       | 200 | <a href="#">51428.040.030</a> | 6X35MM       | 50  | <a href="#">51428.060.035</a> |
| 2,5X16MM     | 200 | <a href="#">51428.025.016</a> | 4X32MM       | 100 | <a href="#">51428.040.032</a> | 6X40MM       | 100 | <a href="#">51428.060.040</a> |
| 2,5X20MM     | 200 | <a href="#">51428.025.020</a> | 4X35MM       | 50  | <a href="#">51428.040.035</a> | 6X50MM       | 50  | <a href="#">51428.060.050</a> |
| 2,5X24MM     | 200 | <a href="#">51428.025.024</a> | 4X40MM       | 100 | <a href="#">51428.040.040</a> | 6X60MM       | 50  | <a href="#">51428.060.060</a> |
| 2,5X26MM     | 200 | <a href="#">51428.025.026</a> | 4X50MM       | 100 | <a href="#">51428.040.050</a> | 6X70MM       | 50  | <a href="#">51428.060.070</a> |
| 2,5X30MM     | 200 | <a href="#">51428.025.030</a> |              |     |                               | 6X80MM       | 50  | <a href="#">51428.060.080</a> |
|              |     |                               | 5X16MM       | 100 | <a href="#">51428.050.016</a> |              |     |                               |
| 3X8MM        | 200 | <a href="#">51428.030.008</a> | 5X20MM       | 100 | <a href="#">51428.050.020</a> | 8X30MM       | 50  | <a href="#">51428.080.030</a> |
| 3X10MM       | 200 | <a href="#">51428.030.010</a> | 5X24MM       | 100 | <a href="#">51428.050.024</a> | 8X35MM       | 50  | <a href="#">51428.080.035</a> |

| 51428 Spring-type straight pin heavy type A2 |    |                               |              |    |                               |              |    |                               |
|--|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| d (nom.) x L                                 | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
| 8X40MM                                       | 50 | <a href="#">51428.080.040</a> | 10X20MM      | 50 | <a href="#">51428.100.020</a> | 10X80MM      | 10 | <a href="#">51428.100.080</a> |
| 8X50MM                                       | 50 | <a href="#">51428.080.050</a> | 10X30MM      | 50 | <a href="#">51428.100.030</a> | 10X100MM     | 10 | <a href="#">51428.100.100</a> |
| 8X60MM                                       | 50 | <a href="#">51428.080.060</a> | 10X35MM      | 25 | <a href="#">51428.100.035</a> |              |    |                               |
| 8X70MM                                       | 50 | <a href="#">51428.080.070</a> | 10X40MM      | 25 | <a href="#">51428.100.040</a> |              |    |                               |
| 8X80MM                                       | 50 | <a href="#">51428.080.080</a> | 10X50MM      | 25 | <a href="#">51428.100.050</a> |              |    |                               |
| 8X100MM                                      | 50 | <a href="#">51428.080.100</a> | 10X60MM      | 25 | <a href="#">51428.100.060</a> |              |    |                               |
|  |    |                               | 10X70MM      | 25 | <a href="#">51428.100.070</a> |              |    |                               |

## Round head rivet



ISO 1051  
 DIN 660/124  
 BS 4620



### Technical data

| d1          | d2   | d3 (min.) | e (max.) | k (js14) |
|-------------|------|-----------|----------|----------|
| 2           | 3,5  | 1,87      | 1        | 1,2      |
| 2,5         | 4,4  | 2,37      | 1,25     | 1,5      |
| 3           | 5,2  | 2,87      | 1,5      | 1,8      |
| 4           | 7    | 3,87      | 2        | 2,4      |
| 5           | 8,8  | 4,82      | 2,5      | 3        |
| 6           | 10,5 | 5,82      | 3        | 3,6      |
| 8           | 14   | 7,76      | 4        | 4,8      |
| 10 (DIN124) | 16   | 9,4       | 5        | 6,5      |

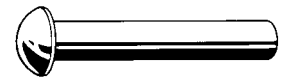
### Article groups

| Material          | Packaging | Code  | Page |
|-------------------|-----------|-------|------|
| St DIN1654-2      | Standard  | 39400 | 9-30 |
| St.St. A2         | Standard  | 51490 | 9-30 |
| Al 99,5 DIN1790-1 | Standard  | 50670 | 9-31 |
| Cu                | Standard  | 50370 | 9-31 |

#### 39400 Round head rivet

L11C

**Material** Steel DIN1654-2  
**Packaging** Standard

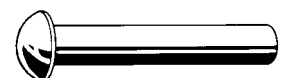


| d1 x L | ☒    | Art.number                    | d1 x L | ☒    | Art.number                    | d1 x L  | ☒   | Art.number                    |
|--------|------|-------------------------------|--------|------|-------------------------------|---------|-----|-------------------------------|
| 2X6MM  | 1000 | <a href="#">39400.020.006</a> | 4X30MM | 500  | <a href="#">39400.040.030</a> | 6X60MM  | 100 | <a href="#">39400.060.060</a> |
| 2X8MM  | 1000 | <a href="#">39400.020.008</a> | 4X40MM | 250  | <a href="#">39400.040.040</a> |         |     |                               |
| 2X10MM | 1000 | <a href="#">39400.020.010</a> |        |      |                               | 8X10MM  | 250 | <a href="#">39400.080.010</a> |
| 2X12MM | 1000 | <a href="#">39400.020.012</a> | 5X8MM  | 1000 | <a href="#">39400.050.008</a> | 8X12MM  | 250 | <a href="#">39400.080.012</a> |
| 2X16MM | 1000 | <a href="#">39400.020.016</a> | 5X10MM | 1000 | <a href="#">39400.050.010</a> | 8X16MM  | 250 | <a href="#">39400.080.016</a> |
|        |      |                               | 5X12MM | 1000 | <a href="#">39400.050.012</a> | 8X20MM  | 250 | <a href="#">39400.080.020</a> |
| 3X6MM  | 1000 | <a href="#">39400.030.006</a> | 5X16MM | 1000 | <a href="#">39400.050.016</a> | 8X25MM  | 250 | <a href="#">39400.080.025</a> |
| 3X8MM  | 1000 | <a href="#">39400.030.008</a> | 5X20MM | 500  | <a href="#">39400.050.020</a> | 8X30MM  | 250 | <a href="#">39400.080.030</a> |
| 3X10MM | 1000 | <a href="#">39400.030.010</a> | 5X25MM | 500  | <a href="#">39400.050.025</a> | 8X35MM  | 100 | <a href="#">39400.080.035</a> |
| 3X12MM | 1000 | <a href="#">39400.030.012</a> | 5X30MM | 500  | <a href="#">39400.050.030</a> | 8X40MM  | 100 | <a href="#">39400.080.040</a> |
| 3X16MM | 1000 | <a href="#">39400.030.016</a> | 5X40MM | 250  | <a href="#">39400.050.040</a> | 8X50MM  | 100 | <a href="#">39400.080.050</a> |
| 3X20MM | 1000 | <a href="#">39400.030.020</a> | 5X50MM | 250  | <a href="#">39400.050.050</a> | 8X60MM  | 100 | <a href="#">39400.080.060</a> |
| 3X25MM | 1000 | <a href="#">39400.030.025</a> |        |      |                               |         |     |                               |
| 3X30MM | 1000 | <a href="#">39400.030.030</a> | 6X10MM | 500  | <a href="#">39400.060.010</a> | 10X20MM | 100 | <a href="#">39400.100.020</a> |
|        |      |                               | 6X12MM | 500  | <a href="#">39400.060.012</a> | 10X25MM | 100 | <a href="#">39400.100.025</a> |
| 4X6MM  | 1000 | <a href="#">39400.040.006</a> | 6X16MM | 500  | <a href="#">39400.060.016</a> | 10X30MM | 100 | <a href="#">39400.100.030</a> |
| 4X8MM  | 1000 | <a href="#">39400.040.008</a> | 6X20MM | 500  | <a href="#">39400.060.020</a> | 10X35MM | 100 | <a href="#">39400.100.035</a> |
| 4X10MM | 1000 | <a href="#">39400.040.010</a> | 6X25MM | 250  | <a href="#">39400.060.025</a> | 10X40MM | 100 | <a href="#">39400.100.040</a> |
| 4X12MM | 1000 | <a href="#">39400.040.012</a> | 6X30MM | 250  | <a href="#">39400.060.030</a> | 10X50MM | 100 | <a href="#">39400.100.050</a> |
| 4X16MM | 1000 | <a href="#">39400.040.016</a> | 6X35MM | 250  | <a href="#">39400.060.035</a> |         |     |                               |
| 4X20MM | 1000 | <a href="#">39400.040.020</a> | 6X40MM | 250  | <a href="#">39400.060.040</a> |         |     |                               |
| 4X25MM | 500  | <a href="#">39400.040.025</a> | 6X50MM | 250  | <a href="#">39400.060.050</a> |         |     |                               |

#### 51490 Round head rivet

R09A

**Material** Stainless steel A2  
**Packaging** Standard

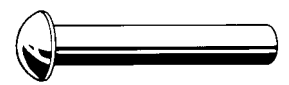


| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X6MM  | 200 | <a href="#">51490.030.006</a> | 3X20MM | 200 | <a href="#">51490.030.020</a> | 4X16MM | 100 | <a href="#">51490.040.016</a> |
| 3X8MM  | 200 | <a href="#">51490.030.008</a> |        |     |                               | 4X20MM | 100 | <a href="#">51490.040.020</a> |
| 3X10MM | 200 | <a href="#">51490.030.010</a> | 4X8MM  | 200 | <a href="#">51490.040.008</a> | 4X25MM | 100 | <a href="#">51490.040.025</a> |
| 3X12MM | 200 | <a href="#">51490.030.012</a> | 4X10MM | 200 | <a href="#">51490.040.010</a> | 4X30MM | 100 | <a href="#">51490.040.030</a> |
| 3X16MM | 200 | <a href="#">51490.030.016</a> | 4X12MM | 200 | <a href="#">51490.040.012</a> | 4X40MM | 100 | <a href="#">51490.040.040</a> |

**51490 Round head rivet**

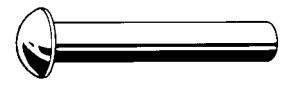
| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 4X50MM | 100 | <a href="#">51490.040.050</a> | 5X20MM | 100 | <a href="#">51490.050.020</a> | 6X20MM | 100 | <a href="#">51490.060.020</a> |
| 4X60MM | 100 | <a href="#">51490.040.060</a> | 5X25MM | 100 | <a href="#">51490.050.025</a> | 6X25MM | 100 | <a href="#">51490.060.025</a> |
|        |     |                               | 5X30MM | 100 | <a href="#">51490.050.030</a> | 6X30MM | 100 | <a href="#">51490.060.030</a> |
| 5X8MM  | 100 | <a href="#">51490.050.008</a> |        |     |                               | 6X35MM | 100 | <a href="#">51490.060.035</a> |
| 5X10MM | 100 | <a href="#">51490.050.010</a> | 6X10MM | 100 | <a href="#">51490.060.010</a> |        |     |                               |
| 5X12MM | 100 | <a href="#">51490.050.012</a> | 6X12MM | 100 | <a href="#">51490.060.012</a> |        |     |                               |
| 5X16MM | 100 | <a href="#">51490.050.016</a> | 6X16MM | 100 | <a href="#">51490.060.016</a> |        |     |                               |

**50670 Round head rivet** W01A

|                  |                          |   |
|------------------|--------------------------|---|
| <b>Material</b>  | Aluminium 99,5 DIN1790-1 |  |
| <b>Packaging</b> | Standard                 |   |

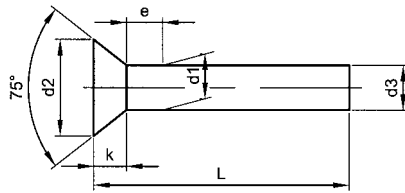
| d1 x L | ☒    | Art.number                    | d1 x L | ☒    | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|------|-------------------------------|--------|------|-------------------------------|--------|-----|-------------------------------|
| 2X4MM  | 1000 | <a href="#">50670.020.004</a> | 4X8MM  | 1000 | <a href="#">50670.040.008</a> | 6X12MM | 500 | <a href="#">50670.060.012</a> |
| 2X6MM  | 1000 | <a href="#">50670.020.006</a> | 4X10MM | 1000 | <a href="#">50670.040.010</a> | 6X16MM | 500 | <a href="#">50670.060.016</a> |
| 2X8MM  | 1000 | <a href="#">50670.020.008</a> | 4X12MM | 1000 | <a href="#">50670.040.012</a> | 6X20MM | 500 | <a href="#">50670.060.020</a> |
| 2X10MM | 1000 | <a href="#">50670.020.010</a> | 4X16MM | 1000 | <a href="#">50670.040.016</a> | 6X25MM | 250 | <a href="#">50670.060.025</a> |
| 2X12MM | 1000 | <a href="#">50670.020.012</a> | 4X20MM | 1000 | <a href="#">50670.040.020</a> | 6X30MM | 250 | <a href="#">50670.060.030</a> |
| 2X16MM | 1000 | <a href="#">50670.020.016</a> | 4X25MM | 500  | <a href="#">50670.040.025</a> | 6X35MM | 250 | <a href="#">50670.060.035</a> |
|        |      |                               | 4X30MM | 500  | <a href="#">50670.040.030</a> | 6X40MM | 250 | <a href="#">50670.060.040</a> |
| 3X4MM  | 1000 | <a href="#">50670.030.004</a> | 4X40MM | 250  | <a href="#">50670.040.040</a> | 6X50MM | 250 | <a href="#">50670.060.050</a> |
| 3X6MM  | 1000 | <a href="#">50670.030.006</a> |        |      |                               |        |     |                               |
| 3X7MM  | 1000 | <a href="#">50670.030.007</a> | 5X8MM  | 1000 | <a href="#">50670.050.008</a> | 8X16MM | 250 | <a href="#">50670.080.016</a> |
| 3X8MM  | 1000 | <a href="#">50670.030.008</a> | 5X10MM | 1000 | <a href="#">50670.050.010</a> | 8X20MM | 250 | <a href="#">50670.080.020</a> |
| 3X10MM | 1000 | <a href="#">50670.030.010</a> | 5X12MM | 1000 | <a href="#">50670.050.012</a> | 8X25MM | 250 | <a href="#">50670.080.025</a> |
| 3X12MM | 1000 | <a href="#">50670.030.012</a> | 5X16MM | 1000 | <a href="#">50670.050.016</a> | 8X30MM | 250 | <a href="#">50670.080.030</a> |
| 3X16MM | 1000 | <a href="#">50670.030.016</a> | 5X20MM | 500  | <a href="#">50670.050.020</a> | 8X35MM | 100 | <a href="#">50670.080.035</a> |
| 3X20MM | 1000 | <a href="#">50670.030.020</a> | 5X25MM | 500  | <a href="#">50670.050.025</a> | 8X40MM | 100 | <a href="#">50670.080.040</a> |
| 3X25MM | 1000 | <a href="#">50670.030.025</a> | 5X30MM | 500  | <a href="#">50670.050.030</a> |        |     |                               |
| 3X30MM | 1000 | <a href="#">50670.030.030</a> | 5X40MM | 250  | <a href="#">50670.050.040</a> |        |     |                               |
| 4X6MM  | 1000 | <a href="#">50670.040.006</a> | 6X10MM | 500  | <a href="#">50670.060.010</a> |        |     |                               |

**50370 Round head rivet** M11F

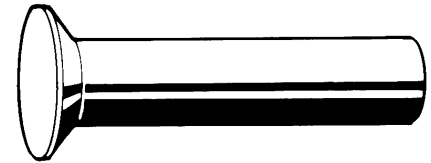
|                  |          |   |
|------------------|----------|---|
| <b>Material</b>  | Copper   |  |
| <b>Packaging</b> | Standard |   |

| d1 x L   | ☒    | Art.number                    | d1 x L | ☒    | Art.number                    | d1 x L  | ☒   | Art.number                    |
|----------|------|-------------------------------|--------|------|-------------------------------|---------|-----|-------------------------------|
| 2X4MM    | 1000 | <a href="#">50370.020.004</a> | 4X6MM  | 1000 | <a href="#">50370.040.006</a> | 6X12MM  | 500 | <a href="#">50370.060.012</a> |
| 2X6MM    | 1000 | <a href="#">50370.020.006</a> | 4X8MM  | 1000 | <a href="#">50370.040.008</a> | 6X16MM  | 500 | <a href="#">50370.060.016</a> |
| 2X8MM    | 1000 | <a href="#">50370.020.008</a> | 4X10MM | 1000 | <a href="#">50370.040.010</a> | 6X20MM  | 500 | <a href="#">50370.060.020</a> |
| 2X10MM   | 1000 | <a href="#">50370.020.010</a> | 4X12MM | 1000 | <a href="#">50370.040.012</a> | 6X25MM  | 250 | <a href="#">50370.060.025</a> |
| 2X12MM   | 1000 | <a href="#">50370.020.012</a> | 4X16MM | 1000 | <a href="#">50370.040.016</a> | 6X30MM  | 250 | <a href="#">50370.060.030</a> |
| 2X16MM   | 1000 | <a href="#">50370.020.016</a> | 4X20MM | 1000 | <a href="#">50370.040.020</a> | 6X35MM  | 250 | <a href="#">50370.060.035</a> |
|          |      |                               | 4X25MM | 500  | <a href="#">50370.040.025</a> | 6X40MM  | 250 | <a href="#">50370.060.040</a> |
| 2,5X6MM  | 1000 | <a href="#">50370.025.006</a> | 4X30MM | 500  | <a href="#">50370.040.030</a> | 6X50MM  | 250 | <a href="#">50370.060.050</a> |
| 2,5X8MM  | 1000 | <a href="#">50370.025.008</a> | 4X40MM | 250  | <a href="#">50370.040.040</a> |         |     |                               |
| 2,5X10MM | 1000 | <a href="#">50370.025.010</a> |        |      |                               |         |     |                               |
| 3X4MM    | 1000 | <a href="#">50370.030.004</a> | 5X8MM  | 1000 | <a href="#">50370.050.008</a> | 8X16MM  | 250 | <a href="#">50370.080.016</a> |
| 3X6MM    | 1000 | <a href="#">50370.030.006</a> | 5X10MM | 1000 | <a href="#">50370.050.010</a> | 8X20MM  | 250 | <a href="#">50370.080.020</a> |
| 3X8MM    | 1000 | <a href="#">50370.030.008</a> | 5X12MM | 1000 | <a href="#">50370.050.012</a> | 8X25MM  | 250 | <a href="#">50370.080.025</a> |
| 3X10MM   | 1000 | <a href="#">50370.030.010</a> | 5X16MM | 1000 | <a href="#">50370.050.016</a> | 8X30MM  | 250 | <a href="#">50370.080.030</a> |
| 3X12MM   | 1000 | <a href="#">50370.030.012</a> | 5X20MM | 500  | <a href="#">50370.050.020</a> | 8X40MM  | 100 | <a href="#">50370.080.040</a> |
| 3X16MM   | 1000 | <a href="#">50370.030.016</a> | 5X25MM | 500  | <a href="#">50370.050.025</a> | 8X50MM  | 100 | <a href="#">50370.080.050</a> |
| 3X20MM   | 1000 | <a href="#">50370.030.020</a> | 5X30MM | 500  | <a href="#">50370.050.030</a> |         |     |                               |
| 3X25MM   | 1000 | <a href="#">50370.030.025</a> | 5X40MM | 250  | <a href="#">50370.050.040</a> | 10X30MM | 100 | <a href="#">50370.100.030</a> |
| 3X30MM   | 1000 | <a href="#">50370.030.030</a> | 5X50MM | 250  | <a href="#">50370.050.050</a> | 10X40MM | 100 | <a href="#">50370.100.040</a> |
|          |      |                               | 6X10MM | 500  | <a href="#">50370.060.010</a> | 10X50MM | 100 | <a href="#">50370.100.050</a> |

## Countersunk head rivet



ISO 1051  
 DIN 661  
 BS 4620



### Technical data

| d1          | d2   | d3 (min.) | e (max.) | k ≈ |
|-------------|------|-----------|----------|-----|
| 2           | 3,5  | 1,87      | 1        | 1   |
| 2,5         | 4,4  | 2,37      | 1,25     | 1,2 |
| 3           | 5,2  | 2,87      | 1,5      | 1,4 |
| 4           | 7    | 3,87      | 2        | 2   |
| 5           | 8,8  | 4,82      | 2,5      | 2,5 |
| 6           | 10,5 | 5,82      | 3        | 3   |
| 8           | 14   | 7,76      | 4        | 4   |
| 10 (DIN302) | 14,5 | 9,4       | 5        | 3   |

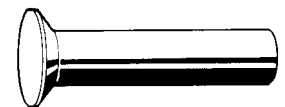
### Article groups

| Material          | Packaging | Code  | Page |
|-------------------|-----------|-------|------|
| St DIN1654-2      | Standard  | 39410 | 9-32 |
| St.St. A2         | Standard  | 51480 | 9-32 |
| Al 99,5 DIN1790-1 | Standard  | 50680 | 9-33 |
| Cu                | Standard  | 50380 | 9-33 |

#### 39410 Countersunk head rivet

L11C

**Material** Steel DIN1654-2  
**Packaging** Standard



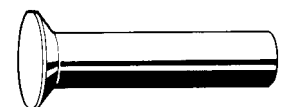
| d1 x L | ☒    | Art.number                    | d1 x L | ☒    | Art.number                    | d1 x L  | ☒   | Art.number                    |
|--------|------|-------------------------------|--------|------|-------------------------------|---------|-----|-------------------------------|
| 2X6MM  | 1000 | <a href="#">39410.020.006</a> | 4X16MM | 1000 | <a href="#">39410.040.016</a> | 6X25MM  | 250 | <a href="#">39410.060.025</a> |
| 2X8MM  | 1000 | <a href="#">39410.020.008</a> | 4X20MM | 1000 | <a href="#">39410.040.020</a> | 6X30MM  | 250 | <a href="#">39410.060.030</a> |
| 2X10MM | 1000 | <a href="#">39410.020.010</a> | 4X25MM | 500  | <a href="#">39410.040.025</a> | 6X35MM  | 250 | <a href="#">39410.060.035</a> |
| 2X12MM | 1000 | <a href="#">39410.020.012</a> | 4X30MM | 500  | <a href="#">39410.040.030</a> | 6X40MM  | 250 | <a href="#">39410.060.040</a> |
| 2X16MM | 1000 | <a href="#">39410.020.016</a> |        |      |                               | 6X50MM  | 250 | <a href="#">39410.060.050</a> |
|        |      |                               | 5X8MM  | 1000 | <a href="#">39410.050.008</a> |         |     |                               |
| 3X6MM  | 1000 | <a href="#">39410.030.006</a> | 5X10MM | 1000 | <a href="#">39410.050.010</a> | 8X16MM  | 250 | <a href="#">39410.080.016</a> |
| 3X8MM  | 1000 | <a href="#">39410.030.008</a> | 5X12MM | 1000 | <a href="#">39410.050.012</a> | 8X20MM  | 250 | <a href="#">39410.080.020</a> |
| 3X10MM | 1000 | <a href="#">39410.030.010</a> | 5X16MM | 1000 | <a href="#">39410.050.016</a> | 8X25MM  | 250 | <a href="#">39410.080.025</a> |
| 3X12MM | 1000 | <a href="#">39410.030.012</a> | 5X20MM | 500  | <a href="#">39410.050.020</a> | 8X30MM  | 250 | <a href="#">39410.080.030</a> |
| 3X16MM | 1000 | <a href="#">39410.030.016</a> | 5X25MM | 500  | <a href="#">39410.050.025</a> | 8X35MM  | 100 | <a href="#">39410.080.035</a> |
| 3X20MM | 1000 | <a href="#">39410.030.020</a> | 5X30MM | 500  | <a href="#">39410.050.030</a> | 8X40MM  | 100 | <a href="#">39410.080.040</a> |
| 3X25MM | 1000 | <a href="#">39410.030.025</a> | 5X40MM | 250  | <a href="#">39410.050.040</a> | 8X50MM  | 100 | <a href="#">39410.080.050</a> |
| 3X30MM | 1000 | <a href="#">39410.030.030</a> | 5X50MM | 250  | <a href="#">39410.050.050</a> | 8X60MM  | 100 | <a href="#">39410.080.060</a> |
|        |      |                               |        |      |                               |         |     |                               |
| 4X6MM  | 1000 | <a href="#">39410.040.006</a> | 6X10MM | 500  | <a href="#">39410.060.010</a> | 10X30MM | 100 | <a href="#">39410.100.030</a> |
| 4X8MM  | 1000 | <a href="#">39410.040.008</a> | 6X12MM | 500  | <a href="#">39410.060.012</a> | 10X40MM | 100 | <a href="#">39410.100.040</a> |
| 4X10MM | 1000 | <a href="#">39410.040.010</a> | 6X16MM | 500  | <a href="#">39410.060.016</a> | 10X50MM | 100 | <a href="#">39410.100.050</a> |
| 4X12MM | 1000 | <a href="#">39410.040.012</a> | 6X20MM | 500  | <a href="#">39410.060.020</a> |         |     |                               |

9

#### 51480 Countersunk head rivet

R09A

**Material** Stainless steel A2  
**Packaging** Standard



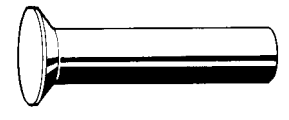
| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 3X6MM  | 200 | <a href="#">51480.030.006</a> | 4X10MM | 200 | <a href="#">51480.040.010</a> | 5X8MM  | 100 | <a href="#">51480.050.008</a> |
| 3X8MM  | 200 | <a href="#">51480.030.008</a> | 4X12MM | 200 | <a href="#">51480.040.012</a> | 5X10MM | 100 | <a href="#">51480.050.010</a> |
| 3X10MM | 200 | <a href="#">51480.030.010</a> | 4X16MM | 100 | <a href="#">51480.040.016</a> | 5X12MM | 100 | <a href="#">51480.050.012</a> |
| 3X12MM | 200 | <a href="#">51480.030.012</a> | 4X20MM | 100 | <a href="#">51480.040.020</a> | 5X16MM | 100 | <a href="#">51480.050.016</a> |
| 3X16MM | 200 | <a href="#">51480.030.016</a> | 4X25MM | 100 | <a href="#">51480.040.025</a> | 5X20MM | 100 | <a href="#">51480.050.020</a> |
|        |     |                               | 4X30MM | 100 | <a href="#">51480.040.030</a> | 5X25MM | 100 | <a href="#">51480.050.025</a> |
|        |     |                               |        |     |                               | 5X30MM | 100 | <a href="#">51480.050.030</a> |

**51480 Countersunk head rivet** ←

| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| 6X10MM | 100 | <a href="#">51480.060.010</a> | 6X16MM | 100 | <a href="#">51480.060.016</a> | 6X30MM | 100 | <a href="#">51480.060.030</a> |
| 6X12MM | 100 | <a href="#">51480.060.012</a> | 6X20MM | 100 | <a href="#">51480.060.020</a> |        |     |                               |
|        |     |                               | 6X25MM | 100 | <a href="#">51480.060.025</a> |        |     |                               |

**50680 Countersunk head rivet** W01A

**Material** Aluminium 99,5 DIN1790-1  
**Packaging** Standard



| d1 x L | ☒    | Art.number                    | d1 x L | ☒    | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|------|-------------------------------|--------|------|-------------------------------|--------|-----|-------------------------------|
| 2X6MM  | 1000 | <a href="#">50680.020.006</a> | 4X10MM | 1000 | <a href="#">50680.040.010</a> | 6X12MM | 500 | <a href="#">50680.060.012</a> |
| 2X8MM  | 1000 | <a href="#">50680.020.008</a> | 4X12MM | 1000 | <a href="#">50680.040.012</a> | 6X16MM | 500 | <a href="#">50680.060.016</a> |
| 2X10MM | 1000 | <a href="#">50680.020.010</a> | 4X16MM | 1000 | <a href="#">50680.040.016</a> | 6X20MM | 500 | <a href="#">50680.060.020</a> |
| 2X12MM | 1000 | <a href="#">50680.020.012</a> | 4X20MM | 1000 | <a href="#">50680.040.020</a> | 6X25MM | 250 | <a href="#">50680.060.025</a> |
| 2X16MM | 1000 | <a href="#">50680.020.016</a> | 4X25MM | 500  | <a href="#">50680.040.025</a> | 6X30MM | 250 | <a href="#">50680.060.030</a> |
|        |      |                               | 4X30MM | 500  | <a href="#">50680.040.030</a> | 6X35MM | 250 | <a href="#">50680.060.035</a> |
| 3X6MM  | 1000 | <a href="#">50680.030.006</a> |        |      |                               | 6X40MM | 250 | <a href="#">50680.060.040</a> |
| 3X8MM  | 1000 | <a href="#">50680.030.008</a> | 5X8MM  | 1000 | <a href="#">50680.050.008</a> | 6X50MM | 250 | <a href="#">50680.060.050</a> |
| 3X10MM | 1000 | <a href="#">50680.030.010</a> | 5X10MM | 1000 | <a href="#">50680.050.010</a> |        |     |                               |
| 3X12MM | 1000 | <a href="#">50680.030.012</a> | 5X12MM | 1000 | <a href="#">50680.050.012</a> | 8X16MM | 250 | <a href="#">50680.080.016</a> |
| 3X16MM | 1000 | <a href="#">50680.030.016</a> | 5X16MM | 1000 | <a href="#">50680.050.016</a> | 8X20MM | 250 | <a href="#">50680.080.020</a> |
| 3X20MM | 1000 | <a href="#">50680.030.020</a> | 5X20MM | 500  | <a href="#">50680.050.020</a> | 8X25MM | 250 | <a href="#">50680.080.025</a> |
| 3X25MM | 1000 | <a href="#">50680.030.025</a> | 5X25MM | 500  | <a href="#">50680.050.025</a> | 8X30MM | 250 | <a href="#">50680.080.030</a> |
| 3X30MM | 1000 | <a href="#">50680.030.030</a> | 5X30MM | 500  | <a href="#">50680.050.030</a> | 8X35MM | 100 | <a href="#">50680.080.035</a> |
|        |      |                               | 5X40MM | 250  | <a href="#">50680.050.040</a> | 8X40MM | 100 | <a href="#">50680.080.040</a> |
| 4X6MM  | 1000 | <a href="#">50680.040.006</a> |        |      |                               | 8X50MM | 100 | <a href="#">50680.080.050</a> |
| 4X8MM  | 1000 | <a href="#">50680.040.008</a> | 6X10MM | 500  | <a href="#">50680.060.010</a> |        |     |                               |

**50380 Countersunk head rivet** M11F

**Material** Copper  
**Packaging** Standard

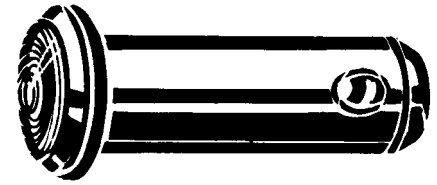
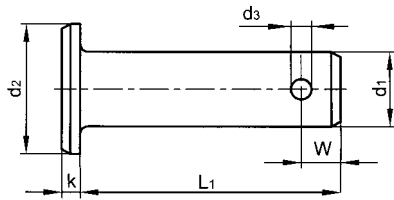


| d1 x L | ☒    | Art.number                    | d1 x L | ☒    | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|------|-------------------------------|--------|------|-------------------------------|--------|-----|-------------------------------|
| 2X6MM  | 1000 | <a href="#">50380.020.006</a> | 4X16MM | 1000 | <a href="#">50380.040.016</a> | 6X16MM | 500 | <a href="#">50380.060.016</a> |
| 2X8MM  | 1000 | <a href="#">50380.020.008</a> | 4X20MM | 1000 | <a href="#">50380.040.020</a> | 6X20MM | 500 | <a href="#">50380.060.020</a> |
| 2X10MM | 1000 | <a href="#">50380.020.010</a> | 4X25MM | 500  | <a href="#">50380.040.025</a> | 6X25MM | 250 | <a href="#">50380.060.025</a> |
|        |      |                               | 4X30MM | 500  | <a href="#">50380.040.030</a> | 6X30MM | 250 | <a href="#">50380.060.030</a> |
| 3X6MM  | 1000 | <a href="#">50380.030.006</a> |        |      |                               | 6X40MM | 250 | <a href="#">50380.060.040</a> |
| 3X8MM  | 1000 | <a href="#">50380.030.008</a> | 5X10MM | 1000 | <a href="#">50380.050.010</a> | 6X50MM | 250 | <a href="#">50380.060.050</a> |
| 3X10MM | 1000 | <a href="#">50380.030.010</a> | 5X12MM | 1000 | <a href="#">50380.050.012</a> |        |     |                               |
| 3X12MM | 1000 | <a href="#">50380.030.012</a> | 5X16MM | 1000 | <a href="#">50380.050.016</a> | 8X16MM | 250 | <a href="#">50380.080.016</a> |
| 3X16MM | 1000 | <a href="#">50380.030.016</a> | 5X20MM | 500  | <a href="#">50380.050.020</a> | 8X20MM | 250 | <a href="#">50380.080.020</a> |
| 3X20MM | 1000 | <a href="#">50380.030.020</a> | 5X25MM | 500  | <a href="#">50380.050.025</a> | 8X25MM | 250 | <a href="#">50380.080.025</a> |
| 3X25MM | 1000 | <a href="#">50380.030.025</a> | 5X30MM | 500  | <a href="#">50380.050.030</a> | 8X30MM | 250 | <a href="#">50380.080.030</a> |
|        |      |                               | 5X40MM | 250  | <a href="#">50380.050.040</a> | 8X40MM | 100 | <a href="#">50380.080.040</a> |
| 4X8MM  | 1000 | <a href="#">50380.040.008</a> |        |      |                               |        |     |                               |
| 4X10MM | 1000 | <a href="#">50380.040.010</a> | 6X10MM | 500  | <a href="#">50380.060.010</a> |        |     |                               |
| 4X12MM | 1000 | <a href="#">50380.040.012</a> |        |      |                               |        |     |                               |



**Clevis pin with head and split pin hole**

DIN 1434



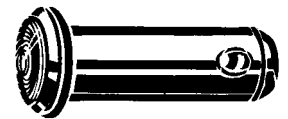
**Technical data**

| d1 (h11) | d2 (h14) | d3 (H14) | k (js14) | W (min.) |
|----------|----------|----------|----------|----------|
| 4        | 6        | 1        | 1        | 1,8      |
| 5        | 8        | 1,6      | 1,5      | 2        |
| 6        | 9        | 1,6      | 1,5      | 2,5      |
| 8        | 12       | 2        | 2        | 3        |
| 10       | 14       | 3,2      | 2        | 4        |
| 12       | 17       | 4        | 3        | 5        |
| 14       | 19       | 4        | 3        | 5        |
| 16       | 21       | 4        | 3        | 5        |

**39797 Clevis pin with head and split pin hole**

L11F

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L1 | ☒   | Art.number                    | d1 x L1 | ☒   | Art.number                    | d1 x L1 | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|----|-------------------------------|
| 4X12MM  | 100 | <a href="#">39797.040.012</a> | 8X22MM  | 100 | <a href="#">39797.080.022</a> | 14X40MM | 25 | <a href="#">39797.140.040</a> |
| 5X14MM  | 100 | <a href="#">39797.050.014</a> | 10X28MM | 50  | <a href="#">39797.100.028</a> | 16X45MM | 10 | <a href="#">39797.160.045</a> |
| 6X18MM  | 100 | <a href="#">39797.060.018</a> | 12X35MM | 25  | <a href="#">39797.120.035</a> |         |    |                               |

## Split pin (cotter pin)

ISO 1234  
**DIN 94**  
 NEN 182  
 NF E25-774

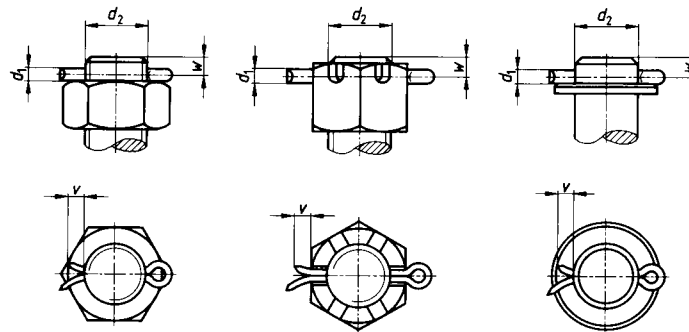


### Technical data

| d (nom.)   | d <sub>1</sub> (max.) | d <sub>1</sub> (min.) | a (max.) | b ≈  | c (min.) | c (max.) |
|------------|-----------------------|-----------------------|----------|------|----------|----------|
| 1          | 0,9                   | 0,8                   | 1,6      | 3    | 1,6      | 1,8      |
| 1,2        | 1                     | 0,9                   | 2,5      | 3    | 1,7      | 2        |
| 1,6        | 1,4                   | 1,3                   | 2,5      | 3,2  | 2,4      | 2,8      |
| 2          | 1,8                   | 1,7                   | 2,5      | 4    | 3,2      | 3,6      |
| 2,5        | 2,3                   | 2,1                   | 2,5      | 5    | 4        | 4,6      |
| 3,2        | 2,9                   | 2,7                   | 3,2      | 6,4  | 5,1      | 5,8      |
| 3,5 (#DIN) | 3,2                   | 3                     | 3,5      | 7    | 6,1      | 6,8      |
| 4          | 3,7                   | 3,5                   | 4        | 8    | 6,5      | 7,4      |
| 4,5 (#DIN) | 4,2                   | 4                     | 4        | 8,5  | 7,6      | 8,2      |
| 5          | 4,6                   | 4,4                   | 4        | 10   | 8        | 9,2      |
| 6,3        | 5,9                   | 5,7                   | 4        | 12,6 | 10,3     | 11,8     |
| 7 (#DIN)   | 6,5                   | 6,7                   | 4,7      | 12,3 | 12,45    | 12,5     |
| 8          | 7,5                   | 7,3                   | 4        | 16   | 13,1     | 15       |
| 10         | 9,5                   | 9,3                   | 6,3      | 20   | 16,6     | 19       |
| 13         | 12,4                  | 12,1                  | 6,3      | 26   | 21,7     | 24,8     |

- For the split pin hole, tolerance H13 is recommended for d (nom.) ≤ 1,2 mm and tolerance H14 for d (nom.) ≥ 1,6 mm and above.
- Shape of the split pin ends at the manufacturer's discretion.
- The nominal length (L) is with tolerance js17.

### Table-choice of split pins



| d (nom.) |                        | 1           | 1,6 | 2   | 2,5 | 3,2 | 4  | 5  | 6,3 | 8  | 10 | 13 |     |
|----------|------------------------|-------------|-----|-----|-----|-----|----|----|-----|----|----|----|-----|
| d2       | parts with thread*     | above       | 3,5 | 5,5 | 7   | 9   | 11 | 14 | 20  | 27 | 39 | 56 | 80  |
|          |                        | up to incl. | 4,5 | 7   | 9   | 11  | 14 | 20 | 27  | 39 | 56 | 80 | 120 |
|          | parts without thread** | above       | 3   | 5   | 6   | 8   | 9  | 12 | 17  | 23 | 29 | 44 | 69  |
|          |                        | up to incl. | 4   | 6   | 8   | 9   | 12 | 17 | 23  | 29 | 44 | 69 | 110 |
| v        | min.                   | 4           | 5   | 6   | 6   | 8   | 8  | 10 | 12  | 14 | 16 | 20 |     |

\* For application in parts with external thread the major diameter of the thread or the diameter of the plain part has to be used.

\*\* For railways and constructions subjected to alternating transverse forces, it is recommended to use the following larger split pin size.


The hole distance W depends on the construction part in which the split pin is inserted. If necessary see the standard of that particular part.

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page |
|-----------|-------------------|-----------|-------|------|
| St        |                   | Standard  | 39310 | 9-36 |
| St        | Zipl              | Standard  | 39350 | 9-36 |
| St        | Zipl yell.p.      | Standard  | 39360 | 9-37 |
| St.St. A2 |                   | Standard  | 51700 | 9-37 |
| St.St. A4 |                   | Standard  | 55700 | 9-37 |
| Br        |                   | Standard  | 50210 | 9-38 |
| Cu        |                   | Standard  | 50390 | 9-38 |

**39310 Split pin (cotter pin) L09B**


|                  |          |
|------------------|----------|
| <b>Material</b>  | Steel    |
| <b>Packaging</b> | Standard |



| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1X12MM       | 250 | <a href="#">39310.010.012</a> | 3,2X32MM     | 250 | <a href="#">39310.032.032</a> | 6,3X40MM     | 100 | <a href="#">39310.063.040</a> |
| 1X16MM       | 250 | <a href="#">39310.010.016</a> | 3,2X40MM     | 250 | <a href="#">39310.032.040</a> | 6,3X50MM     | 100 | <a href="#">39310.063.050</a> |
| 1X20MM       | 250 | <a href="#">39310.010.020</a> | 3,2X50MM     | 250 | <a href="#">39310.032.050</a> | 6,3X63MM     | 100 | <a href="#">39310.063.063</a> |
| 1X25MM       | 250 | <a href="#">39310.010.025</a> | 3,2X63MM     | 250 | <a href="#">39310.032.063</a> | 6,3X71MM     | 100 | <a href="#">39310.063.071</a> |
| 1X32MM       | 250 | <a href="#">39310.010.032</a> |              |     |                               | 6,3X80MM     | 100 | <a href="#">39310.063.080</a> |
|              |     |                               | 3,5X25MM     | 250 | <a href="#">39310.035.025</a> | 6,3X100MM    | 100 | <a href="#">39310.063.100</a> |
| 1,6X10MM     | 250 | <a href="#">39310.016.010</a> | 3,5X30MM     | 250 | <a href="#">39310.035.030</a> |              |     |                               |
| 1,6X12MM     | 250 | <a href="#">39310.016.012</a> | 3,5X35MM     | 250 | <a href="#">39310.035.035</a> | 7X63MM       | 100 | <a href="#">39310.070.063</a> |
| 1,6X16MM     | 250 | <a href="#">39310.016.016</a> | 3,5X40MM     | 250 | <a href="#">39310.035.040</a> | 7X80MM       | 100 | <a href="#">39310.070.080</a> |
| 1,6X20MM     | 250 | <a href="#">39310.016.020</a> | 3,5X50MM     | 250 | <a href="#">39310.035.050</a> |              |     |                               |
| 1,6X25MM     | 250 | <a href="#">39310.016.025</a> | 3,5X60MM     | 250 | <a href="#">39310.035.060</a> | 8X40MM       | 100 | <a href="#">39310.080.040</a> |
| 1,6X32MM     | 250 | <a href="#">39310.016.032</a> | 3,5X70MM     | 250 | <a href="#">39310.035.070</a> | 8X45MM       | 100 | <a href="#">39310.080.045</a> |
| 1,6X40MM     | 250 | <a href="#">39310.016.040</a> | 3,5X80MM     | 250 | <a href="#">39310.035.080</a> | 8X50MM       | 100 | <a href="#">39310.080.050</a> |
| 1,6X50MM     | 250 | <a href="#">39310.016.050</a> |              |     |                               | 8X63MM       | 50  | <a href="#">39310.080.063</a> |
|              |     |                               | 4X20MM       | 250 | <a href="#">39310.040.020</a> | 8X80MM       | 50  | <a href="#">39310.080.080</a> |
| 2X16MM       | 250 | <a href="#">39310.020.016</a> | 4X25MM       | 250 | <a href="#">39310.040.025</a> | 8X90MM       | 50  | <a href="#">39310.080.090</a> |
| 2X20MM       | 250 | <a href="#">39310.020.020</a> | 4X28MM       | 250 | <a href="#">39310.040.028</a> | 8X100MM      | 50  | <a href="#">39310.080.100</a> |
| 2X25MM       | 250 | <a href="#">39310.020.025</a> | 4X32MM       | 250 | <a href="#">39310.040.032</a> | 8X125MM      | 50  | <a href="#">39310.080.125</a> |
| 2X32MM       | 250 | <a href="#">39310.020.032</a> | 4X40MM       | 250 | <a href="#">39310.040.040</a> |              |     |                               |
| 2X40MM       | 250 | <a href="#">39310.020.040</a> | 4X50MM       | 200 | <a href="#">39310.040.050</a> | 10X63MM      | 50  | <a href="#">39310.100.063</a> |
| 2X50MM       | 250 | <a href="#">39310.020.050</a> | 4X63MM       | 200 | <a href="#">39310.040.063</a> | 10X71MM      | 50  | <a href="#">39310.100.071</a> |
| 2X63MM       | 250 | <a href="#">39310.020.063</a> | 4X80MM       | 200 | <a href="#">39310.040.080</a> | 10X80MM      | 50  | <a href="#">39310.100.080</a> |
|              |     |                               |              |     |                               | 10X90MM      | 25  | <a href="#">39310.100.090</a> |
| 2,5X16MM     | 250 | <a href="#">39310.025.016</a> | 5X25MM       | 200 | <a href="#">39310.050.025</a> | 10X100MM     | 25  | <a href="#">39310.100.100</a> |
| 2,5X20MM     | 250 | <a href="#">39310.025.020</a> | 5X32MM       | 200 | <a href="#">39310.050.032</a> | 10X125MM     | 25  | <a href="#">39310.100.125</a> |
| 2,5X25MM     | 250 | <a href="#">39310.025.025</a> | 5X36MM       | 200 | <a href="#">39310.050.036</a> | 10X160MM     | 25  | <a href="#">39310.100.160</a> |
| 2,5X32MM     | 250 | <a href="#">39310.025.032</a> | 5X40MM       | 200 | <a href="#">39310.050.040</a> |              |     |                               |
| 2,5X40MM     | 250 | <a href="#">39310.025.040</a> | 5X50MM       | 200 | <a href="#">39310.050.050</a> | 13X63MM      | 25  | <a href="#">39310.130.063</a> |
| 2,5X50MM     | 250 | <a href="#">39310.025.050</a> | 5X63MM       | 100 | <a href="#">39310.050.063</a> | 13X80MM      | 25  | <a href="#">39310.130.080</a> |
| 2,5X63MM     | 250 | <a href="#">39310.025.063</a> | 5X80MM       | 100 | <a href="#">39310.050.080</a> | 13X100MM     | 25  | <a href="#">39310.130.100</a> |
|              |     |                               | 5X100MM      | 100 | <a href="#">39310.050.100</a> | 13X125MM     | 25  | <a href="#">39310.130.125</a> |
| 3,2X16MM     | 250 | <a href="#">39310.032.016</a> |              |     |                               | 13X140MM     | 25  | <a href="#">39310.130.140</a> |
| 3,2X20MM     | 250 | <a href="#">39310.032.020</a> | 6,3X25MM     | 100 | <a href="#">39310.063.025</a> | 13X160MM     | 25  | <a href="#">39310.130.160</a> |
| 3,2X25MM     | 250 | <a href="#">39310.032.025</a> | 6,3X32MM     | 100 | <a href="#">39310.063.032</a> |              |     |                               |

**39350 Split pin (cotter pin) L09B**

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,6X10MM     | 250 | <a href="#">39350.016.010</a> | 3,2X36MM     | 250 | <a href="#">39350.032.036</a> | 5X32MM       | 200 | <a href="#">39350.050.032</a> |
| 1,6X12MM     | 250 | <a href="#">39350.016.012</a> | 3,2X40MM     | 250 | <a href="#">39350.032.040</a> | 5X36MM       | 200 | <a href="#">39350.050.036</a> |
| 1,6X16MM     | 250 | <a href="#">39350.016.016</a> | 3,2X45MM     | 250 | <a href="#">39350.032.045</a> | 5X40MM       | 200 | <a href="#">39350.050.040</a> |
| 1,6X20MM     | 250 | <a href="#">39350.016.020</a> | 3,2X50MM     | 250 | <a href="#">39350.032.050</a> | 5X45MM       | 200 | <a href="#">39350.050.045</a> |
| 1,6X25MM     | 250 | <a href="#">39350.016.025</a> | 3,2X63MM     | 250 | <a href="#">39350.032.063</a> | 5X50MM       | 200 | <a href="#">39350.050.050</a> |
| 1,6X32MM     | 250 | <a href="#">39350.016.032</a> |              |     |                               | 5X56MM       | 200 | <a href="#">39350.050.056</a> |
| 1,6X40MM     | 250 | <a href="#">39350.016.040</a> | 3,5X20MM     | 250 | <a href="#">39350.035.020</a> | 5X63MM       | 100 | <a href="#">39350.050.063</a> |
| 1,6X50MM     | 250 | <a href="#">39350.016.050</a> | 3,5X25MM     | 250 | <a href="#">39350.035.025</a> | 5X71MM       | 100 | <a href="#">39350.050.071</a> |
|              |     |                               | 3,5X30MM     | 250 | <a href="#">39350.035.030</a> | 5X80MM       | 100 | <a href="#">39350.050.080</a> |
| 2X16MM       | 250 | <a href="#">39350.020.016</a> | 3,5X35MM     | 250 | <a href="#">39350.035.035</a> | 5X90MM       | 100 | <a href="#">39350.050.090</a> |
| 2X18MM       | 250 | <a href="#">39350.020.018</a> | 3,5X40MM     | 250 | <a href="#">39350.035.040</a> | 5X100MM      | 100 | <a href="#">39350.050.100</a> |
| 2X20MM       | 250 | <a href="#">39350.020.020</a> | 3,5X50MM     | 250 | <a href="#">39350.035.050</a> |              |     |                               |
| 2X25MM       | 250 | <a href="#">39350.020.025</a> | 3,5X60MM     | 250 | <a href="#">39350.035.060</a> | 6,3X32MM     | 100 | <a href="#">39350.063.032</a> |
| 2X32MM       | 250 | <a href="#">39350.020.032</a> | 3,5X70MM     | 250 | <a href="#">39350.035.070</a> | 6,3X36MM     | 100 | <a href="#">39350.063.036</a> |
| 2X36MM       | 250 | <a href="#">39350.020.036</a> | 3,5X80MM     | 250 | <a href="#">39350.035.080</a> | 6,3X40MM     | 100 | <a href="#">39350.063.040</a> |
| 2X40MM       | 250 | <a href="#">39350.020.040</a> |              |     |                               | 6,3X45MM     | 100 | <a href="#">39350.063.045</a> |
| 2X50MM       | 250 | <a href="#">39350.020.050</a> | 4X20MM       | 250 | <a href="#">39350.040.020</a> | 6,3X50MM     | 100 | <a href="#">39350.063.050</a> |
| 2X63MM       | 250 | <a href="#">39350.020.063</a> | 4X25MM       | 250 | <a href="#">39350.040.025</a> | 6,3X56MM     | 100 | <a href="#">39350.063.056</a> |
|              |     |                               | 4X28MM       | 250 | <a href="#">39350.040.028</a> | 6,3X63MM     | 100 | <a href="#">39350.063.063</a> |
| 2,5X16MM     | 250 | <a href="#">39350.025.016</a> | 4X32MM       | 250 | <a href="#">39350.040.032</a> | 6,3X71MM     | 100 | <a href="#">39350.063.071</a> |
| 2,5X20MM     | 250 | <a href="#">39350.025.020</a> | 4X36MM       | 250 | <a href="#">39350.040.036</a> | 6,3X80MM     | 100 | <a href="#">39350.063.080</a> |
| 2,5X25MM     | 250 | <a href="#">39350.025.025</a> | 4X40MM       | 250 | <a href="#">39350.040.040</a> | 6,3X90MM     | 100 | <a href="#">39350.063.090</a> |
| 2,5X32MM     | 250 | <a href="#">39350.025.032</a> | 4X50MM       | 200 | <a href="#">39350.040.050</a> | 6,3X100MM    | 100 | <a href="#">39350.063.100</a> |
| 2,5X40MM     | 250 | <a href="#">39350.025.040</a> | 4X63MM       | 200 | <a href="#">39350.040.063</a> |              |     |                               |
| 2,5X50MM     | 250 | <a href="#">39350.025.050</a> | 4X71MM       | 200 | <a href="#">39350.040.071</a> | 8X40MM       | 100 | <a href="#">39350.080.040</a> |
| 2,5X63MM     | 250 | <a href="#">39350.025.063</a> | 4X80MM       | 200 | <a href="#">39350.040.080</a> | 8X45MM       | 100 | <a href="#">39350.080.045</a> |
|              |     |                               |              |     |                               | 8X50MM       | 100 | <a href="#">39350.080.050</a> |
| 3,2X16MM     | 250 | <a href="#">39350.032.016</a> | 4,5X50MM     | 200 | <a href="#">39350.045.050</a> | 8X63MM       | 50  | <a href="#">39350.080.063</a> |
| 3,2X20MM     | 250 | <a href="#">39350.032.020</a> | 4,5X63MM     | 200 | <a href="#">39350.045.063</a> | 8X71MM       | 50  | <a href="#">39350.080.071</a> |
| 3,2X25MM     | 250 | <a href="#">39350.032.025</a> |              |     |                               | 8X80MM       | 50  | <a href="#">39350.080.080</a> |
| 3,2X32MM     | 250 | <a href="#">39350.032.032</a> | 5X25MM       | 200 | <a href="#">39350.050.025</a> | 8X90MM       | 50  | <a href="#">39350.080.090</a> |

| 39350 Split pin (cotter pin) <span style="float: right;">←</span> |     |                               |              |    |                               |              |    |                               |
|---|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| d (nom.) x L  | ☒   | Art.number                    | d (nom.) x L | ☒  | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
| 8X100MM   | 50  | <a href="#">39350.080.100</a> | 10X90MM      | 25 | <a href="#">39350.100.090</a> | 13X100MM     | 25 | <a href="#">39350.130.100</a> |
| 8X112MM   | 50  | <a href="#">39350.080.112</a> | 10X100MM     | 25 | <a href="#">39350.100.100</a> | 13X112MM     | 25 | <a href="#">39350.130.112</a> |
| 8X125MM   | 50  | <a href="#">39350.080.125</a> | 10X112MM     | 25 | <a href="#">39350.100.112</a> | 13X125MM     | 25 | <a href="#">39350.130.125</a> |
| 10X56MM   | 100 | <a href="#">39350.100.056</a> | 10X125MM     | 25 | <a href="#">39350.100.125</a> | 13X140MM     | 25 | <a href="#">39350.130.140</a> |
| 10X63MM   | 50  | <a href="#">39350.100.063</a> | 10X140MM     | 25 | <a href="#">39350.100.140</a> |              |    |                               |
| 10X71MM   | 50  | <a href="#">39350.100.071</a> | 10X160MM     | 25 | <a href="#">39350.100.160</a> |              |    |                               |
| 10X80MM   | 50  | <a href="#">39350.100.080</a> | 13X71MM      | 25 | <a href="#">39350.130.071</a> |              |    |                               |

| 39360 Split pin (cotter pin) |                               | L09B |
|------------------------------|-------------------------------|------|
| <b>Material</b>              | Steel                         |      |
| <b>Surface treatment</b>     | Zinc plated yellow passivated |      |
| <b>Packaging</b>             | Standard                      |      |

| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 2X16MM       | 250 | <a href="#">39360.020.016</a> | 3,2X32MM     | 250 | <a href="#">39360.032.032</a> | 4X50MM       | 250 | <a href="#">39360.040.050</a> |
| 2X20MM       | 250 | <a href="#">39360.020.020</a> | 3,2X40MM     | 250 | <a href="#">39360.032.040</a> |              |     |                               |
| 2X25MM       | 250 | <a href="#">39360.020.025</a> |              |     |                               | 5X32MM       | 200 | <a href="#">39360.050.032</a> |
| 2X32MM       | 250 | <a href="#">39360.020.032</a> | 4X20MM       | 250 | <a href="#">39360.040.020</a> | 5X40MM       | 200 | <a href="#">39360.050.040</a> |
|              |     |                               | 4X25MM       | 250 | <a href="#">39360.040.025</a> | 5X50MM       | 200 | <a href="#">39360.050.050</a> |
| 3,2X20MM     | 250 | <a href="#">39360.032.020</a> | 4X32MM       | 250 | <a href="#">39360.040.032</a> |              |     |                               |
| 3,2X25MM     | 250 | <a href="#">39360.032.025</a> | 4X40MM       | 250 | <a href="#">39360.040.040</a> |              |     |                               |

| 51700 Split pin (cotter pin) |                    | R09A |
|------------------------------|--------------------|------|
| <b>Material</b>              | Stainless steel A2 |      |
| <b>Packaging</b>             | Standard           |      |

| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|----|-------------------------------|
| 1X10MM       | 250 | <a href="#">51700.010.010</a> | 2,5X25MM     | 100 | <a href="#">51700.025.025</a> | 5X40MM       | 50 | <a href="#">51700.050.040</a> |
| 1X12MM       | 250 | <a href="#">51700.010.012</a> | 2,5X32MM     | 100 | <a href="#">51700.025.032</a> | 5X50MM       | 50 | <a href="#">51700.050.050</a> |
| 1X16MM       | 250 | <a href="#">51700.010.016</a> | 2,5X40MM     | 100 | <a href="#">51700.025.040</a> | 5X63MM       | 50 | <a href="#">51700.050.063</a> |
| 1X20MM       | 250 | <a href="#">51700.010.020</a> | 2,5X50MM     | 100 | <a href="#">51700.025.050</a> | 5X80MM       | 50 | <a href="#">51700.050.080</a> |
| 1X25MM       | 250 | <a href="#">51700.010.025</a> |              |     |                               | 5X100MM      | 50 | <a href="#">51700.050.100</a> |
| 1X32MM       | 250 | <a href="#">51700.010.032</a> | 3,2X16MM     | 100 | <a href="#">51700.032.016</a> |              |    |                               |
| 1X40MM       | 250 | <a href="#">51700.010.040</a> | 3,2X20MM     | 100 | <a href="#">51700.032.020</a> | 6,3X25MM     | 50 | <a href="#">51700.063.025</a> |
|              |     |                               | 3,2X25MM     | 100 | <a href="#">51700.032.025</a> | 6,3X32MM     | 50 | <a href="#">51700.063.032</a> |
| 1,6X10MM     | 250 | <a href="#">51700.016.010</a> | 3,2X32MM     | 100 | <a href="#">51700.032.032</a> | 6,3X40MM     | 50 | <a href="#">51700.063.040</a> |
| 1,6X12MM     | 250 | <a href="#">51700.016.012</a> | 3,2X36MM     | 100 | <a href="#">51700.032.036</a> | 6,3X50MM     | 50 | <a href="#">51700.063.050</a> |
| 1,6X16MM     | 250 | <a href="#">51700.016.016</a> | 3,2X40MM     | 100 | <a href="#">51700.032.040</a> | 6,3X63MM     | 50 | <a href="#">51700.063.063</a> |
| 1,6X20MM     | 250 | <a href="#">51700.016.020</a> | 3,2X45MM     | 100 | <a href="#">51700.032.045</a> | 6,3X71MM     | 50 | <a href="#">51700.063.071</a> |
| 1,6X25MM     | 250 | <a href="#">51700.016.025</a> | 3,2X50MM     | 100 | <a href="#">51700.032.050</a> | 6,3X80MM     | 50 | <a href="#">51700.063.080</a> |
| 1,6X32MM     | 250 | <a href="#">51700.016.032</a> | 3,2X63MM     | 100 | <a href="#">51700.032.063</a> | 6,3X100MM    | 50 | <a href="#">51700.063.100</a> |
| 1,6X40MM     | 250 | <a href="#">51700.016.040</a> |              |     |                               |              |    |                               |
|              |     |                               | 4X20MM       | 100 | <a href="#">51700.040.020</a> | 8X40MM       | 25 | <a href="#">51700.080.040</a> |
| 2X10MM       | 250 | <a href="#">51700.020.010</a> | 4X25MM       | 100 | <a href="#">51700.040.025</a> | 8X50MM       | 25 | <a href="#">51700.080.050</a> |
| 2X16MM       | 250 | <a href="#">51700.020.016</a> | 4X32MM       | 100 | <a href="#">51700.040.032</a> | 8X63MM       | 25 | <a href="#">51700.080.063</a> |
| 2X18MM       | 250 | <a href="#">51700.020.018</a> | 4X36MM       | 100 | <a href="#">51700.040.036</a> | 8X80MM       | 25 | <a href="#">51700.080.080</a> |
| 2X20MM       | 250 | <a href="#">51700.020.020</a> | 4X40MM       | 100 | <a href="#">51700.040.040</a> | 8X100MM      | 25 | <a href="#">51700.080.100</a> |
| 2X25MM       | 250 | <a href="#">51700.020.025</a> | 4X45MM       | 100 | <a href="#">51700.040.045</a> |              |    |                               |
| 2X32MM       | 250 | <a href="#">51700.020.032</a> | 4X50MM       | 100 | <a href="#">51700.040.050</a> | 10X63MM      | 25 | <a href="#">51700.100.063</a> |
| 2X40MM       | 250 | <a href="#">51700.020.040</a> | 4X63MM       | 100 | <a href="#">51700.040.063</a> | 10X80MM      | 25 | <a href="#">51700.100.080</a> |
| 2X50MM       | 250 | <a href="#">51700.020.050</a> | 4X80MM       | 100 | <a href="#">51700.040.080</a> | 10X100MM     | 25 | <a href="#">51700.100.100</a> |
|              |     |                               |              |     |                               | 10X125MM     | 25 | <a href="#">51700.100.125</a> |
| 2,5X10MM     | 100 | <a href="#">51700.025.010</a> | 5X25MM       | 50  | <a href="#">51700.050.025</a> |              |    |                               |
| 2,5X16MM     | 100 | <a href="#">51700.025.016</a> | 5X32MM       | 50  | <a href="#">51700.050.032</a> |              |    |                               |
| 2,5X20MM     | 100 | <a href="#">51700.025.020</a> | 5X35MM       | 50  | <a href="#">51700.050.035</a> |              |    |                               |

• The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

| 55700 Split pin (cotter pin) |                    | R49A |
|------------------------------|--------------------|------|
| <b>Material</b>              | Stainless steel A4 |      |
| <b>Packaging</b>             | Standard           |      |

| d (nom.) x L | ☒    | Art.number                    | d (nom.) x L | ☒    | Art.number                    | d (nom.) x L | ☒    | Art.number                    |
|--------------|------|-------------------------------|--------------|------|-------------------------------|--------------|------|-------------------------------|
| 1X10MM       | 250  | <a href="#">55700.010.010</a> | 1,2X8MM *    | 1000 | <a href="#">55700.012.008</a> | 1,6X8MM *    | 1000 | <a href="#">55700.016.008</a> |
| 1X12MM       | 250  | <a href="#">55700.010.012</a> | 1,2X10MM *   | 1000 | <a href="#">55700.012.010</a> | 1,6X10MM     | 250  | <a href="#">55700.016.010</a> |
| 1X16MM       | 250  | <a href="#">55700.010.016</a> | 1,2X16MM *   | 1000 | <a href="#">55700.012.016</a> | 1,6X12MM     | 250  | <a href="#">55700.016.012</a> |
| 1X18MM *     | 1000 | <a href="#">55700.010.018</a> | 1,2X20MM *   | 1000 | <a href="#">55700.012.020</a> | 1,6X16MM     | 250  | <a href="#">55700.016.016</a> |
| 1X20MM       | 250  | <a href="#">55700.010.020</a> | 1,2X32MM *   | 1000 | <a href="#">55700.012.032</a> | 1,6X18MM *   | 1000 | <a href="#">55700.016.018</a> |
| 1X25MM       | 250  | <a href="#">55700.010.025</a> |              |      |                               |              |      |                               |


**55700 Split pin (cotter pin) ←**

| d (nom.) x L | ☒    | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|------|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,6X20MM     | 250  | <a href="#">55700.016.020</a> | 3,2X22MM *   | 500 | <a href="#">55700.032.022</a> | 5X80MM       | 50  | <a href="#">55700.050.080</a> |
| 1,6X25MM     | 250  | <a href="#">55700.016.025</a> | 3,2X25MM     | 100 | <a href="#">55700.032.025</a> | 5X90MM *     | 250 | <a href="#">55700.050.090</a> |
| 1,6X32MM     | 250  | <a href="#">55700.016.032</a> | 3,2X32MM     | 100 | <a href="#">55700.032.032</a> | 5X100MM      | 50  | <a href="#">55700.050.100</a> |
| 2X10MM       | 250  | <a href="#">55700.020.010</a> | 3,2X36MM *   | 500 | <a href="#">55700.032.036</a> | 6,3X25MM     | 50  | <a href="#">55700.063.025</a> |
| 2X12MM *     | 1000 | <a href="#">55700.020.012</a> | 3,2X40MM     | 100 | <a href="#">55700.032.040</a> | 6,3X32MM     | 50  | <a href="#">55700.063.032</a> |
| 2X16MM       | 250  | <a href="#">55700.020.016</a> | 3,2X45MM *   | 500 | <a href="#">55700.032.045</a> | 6,3X40MM     | 50  | <a href="#">55700.063.040</a> |
| 2X18MM       | 250  | <a href="#">55700.020.018</a> | 3,2X50MM     | 100 | <a href="#">55700.032.050</a> | 6,3X50MM     | 50  | <a href="#">55700.063.050</a> |
| 2X20MM       | 250  | <a href="#">55700.020.020</a> | 3,2X56MM *   | 500 | <a href="#">55700.032.056</a> | 6,3X56MM *   | 250 | <a href="#">55700.063.056</a> |
| 2X22MM *     | 1000 | <a href="#">55700.020.022</a> | 3,2X63MM     | 100 | <a href="#">55700.032.063</a> | 6,3X63MM     | 50  | <a href="#">55700.063.063</a> |
| 2X25MM       | 250  | <a href="#">55700.020.025</a> | 4X16MM *     | 500 | <a href="#">55700.040.016</a> | 6,3X71MM *   | 250 | <a href="#">55700.063.071</a> |
| 2X28MM *     | 1000 | <a href="#">55700.020.028</a> | 4X20MM       | 100 | <a href="#">55700.040.020</a> | 6,3X80MM     | 50  | <a href="#">55700.063.080</a> |
| 2X32MM       | 250  | <a href="#">55700.020.032</a> | 4X25MM       | 100 | <a href="#">55700.040.025</a> | 6,3X90MM *   | 250 | <a href="#">55700.063.090</a> |
| 2X36MM *     | 1000 | <a href="#">55700.020.036</a> | 4X28MM *     | 500 | <a href="#">55700.040.028</a> | 6,3X100MM    | 50  | <a href="#">55700.063.100</a> |
| 2X40MM       | 250  | <a href="#">55700.020.040</a> | 4X32MM       | 100 | <a href="#">55700.040.032</a> | 8X32MM *     | 100 | <a href="#">55700.080.032</a> |
| 2X50MM       | 250  | <a href="#">55700.020.050</a> | 4X40MM       | 100 | <a href="#">55700.040.040</a> | 8X40MM       | 25  | <a href="#">55700.080.040</a> |
| 2,5X10MM     | 100  | <a href="#">55700.025.010</a> | 4X45MM *     | 500 | <a href="#">55700.040.045</a> | 8X45MM *     | 100 | <a href="#">55700.080.045</a> |
| 2,5X12MM *   | 1000 | <a href="#">55700.025.012</a> | 4X50MM       | 100 | <a href="#">55700.040.050</a> | 8X50MM       | 25  | <a href="#">55700.080.050</a> |
| 2,5X16MM     | 100  | <a href="#">55700.025.016</a> | 4X56MM *     | 500 | <a href="#">55700.040.056</a> | 8X56MM *     | 100 | <a href="#">55700.080.056</a> |
| 2,5X18MM *   | 1000 | <a href="#">55700.025.018</a> | 4X63MM       | 100 | <a href="#">55700.040.063</a> | 8X63MM *     | 25  | <a href="#">55700.080.063</a> |
| 2,5X20MM     | 100  | <a href="#">55700.025.020</a> | 4X71MM *     | 500 | <a href="#">55700.040.071</a> | 8X71MM *     | 100 | <a href="#">55700.080.071</a> |
| 2,5X22MM *   | 1000 | <a href="#">55700.025.022</a> | 4X80MM       | 100 | <a href="#">55700.040.080</a> | 8X80MM       | 25  | <a href="#">55700.080.080</a> |
| 2,5X25MM     | 100  | <a href="#">55700.025.025</a> | 5X20MM *     | 250 | <a href="#">55700.050.020</a> | 8X90MM *     | 100 | <a href="#">55700.080.090</a> |
| 2,5X28MM *   | 1000 | <a href="#">55700.025.028</a> | 5X25MM       | 50  | <a href="#">55700.050.025</a> | 8X100MM      | 25  | <a href="#">55700.080.100</a> |
| 2,5X32MM     | 100  | <a href="#">55700.025.032</a> | 5X28MM *     | 250 | <a href="#">55700.050.028</a> | 10X63MM      | 25  | <a href="#">55700.100.063</a> |
| 2,5X36MM *   | 1000 | <a href="#">55700.025.036</a> | 5X32MM       | 50  | <a href="#">55700.050.032</a> | 10X71MM *    | 100 | <a href="#">55700.100.071</a> |
| 2,5X40MM     | 100  | <a href="#">55700.025.040</a> | 5X36MM *     | 250 | <a href="#">55700.050.036</a> | 10X80MM      | 25  | <a href="#">55700.100.080</a> |
| 2,5X45MM *   | 1000 | <a href="#">55700.025.045</a> | 5X40MM       | 50  | <a href="#">55700.050.040</a> | 10X90MM *    | 100 | <a href="#">55700.100.090</a> |
| 2,5X50MM     | 100  | <a href="#">55700.025.050</a> | 5X45MM *     | 250 | <a href="#">55700.050.045</a> | 10X100MM     | 25  | <a href="#">55700.100.100</a> |
|              |      |                               | 5X50MM       | 50  | <a href="#">55700.050.050</a> | 10X125MM     | 25  | <a href="#">55700.100.125</a> |
| 3,2X16MM     | 100  | <a href="#">55700.032.016</a> | 5X56MM *     | 250 | <a href="#">55700.050.056</a> |              |     |                               |
| 3,2X18MM *   | 500  | <a href="#">55700.032.018</a> | 5X63MM       | 50  | <a href="#">55700.050.063</a> |              |     |                               |
| 3,2X20MM     | 100  | <a href="#">55700.032.020</a> | 5X71MM *     | 250 | <a href="#">55700.050.071</a> |              |     |                               |

• The austenetic steel type is at the manufacturer's discretion, and can vary from the steel types stated in DIN 267-11.

**50210 Split pin (cotter pin) M11F**

|                  |          |
|------------------|----------|
| <b>Material</b>  | Brass    |
| <b>Packaging</b> | Standard |



| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,6X20MM     | 500 | <a href="#">50210.016.020</a> | 2,5X50MM     | 500 | <a href="#">50210.025.050</a> | 4X63MM       | 250 | <a href="#">50210.040.063</a> |
| 1,6X25MM     | 500 | <a href="#">50210.016.025</a> | 2,5X63MM     | 500 | <a href="#">50210.025.063</a> | 4X80MM       | 250 | <a href="#">50210.040.080</a> |
| 1,6X32MM     | 500 | <a href="#">50210.016.032</a> |              |     |                               |              |     |                               |
| 1,6X40MM     | 500 | <a href="#">50210.016.040</a> | 3,2X25MM     | 250 | <a href="#">50210.032.025</a> | 5X40MM       | 100 | <a href="#">50210.050.040</a> |
| 2X25MM       | 500 | <a href="#">50210.020.025</a> | 3,2X32MM     | 250 | <a href="#">50210.032.032</a> | 5X50MM       | 100 | <a href="#">50210.050.050</a> |
| 2X32MM       | 500 | <a href="#">50210.020.032</a> | 3,2X40MM     | 250 | <a href="#">50210.032.040</a> | 5X63MM       | 100 | <a href="#">50210.050.063</a> |
| 2X40MM       | 500 | <a href="#">50210.020.040</a> | 3,2X50MM     | 250 | <a href="#">50210.032.050</a> | 5X80MM       | 100 | <a href="#">50210.050.080</a> |
| 2X50MM       | 500 | <a href="#">50210.020.050</a> | 3,2X63MM     | 250 | <a href="#">50210.032.063</a> |              |     |                               |
|              |     |                               | 4X25MM       | 250 | <a href="#">50210.040.025</a> | 6,3X63MM     | 100 | <a href="#">50210.063.063</a> |
| 2,5X25MM     | 500 | <a href="#">50210.025.025</a> | 4X32MM       | 250 | <a href="#">50210.040.032</a> | 6,3X80MM     | 100 | <a href="#">50210.063.080</a> |
| 2,5X32MM     | 500 | <a href="#">50210.025.032</a> | 4X40MM       | 250 | <a href="#">50210.040.040</a> | 6,3X100MM    | 100 | <a href="#">50210.063.100</a> |
| 2,5X40MM     | 500 | <a href="#">50210.025.040</a> | 4X50MM       | 250 | <a href="#">50210.040.050</a> |              |     |                               |

**50390 Split pin (cotter pin) M11F**

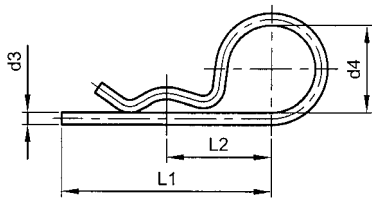
|                  |          |
|------------------|----------|
| <b>Material</b>  | Copper   |
| <b>Packaging</b> | Standard |



| d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    | d (nom.) x L | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1,6X20MM     | 500 | <a href="#">50390.016.020</a> | 3,2X50MM     | 250 | <a href="#">50390.032.050</a> | 5X63MM       | 100 | <a href="#">50390.050.063</a> |
| 1,6X32MM     | 500 | <a href="#">50390.016.032</a> | 3,2X63MM     | 250 | <a href="#">50390.032.063</a> | 5X80MM       | 100 | <a href="#">50390.050.080</a> |
| 2X32MM       | 500 | <a href="#">50390.020.032</a> | 4X32MM       | 250 | <a href="#">50390.040.032</a> | 6,3X63MM     | 100 | <a href="#">50390.063.063</a> |
| 2X40MM       | 500 | <a href="#">50390.020.040</a> | 4X40MM       | 250 | <a href="#">50390.040.040</a> | 6,3X80MM     | 100 | <a href="#">50390.063.080</a> |
|              |     |                               | 4X50MM       | 250 | <a href="#">50390.040.050</a> | 6,3X100MM    | 100 | <a href="#">50390.063.100</a> |
| 2,5X32MM     | 500 | <a href="#">50390.025.032</a> | 4X63MM       | 250 | <a href="#">50390.040.063</a> |              |     |                               |
| 2,5X40MM     | 500 | <a href="#">50390.025.040</a> | 4X80MM       | 250 | <a href="#">50390.040.080</a> |              |     |                               |
| 3,2X32MM     | 250 | <a href="#">50390.032.032</a> | 5X40MM       | 100 | <a href="#">50390.050.040</a> |              |     |                               |
| 3,2X40MM     | 250 | <a href="#">50390.032.040</a> | 5X50MM       | 100 | <a href="#">50390.050.050</a> |              |     |                               |

## Spring cotter of a bolt, single

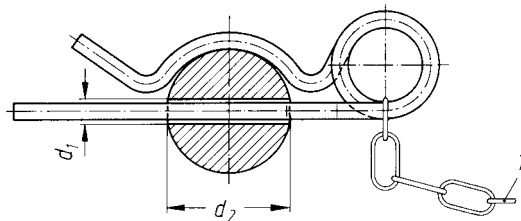
DIN ≈11024



### Technical data

|                                  |     |     |     |    |     |     |     |
|----------------------------------|-----|-----|-----|----|-----|-----|-----|
| d1 (nom.) = hole $\varnothing$   | 2,5 | 3,5 | 4,5 | 6  | 7   | 8   | 9   |
| d <sub>3</sub>                   | 2   | 3   | 4   | 5  | 6   | 7   | 8   |
| L <sub>1</sub>                   | 50  | 60  | 60  | 85 | 105 | 105 | 110 |
| L <sub>2</sub>                   | 25  | 28  | 30  | 40 | 50  | 50  | 55  |
| d <sub>4</sub>                   | 10  | 18  | 20  | 24 | 30  | 30  | 28  |
| <b>Assembly data</b>             |     |     |     |    |     |     |     |
| For shaft $\varnothing d_2 >$    | 9   | 10  | 16  | 20 | 28  | 28  | 30  |
| For shaft $\varnothing d_2 \leq$ | 14  | 16  | 20  | 28 | 40  | 45  | 45  |

### Assembly data



For the hole diameter, d1 (nom.) with tolerance field H13 is recommended.

It is also recommended to connect the spring cotter of a bolt with the unit to be locked so that it cannot be lost.

### 39610 Spring cotter of a bolt, single

L11E

|                          |                               |
|--------------------------|-------------------------------|
| <b>Material</b>          | Spring steel                  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |

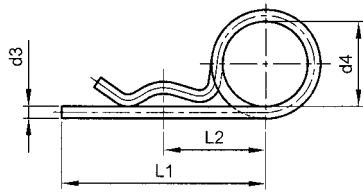


| d1 (=d3)    | ☒  | Art.number                    | d1 (=d3)  | ☒  | Art.number                    | d1 (=d3)  | ☒  | Art.number                    |
|-------------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 2,5 (=2 MM) | 50 | <a href="#">39610.020.001</a> | 6 (=5 MM) | 25 | <a href="#">39610.050.001</a> | 9 (=8 MM) | 10 | <a href="#">39610.080.001</a> |
| 3,5 (=3 MM) | 50 | <a href="#">39610.030.001</a> | 7 (=6 MM) | 25 | <a href="#">39610.060.001</a> |           |    |                               |
| 4,5 (=4 MM) | 25 | <a href="#">39610.040.001</a> | 8 (=7 MM) | 10 | <a href="#">39610.070.001</a> |           |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**Spring cotter of a bolt, double**

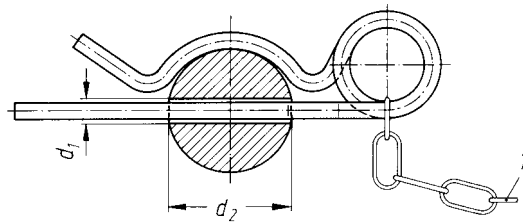
DIN ≈11024



**Technical data**

|                              |     |     |     |     |     |     |
|------------------------------|-----|-----|-----|-----|-----|-----|
| d1 (nom.) = hole ø           | 3,5 | 4,5 | 5,5 | 6,5 | 8   | 9   |
| d <sub>3</sub>               | 3   | 4   | 5   | 6   | 7   | 8   |
| L <sub>1</sub>               | 62  | 78  | 92  | 120 | 130 | 130 |
| L <sub>2</sub>               | 32  | 44  | 50  | 70  | 72  | 76  |
| d <sub>4</sub>               | 16  | 23  | 26  | 30  | 30  | 30  |
| <b>Assembly data</b>         |     |     |     |     |     |     |
| For shaft ø d <sub>2</sub> > | 14  | 17  | 18  | 24  | 26  | 24  |
| For shaft ø d <sub>2</sub> ≤ | 20  | 24  | 30  | 36  | 40  | 40  |

**Assembly data**



For the hole diameter, d1 (nom.) with tolerance field H13 is recommended.  
It is also recommended to connect the spring cotter of a bolt with the unit to be locked so that it cannot be lost.

|                          |  |             |
|--------------------------|--|-------------|
| <b>39630</b>             | <b>Spring cotter of a bolt, double</b> | <b>L11E</b> |
| <b>Material</b>          | Spring steel                           |             |
| <b>Surface treatment</b> | Zinc plated yellow passivated          |             |
| <b>Packaging</b>         | Standard                               |             |

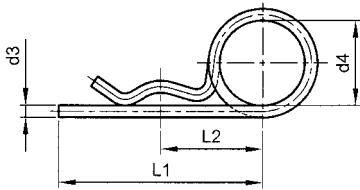


| d1 (=d3)    | ☒  | Art.number                    | d1 (=d3)    | ☒  | Art.number                    | d1 (=d3)  | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-----------|----|-------------------------------|
| 3,5 (=3 MM) | 50 | <a href="#">39630.030.001</a> | 5,5 (=5 MM) | 25 | <a href="#">39630.050.001</a> | 8 (=7 MM) | 10 | <a href="#">39630.070.001</a> |
| 4,5 (=4 MM) | 25 | <a href="#">39630.040.001</a> | 6,5 (=6 MM) | 25 | <a href="#">39630.060.001</a> | 9 (=8MM)  | 10 | <a href="#">39630.080.001</a> |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

**Spring cotter of a bolt, double, A4**

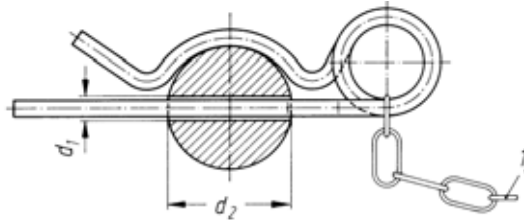
DIN 11024



**Technical data**

|                                  |      |     |     |     |     |
|----------------------------------|------|-----|-----|-----|-----|
| d1 (nom.) = hole $\varnothing$   | 3,2  | 4   | 5   | 7   | 8   |
| d <sub>3</sub>                   | 2,8  | 3,6 | 4,5 | 6,3 | 7   |
| L <sub>1</sub>                   | 48   | 64  | 80  | 125 | 150 |
| L <sub>2</sub>                   | 26   | 32  | 39  | 56  | 63  |
| d <sub>4</sub>                   | 20   | 20  | 25  | 30  | 30  |
| <b>Assembly data</b>             |      |     |     |     |     |
| For shaft $\varnothing d_2 >$    | 11,2 | 14  | 20  | 34  | 45  |
| For shaft $\varnothing d_2 \leq$ | 14   | 20  | 26  | 45  | 56  |

**Assembly data**



For the hole diameter, d1 (nom.) with tolerance field H13 is recommended.  
It is also recommended to connect the spring cotter of a bolt with the unit to be locked so that it cannot be lost.

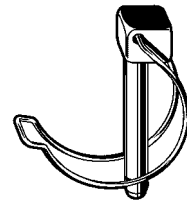
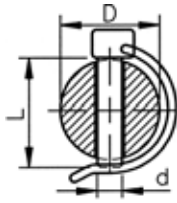
|                  |  |             |
|------------------|--|-------------|
| <b>55970</b>     | <b>Spring cotter of a bolt, double, A4</b> | <b>R09A</b> |
| <b>Material</b>  | Stainless steel A4                         |             |
| <b>Packaging</b> | Standard                                   |             |



| d1 (=d3)     | ☒  | Art.number                    | d1 (=d3)   | ☒  | Art.number                    | d1 (=d3) | ☒  | Art.number                    |
|--------------|----|-------------------------------|------------|----|-------------------------------|----------|----|-------------------------------|
| 3,2 (=2,8MM) | 50 | <a href="#">55970.032.001</a> | 5 (=4,5MM) | 50 | <a href="#">55970.050.001</a> | 8 (=7MM) | 10 | <a href="#">55970.080.001</a> |
| 4 (=3,6MM)   | 50 | <a href="#">55970.040.001</a> | 7 (=6,3MM) | 10 | <a href="#">55970.070.001</a> |          |    |                               |



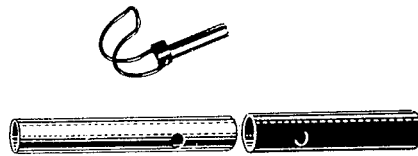
**Pipe pin**



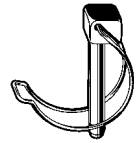
**Technical data**

| d x L                | 6x40    | 6x45   | 8x40    | 8x45   | 8x50  | 10x40   | 10x50 | 10x60   |
|----------------------|---------|--------|---------|--------|-------|---------|-------|---------|
| <b>Assembly data</b> |         |        |         |        |       |         |       |         |
| For nom. size D mm   | 36      | 40     | 36      | 40     | 45    | 36      | 45    | 55      |
| For nom. size D inch | 1.13/32 | 1.9/16 | 1.13/32 | 1.9/16 | 1.3/4 | 1.13/32 | 1.3/4 | 2.11/64 |

**Assembly data**



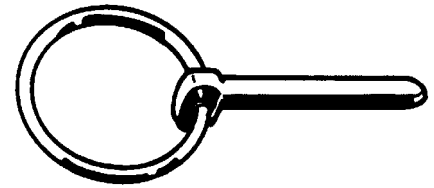
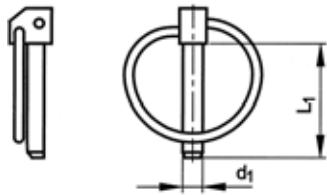
|                          |                               |             |
|--------------------------|-------------------------------|-------------|
| <b>39680</b>             | <b>Pipe pin</b>               | <b>L11G</b> |
| <b>Material</b>          | Spring steel                  |             |
| <b>Surface treatment</b> | Zinc plated yellow passivated |             |
| <b>Packaging</b>         | Standard                      |             |



| d x L  | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|--------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| 6X40MM | 25 | <a href="#">39680.060.040</a> | 8X45MM  | 25 | <a href="#">39680.080.045</a> | 10X50MM | 10 | <a href="#">39680.100.050</a> |
| 6X45MM | 25 | <a href="#">39680.060.045</a> | 8X50MM  | 25 | <a href="#">39680.080.050</a> | 10X60MM | 10 | <a href="#">39680.100.060</a> |
| 8X40MM | 25 | <a href="#">39680.080.040</a> | 10X40MM | 10 | <a href="#">39680.100.040</a> |         |    |                               |

• Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Linch pin

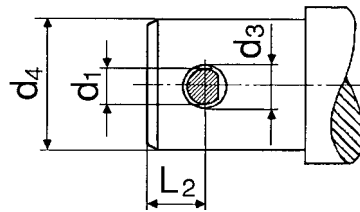


### Technical data

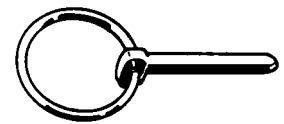
| d1                    | 4,5 | 6   | 7  | 8   | 9,5 | 10   | 11 |
|-----------------------|-----|-----|----|-----|-----|------|----|
| <b>Assembly data</b>  |     |     |    |     |     |      |    |
| d <sub>3</sub> (H11)  | 5   | 6,2 | 8  | 8,5 | 10  | 10,5 | 12 |
| d <sub>4</sub> (max.) | 25  | 32  | 32 | 32  | 32  | 32   | 32 |
| L <sub>2</sub>        | 8   | 10  | 12 | 12  | 14  | 14   | 14 |
| Form of shaft         | a   | a   | b  | b   | b   | b    | b  |

- Form of shaft a = round, b = flattened on one side.

### Assembly data



| 39660                    | Linch pin                     | L11E |
|--------------------------|-------------------------------|------|
| <b>Material</b>          | Spring steel                  |      |
| <b>Surface treatment</b> | Zinc plated yellow passivated |      |
| <b>Packaging</b>         | Standard                      |      |

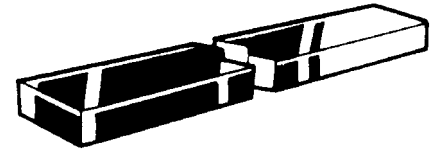
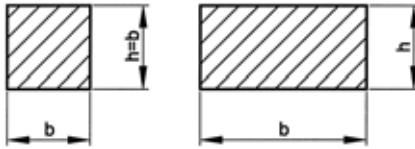


| d1 x L1  | ☒  | Art.number                    | d1 x L1  | ☒  | Art.number                    | d1 x L1 | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|---------|----|-------------------------------|
| 4,5x40MM | 25 | <a href="#">39660.045.001</a> | 8x40MM   | 25 | <a href="#">39660.080.001</a> | 11x40MM | 10 | <a href="#">39660.110.001</a> |
| 6x40MM   | 25 | <a href="#">39660.060.001</a> | 9,5x40MM | 25 | <a href="#">39660.095.001</a> |         |    |                               |
| 7x40MM   | 25 | <a href="#">39660.070.001</a> | 10x40MM  | 10 | <a href="#">39660.100.001</a> |         |    |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Bright key steel length 1 meter

DIN 6880



- Bright key steel is cold drawn with a rather smooth and bright surface and corresponding to a high accuracy of dimensions. Usable for the manufacturing of parallel keys and taper keys with gip head.
- For b is the tolerance h9 and for h tolerance h11 (except the size 12 x 8 and square key steel having for b as well as h tolerance h9).

### Article groups

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St C45K   | Standard  | 39270 | 9-44 |
| St.St. A4 | Standard  | 55512 | 9-44 |

| 39270 Bright key steel length 1 meter |            | L11B |
|---------------------------------------|------------|------|
| <b>Material</b>                       | Steel C45K |      |
| <b>Packaging</b>                      | Standard   |      |



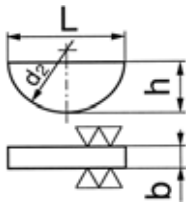
| b x h   | ☒ | Art.number                    | b x h   | ☒ | Art.number                    | b x h   | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 3X3MM   | 2 | <a href="#">39270.033.001</a> | 12X8MM  | 2 | <a href="#">39270.128.001</a> | 20X20MM | 1 | <a href="#">39270.220.001</a> |
| 4X4MM   | 2 | <a href="#">39270.044.001</a> | 12X12MM | 2 | <a href="#">39270.132.001</a> | 22X14MM | 1 | <a href="#">39270.234.001</a> |
| 5X5MM   | 2 | <a href="#">39270.055.001</a> | 14X9MM  | 1 | <a href="#">39270.149.001</a> | 22X22MM | 1 | <a href="#">39270.242.001</a> |
| 6X6MM   | 2 | <a href="#">39270.066.001</a> | 14X14MM | 1 | <a href="#">39270.154.001</a> | 25X14MM | 1 | <a href="#">39270.264.001</a> |
| 7X7MM   | 2 | <a href="#">39270.077.001</a> | 16X10MM | 1 | <a href="#">39270.170.001</a> | 28X16MM | 1 | <a href="#">39270.296.001</a> |
| 8X7MM   | 2 | <a href="#">39270.087.001</a> | 16X16MM | 1 | <a href="#">39270.176.001</a> | 32X18MM | 1 | <a href="#">39270.338.001</a> |
| 8X8MM   | 2 | <a href="#">39270.088.001</a> | 18X11MM | 1 | <a href="#">39270.191.001</a> | 36X20MM | 1 | <a href="#">39270.380.001</a> |
| 10X8MM  | 2 | <a href="#">39270.108.001</a> | 18X18MM | 1 | <a href="#">39270.198.001</a> | 40X22MM | 1 | <a href="#">39270.422.001</a> |
| 10X10MM | 2 | <a href="#">39270.110.001</a> | 20X12MM | 1 | <a href="#">39270.212.001</a> | 45X25MM | 1 | <a href="#">39270.475.001</a> |

| 55512 Bright key steel length 1 meter |                       | R49A |
|---------------------------------------|-----------------------|------|
| <b>Material</b>                       | Stainless steel A4    |      |
| <b>Packaging</b>                      | Standard<br>DIN ≈6880 |      |

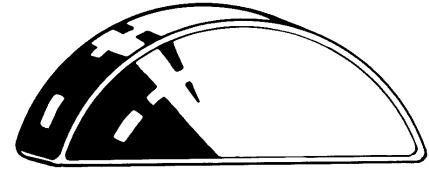


| b x h  | ☒ | Art.number                    | b x h   | ☒ | Art.number                    | b x h   | ☒ | Art.number                    |
|--------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 4X4MM  | 2 | <a href="#">55512.044.001</a> | 12X8MM  | 2 | <a href="#">55512.128.001</a> | 22X14MM | 1 | <a href="#">55512.234.001</a> |
| 5X5MM  | 2 | <a href="#">55512.055.001</a> | 14X9MM  | 1 | <a href="#">55512.149.001</a> | 25X14MM | 1 | <a href="#">55512.264.001</a> |
| 6X6MM  | 2 | <a href="#">55512.066.001</a> | 16X10MM | 1 | <a href="#">55512.170.001</a> | 28X16MM | 1 | <a href="#">55512.296.001</a> |
| 8X7MM  | 2 | <a href="#">55512.087.001</a> | 18X11MM | 1 | <a href="#">55512.191.001</a> |         |   |                               |
| 10X8MM | 2 | <a href="#">55512.108.001</a> | 20X12MM | 1 | <a href="#">55512.212.001</a> |         |   |                               |

## Woodruff key



ISO 3912  
 DIN 6888  
 BS 4235-2



### Technical data

| b (h9) x h (h12) | L ≈   | d <sub>2</sub> | For shaft (1.) ø > | For shaft (1.) ø ≤ | For shaft (2.) ø > | For shaft (2.) ø ≤ |
|------------------|-------|----------------|--------------------|--------------------|--------------------|--------------------|
| 2x2,6            | 6,76  | 7              | 6                  | 8                  | 10                 | 12                 |
| 2x3,7            | 9,66  | 10             | 6                  | 8                  | 10                 | 12                 |
| 2x5 (#DIN)       | 12,65 | -              | 8                  | 10                 | 12                 | 17                 |
| 2,5x3,7          | 9,66  | 10             | 8                  | 10                 | 12                 | 17                 |
| 3x3,7            | 9,66  | 10             | 8                  | 10                 | 12                 | 17                 |
| 3x5              | 12,65 | 13             | 8                  | 10                 | 12                 | 17                 |
| 3x6,5            | 15,72 | 16             | -                  | -                  | 12                 | 17                 |
| 3x7,5 (#DIN)     | 18,57 | -              | 10                 | 12                 | 17                 | 22                 |
| 4x5              | 12,65 | 13             | 10                 | 12                 | 17                 | 22                 |
| 4x6,5 (#DIN)     | 15,72 | 16             | 10                 | 12                 | 17                 | 22                 |
| 4x7,5            | 15,72 | 16             | 10                 | 12                 | 17                 | 22                 |
| 4x9              | 15,72 | 16             | 12                 | 17                 | 22                 | 30                 |
| 5x6,5            | 15,72 | 16             | 12                 | 17                 | 22                 | 30                 |
| 5x7,5            | 18,57 | 19             | 12                 | 17                 | 22                 | 30                 |
| 5x9              | 21,63 | 22             | -                  | -                  | 22                 | 30                 |
| 6x9              | 21,63 | 22             | 17                 | 22                 | 30                 | 38                 |
| 6x11             | 27,35 | 28             | -                  | -                  | 30                 | 38                 |
| 6x13 (#DIN)      | 31,43 | -              | 22                 | 30                 | 38                 | -                  |
| 6x15 (#DIN)      | 37,14 | -              | -                  | -                  | -                  | -                  |
| 8x11             | 27,35 | 28             | 22                 | 30                 | 38                 | -                  |
| 8x13             | 31,43 | 32             | -                  | -                  | 38                 | -                  |
| 10x13            | 31,43 | 32             | 30                 | 38                 | 38                 | -                  |

- (1.) Application is valid for keys, which are used as a fitting key transmitting the whole turning moment.
- (2.) Application is valid for keys, which are used only for the positioning of the driving element, while for the transmission of the turning moment other articles e.g. parallel keys or taper pins are used.

### Article groups

| Material   | Class | Packaging | Code  | Page |
|------------|-------|-----------|-------|------|
| St DIN6882 | 60    | Standard  | 39200 | 9-45 |
| St.St. A4  |       | Standard  | 55516 | 9-46 |

#### 39200 Woodruff key

L11B

Material Steel DIN6882  
 Class 60  
 Packaging Standard

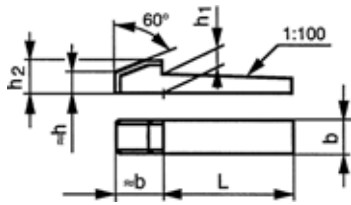


| b x h     | ☒   | Art.number                    | b x h   | ☒  | Art.number                    | b x h   | ☒  | Art.number                    |
|-----------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| 2X2,6MM   | 100 | <a href="#">39200.020.002</a> | 4X5MM   | 50 | <a href="#">39200.040.005</a> | 6X11MM  | 25 | <a href="#">39200.060.011</a> |
| 2X3,7MM   | 100 | <a href="#">39200.020.003</a> | 4X6,5MM | 50 | <a href="#">39200.040.006</a> | 6X13MM  | 25 | <a href="#">39200.060.013</a> |
| 2X5MM     | 100 | <a href="#">39200.020.005</a> | 4X7,5MM | 50 | <a href="#">39200.040.007</a> | 6X15MM  | 25 | <a href="#">39200.060.015</a> |
| 2,5X3,7MM | 100 | <a href="#">39200.025.003</a> | 4X9MM   | 50 | <a href="#">39200.040.009</a> | 8X11MM  | 10 | <a href="#">39200.080.011</a> |
| 3X3,7MM   | 100 | <a href="#">39200.030.003</a> | 5X6,5MM | 50 | <a href="#">39200.050.006</a> | 8X13MM  | 10 | <a href="#">39200.080.013</a> |
| 3X5MM     | 100 | <a href="#">39200.030.005</a> | 5X7,5MM | 50 | <a href="#">39200.050.007</a> | 10X13MM | 10 | <a href="#">39200.100.013</a> |
| 3X6,5MM   | 100 | <a href="#">39200.030.006</a> | 5X9MM   | 50 | <a href="#">39200.050.009</a> |         |    |                               |
| 3X7,5MM   | 50  | <a href="#">39200.030.007</a> | 6X9MM   | 50 | <a href="#">39200.060.009</a> |         |    |                               |

|                  |                     |  |  |  |  |  |   |
|------------------|---------------------|--|--|--|--|--|---|
| <b>55516</b>     | <b>Woodruff key</b> |  |  |  |  |  | <b>R49A</b>   |
| <b>Material</b>  | Stainless steel A4  |  |  |  |  |  |   |
| <b>Packaging</b> | Standard            |  |  |  |  |  |   |
|                  |                     |  |  |  |  |  |  |

| <b>b x h</b> | ✉  | <b>Art.number</b>             | <b>b x h</b> | ✉  | <b>Art.number</b>             | <b>b x h</b> | ✉  | <b>Art.number</b>             |
|--------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| 3X3,7MM      | 50 | <a href="#">55516.030.003</a> | 4X5MM        | 25 | <a href="#">55516.040.005</a> | 5X9MM        | 25 | <a href="#">55516.050.009</a> |
| 3X5MM        | 50 | <a href="#">55516.030.005</a> | 4X6,5MM      | 25 | <a href="#">55516.040.006</a> | 6X9MM        | 25 | <a href="#">55516.060.009</a> |
| 3X6,5MM      | 50 | <a href="#">55516.030.006</a> | 4X7,5MM      | 25 | <a href="#">55516.040.007</a> |              |    |                               |

## Taper key with gib head



ISO R 774  
DIN 6887  
BS 4235-1



### Technical data

| b (h9)                       | 6   | 8   | 10  | 12  | 14  | 16   | 18   | 32   | 36   | 40   |
|------------------------------|-----|-----|-----|-----|-----|------|------|------|------|------|
| h (nom.)                     | 6   | 7   | 8   | 8   | 9   | 10   | 11   | 18   | 20   | 22   |
| h <sub>1</sub>               | 6,1 | 7,2 | 8,2 | 8,2 | 9,2 | 10,2 | 11,2 | 18,3 | 20,4 | 22,4 |
| h <sub>2</sub>               | 10  | 11  | 12  | 12  | 14  | 16   | 18   | 28   | 32   | 36   |
| <b>Assembly data</b>         |     |     |     |     |     |      |      |      |      |      |
| For shaft $\varnothing >$    | 17  | 22  | 30  | 38  | 44  | 50   | 58   | 110  | 130  | 150  |
| For shaft $\varnothing \leq$ | 22  | 30  | 38  | 44  | 50  | 58   | 65   | 130  | 150  | 170  |

- b(h9) For the width of the keyway, tolerance D10 is recommended.

### 39220 Taper key with gib head

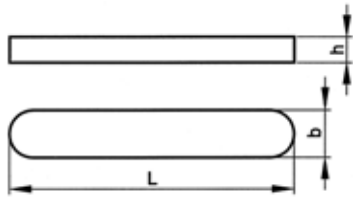
L11B

**Material** Steel DIN6880  
**Packaging** Standard

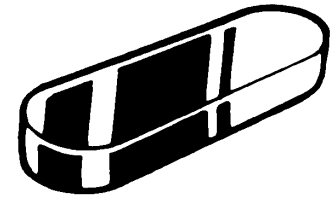


| b x h x L  | ☒  | Art.number                    | b x h x L  | ☒  | Art.number                    | b x h x L   | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|-------------|----|-------------------------------|
| 6X6X40MM   | 25 | <a href="#">39220.066.040</a> | 12X8X50MM  | 10 | <a href="#">39220.128.050</a> | 16X10X80MM  | 10 | <a href="#">39220.170.080</a> |
| 6X6X50MM   | 25 | <a href="#">39220.066.050</a> | 12X8X60MM  | 10 | <a href="#">39220.128.060</a> | 16X10X100MM | 10 | <a href="#">39220.170.100</a> |
| 6X6X60MM   | 25 | <a href="#">39220.066.060</a> | 12X8X63MM  | 10 | <a href="#">39220.128.063</a> | 18X11X63MM  | 10 | <a href="#">39220.191.063</a> |
| 8X7X40MM   | 25 | <a href="#">39220.087.040</a> | 12X8X70MM  | 10 | <a href="#">39220.128.070</a> | 18X11X70MM  | 10 | <a href="#">39220.191.070</a> |
| 8X7X50MM   | 25 | <a href="#">39220.087.050</a> | 12X8X80MM  | 10 | <a href="#">39220.128.080</a> | 18X11X80MM  | 10 | <a href="#">39220.191.080</a> |
| 8X7X63MM   | 25 | <a href="#">39220.087.063</a> | 12X8X90MM  | 10 | <a href="#">39220.128.090</a> | 18X11X90MM  | 10 | <a href="#">39220.191.090</a> |
| 8X7X70MM   | 25 | <a href="#">39220.087.070</a> | 12X8X100MM | 10 | <a href="#">39220.128.100</a> | 18X11X100MM | 10 | <a href="#">39220.191.100</a> |
| 8X7X80MM   | 25 | <a href="#">39220.087.080</a> | 14X9X50MM  | 10 | <a href="#">39220.149.050</a> | 18X11X140MM | 10 | <a href="#">39220.191.140</a> |
| 10X8X40MM  | 25 | <a href="#">39220.108.040</a> | 14X9X63MM  | 10 | <a href="#">39220.149.063</a> | 32X18X160MM | 5  | <a href="#">39220.338.160</a> |
| 10X8X50MM  | 25 | <a href="#">39220.108.050</a> | 14X9X70MM  | 10 | <a href="#">39220.149.070</a> | 32X18X200MM | 5  | <a href="#">39220.338.200</a> |
| 10X8X63MM  | 25 | <a href="#">39220.108.063</a> | 14X9X80MM  | 10 | <a href="#">39220.149.080</a> | 36X20X160MM | 5  | <a href="#">39220.380.160</a> |
| 10X8X70MM  | 25 | <a href="#">39220.108.070</a> | 14X9X90MM  | 10 | <a href="#">39220.149.090</a> | 36X20X200MM | 5  | <a href="#">39220.380.200</a> |
| 10X8X80MM  | 25 | <a href="#">39220.108.080</a> | 14X9X100MM | 10 | <a href="#">39220.149.100</a> | 40X22X200MM | 5  | <a href="#">39220.422.200</a> |
| 10X8X100MM | 25 | <a href="#">39220.108.100</a> | 16X10X63MM | 10 | <a href="#">39220.170.063</a> |             |    |                               |
| 12X8X40MM  | 10 | <a href="#">39220.128.040</a> | 16X10X70MM | 10 | <a href="#">39220.170.070</a> |             |    |                               |

## Parallel key high type



ISO R 773  
DIN 6885 A  
NEN 2430  
BS 4235-1



### Technical data

|                         |   |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|-------------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| <b>b</b>                | 2 | 3  | 4  | 5  | 6  | 8  | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 25 | 28  | 32  | 36  | 40  | 45  | 50  |
| <b>h</b>                | 2 | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 10 | 11 | 12 | 14 | 14 | 16  | 18  | 20  | 22  | 25  | 28  |
| <b>Assembly data</b>    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
| <b>For shaft ø &gt;</b> | 6 | 8  | 10 | 12 | 17 | 22 | 30 | 38 | 44 | 50 | 50 | 75 | 75 | 85 | 95  | 110 | 130 | 150 | 170 | 200 |
| <b>For shaft ø ≤</b>    | 8 | 10 | 12 | 17 | 22 | 30 | 38 | 44 | 50 | 58 | 58 | 85 | 80 | 95 | 110 | 130 | 150 | 170 | 200 | 230 |

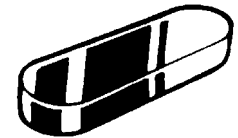
### Article groups

| Material  | Packaging | Code  | Page |
|-----------|-----------|-------|------|
| St C45K   | Standard  | 39250 | 9-48 |
| St.St. A4 | Standard  | 55510 | 9-50 |

### 39250 Parallel key high type

L11B

**Material** Steel C45K  
**Packaging** Standard



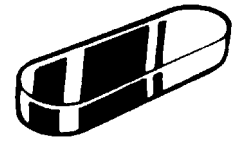
| b x h x L | ☒  | Art.number                    | b x h x L | ☒  | Art.number                    | b x h x L | ☒  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| 2X2X6MM   | 50 | <a href="#">39250.022.006</a> | 4X4X50MM  | 50 | <a href="#">39250.044.050</a> | 6X6X80MM  | 50 | <a href="#">39250.066.080</a> |
| 2X2X8MM   | 50 | <a href="#">39250.022.008</a> | 5X5X10MM  | 50 | <a href="#">39250.055.010</a> | 6X6X90MM  | 50 | <a href="#">39250.066.090</a> |
| 2X2X10MM  | 50 | <a href="#">39250.022.010</a> | 5X5X12MM  | 50 | <a href="#">39250.055.012</a> | 6X6X100MM | 50 | <a href="#">39250.066.100</a> |
| 2X2X12MM  | 50 | <a href="#">39250.022.012</a> | 5X5X14MM  | 50 | <a href="#">39250.055.014</a> | 8X7X10MM  | 50 | <a href="#">39250.087.010</a> |
| 2X2X14MM  | 50 | <a href="#">39250.022.014</a> | 5X5X15MM  | 50 | <a href="#">39250.055.015</a> | 8X7X12MM  | 50 | <a href="#">39250.087.012</a> |
| 2X2X16MM  | 50 | <a href="#">39250.022.016</a> | 5X5X16MM  | 50 | <a href="#">39250.055.016</a> | 8X7X15MM  | 50 | <a href="#">39250.087.015</a> |
| 2X2X18MM  | 50 | <a href="#">39250.022.018</a> | 5X5X18MM  | 50 | <a href="#">39250.055.018</a> | 8X7X16MM  | 50 | <a href="#">39250.087.016</a> |
| 2X2X20MM  | 50 | <a href="#">39250.022.020</a> | 5X5X20MM  | 50 | <a href="#">39250.055.020</a> | 8X7X18MM  | 50 | <a href="#">39250.087.018</a> |
| 2X2X22MM  | 50 | <a href="#">39250.022.022</a> | 5X5X22MM  | 50 | <a href="#">39250.055.022</a> | 8X7X20MM  | 50 | <a href="#">39250.087.020</a> |
| 2X2X25MM  | 50 | <a href="#">39250.022.025</a> | 5X5X25MM  | 50 | <a href="#">39250.055.025</a> | 8X7X22MM  | 50 | <a href="#">39250.087.022</a> |
| 2X2X28MM  | 50 | <a href="#">39250.022.028</a> | 5X5X28MM  | 50 | <a href="#">39250.055.028</a> | 8X7X25MM  | 50 | <a href="#">39250.087.025</a> |
| 2X2X30MM  | 50 | <a href="#">39250.022.030</a> | 5X5X30MM  | 50 | <a href="#">39250.055.030</a> | 8X7X28MM  | 50 | <a href="#">39250.087.028</a> |
| 2X2X36MM  | 50 | <a href="#">39250.022.036</a> | 5X5X32MM  | 50 | <a href="#">39250.055.032</a> | 8X7X30MM  | 50 | <a href="#">39250.087.030</a> |
| 2X2X40MM  | 50 | <a href="#">39250.022.040</a> | 5X5X35MM  | 50 | <a href="#">39250.055.035</a> | 8X7X32MM  | 50 | <a href="#">39250.087.032</a> |
| 3X3X6MM   | 50 | <a href="#">39250.033.006</a> | 5X5X36MM  | 50 | <a href="#">39250.055.036</a> | 8X7X35MM  | 25 | <a href="#">39250.087.035</a> |
| 3X3X8MM   | 50 | <a href="#">39250.033.008</a> | 5X5X40MM  | 50 | <a href="#">39250.055.040</a> | 8X7X36MM  | 25 | <a href="#">39250.087.036</a> |
| 3X3X10MM  | 50 | <a href="#">39250.033.010</a> | 5X5X45MM  | 50 | <a href="#">39250.055.045</a> | 8X7X40MM  | 25 | <a href="#">39250.087.040</a> |
| 3X3X12MM  | 50 | <a href="#">39250.033.012</a> | 5X5X50MM  | 50 | <a href="#">39250.055.050</a> | 8X7X45MM  | 25 | <a href="#">39250.087.045</a> |
| 3X3X14MM  | 50 | <a href="#">39250.033.014</a> | 5X5X55MM  | 50 | <a href="#">39250.055.055</a> | 8X7X50MM  | 25 | <a href="#">39250.087.050</a> |
| 3X3X15MM  | 50 | <a href="#">39250.033.015</a> | 5X5X56MM  | 50 | <a href="#">39250.055.056</a> | 8X7X55MM  | 25 | <a href="#">39250.087.055</a> |
| 3X3X16MM  | 50 | <a href="#">39250.033.016</a> | 5X5X60MM  | 50 | <a href="#">39250.055.060</a> | 8X7X60MM  | 25 | <a href="#">39250.087.060</a> |
| 3X3X18MM  | 50 | <a href="#">39250.033.018</a> | 5X5X63MM  | 50 | <a href="#">39250.055.063</a> | 8X7X63MM  | 25 | <a href="#">39250.087.063</a> |
| 3X3X20MM  | 50 | <a href="#">39250.033.020</a> | 5X5X70MM  | 50 | <a href="#">39250.055.070</a> | 8X7X65MM  | 25 | <a href="#">39250.087.065</a> |
| 3X3X22MM  | 50 | <a href="#">39250.033.022</a> | 5X5X80MM  | 50 | <a href="#">39250.055.080</a> | 8X7X70MM  | 25 | <a href="#">39250.087.070</a> |
| 3X3X25MM  | 50 | <a href="#">39250.033.025</a> | 6X6X10MM  | 50 | <a href="#">39250.066.010</a> | 8X7X75MM  | 25 | <a href="#">39250.087.075</a> |
| 3X3X28MM  | 50 | <a href="#">39250.033.028</a> | 6X6X12MM  | 50 | <a href="#">39250.066.012</a> | 8X7X80MM  | 25 | <a href="#">39250.087.080</a> |
| 3X3X30MM  | 50 | <a href="#">39250.033.030</a> | 6X6X14MM  | 50 | <a href="#">39250.066.014</a> | 8X7X85MM  | 25 | <a href="#">39250.087.085</a> |
| 3X3X32MM  | 50 | <a href="#">39250.033.032</a> | 6X6X15MM  | 50 | <a href="#">39250.066.015</a> | 8X7X90MM  | 25 | <a href="#">39250.087.090</a> |
| 3X3X35MM  | 50 | <a href="#">39250.033.035</a> | 6X6X16MM  | 50 | <a href="#">39250.066.016</a> | 8X7X100MM | 25 | <a href="#">39250.087.100</a> |
| 3X3X40MM  | 50 | <a href="#">39250.033.040</a> | 6X6X18MM  | 50 | <a href="#">39250.066.018</a> | 8X7X110MM | 25 | <a href="#">39250.087.110</a> |
| 4X4X6MM   | 50 | <a href="#">39250.044.006</a> | 6X6X20MM  | 50 | <a href="#">39250.066.020</a> | 8X7X120MM | 25 | <a href="#">39250.087.120</a> |
| 4X4X8MM   | 50 | <a href="#">39250.044.008</a> | 6X6X22MM  | 50 | <a href="#">39250.066.022</a> | 8X7X125MM | 25 | <a href="#">39250.087.125</a> |
| 4X4X10MM  | 50 | <a href="#">39250.044.010</a> | 6X6X25MM  | 50 | <a href="#">39250.066.025</a> | 8X7X140MM | 25 | <a href="#">39250.087.140</a> |
| 4X4X12MM  | 50 | <a href="#">39250.044.012</a> | 6X6X28MM  | 50 | <a href="#">39250.066.028</a> | 8X7X160MM | 25 | <a href="#">39250.087.160</a> |
| 4X4X14MM  | 50 | <a href="#">39250.044.014</a> | 6X6X30MM  | 50 | <a href="#">39250.066.030</a> | 8X7X180MM | 25 | <a href="#">39250.087.180</a> |
| 4X4X15MM  | 50 | <a href="#">39250.044.015</a> | 6X6X32MM  | 50 | <a href="#">39250.066.032</a> | 10X8X16MM | 25 | <a href="#">39250.108.016</a> |
| 4X4X16MM  | 50 | <a href="#">39250.044.016</a> | 6X6X35MM  | 50 | <a href="#">39250.066.035</a> | 10X8X18MM | 25 | <a href="#">39250.108.018</a> |
| 4X4X18MM  | 50 | <a href="#">39250.044.018</a> | 6X6X36MM  | 50 | <a href="#">39250.066.036</a> | 10X8X20MM | 25 | <a href="#">39250.108.020</a> |
| 4X4X20MM  | 50 | <a href="#">39250.044.020</a> | 6X6X40MM  | 50 | <a href="#">39250.066.040</a> | 10X8X22MM | 25 | <a href="#">39250.108.022</a> |
| 4X4X22MM  | 50 | <a href="#">39250.044.022</a> | 6X6X45MM  | 50 | <a href="#">39250.066.045</a> | 10X8X25MM | 25 | <a href="#">39250.108.025</a> |
| 4X4X25MM  | 50 | <a href="#">39250.044.025</a> | 6X6X50MM  | 50 | <a href="#">39250.066.050</a> | 10X8X28MM | 25 | <a href="#">39250.108.028</a> |
| 4X4X28MM  | 50 | <a href="#">39250.044.028</a> | 6X6X55MM  | 50 | <a href="#">39250.066.055</a> | 10X8X30MM | 25 | <a href="#">39250.108.030</a> |
| 4X4X30MM  | 50 | <a href="#">39250.044.030</a> | 6X6X56MM  | 50 | <a href="#">39250.066.056</a> | 10X8X32MM | 25 | <a href="#">39250.108.032</a> |
| 4X4X32MM  | 50 | <a href="#">39250.044.032</a> | 6X6X60MM  | 50 | <a href="#">39250.066.060</a> | 10X8X35MM | 25 | <a href="#">39250.108.035</a> |
| 4X4X35MM  | 50 | <a href="#">39250.044.035</a> | 6X6X63MM  | 50 | <a href="#">39250.066.063</a> | 10X8X36MM | 25 | <a href="#">39250.108.036</a> |
| 4X4X36MM  | 50 | <a href="#">39250.044.036</a> | 6X6X65MM  | 50 | <a href="#">39250.066.065</a> | 10X8X40MM | 25 | <a href="#">39250.108.040</a> |
| 4X4X40MM  | 50 | <a href="#">39250.044.040</a> | 6X6X70MM  | 50 | <a href="#">39250.066.070</a> | 10X8X45MM | 25 | <a href="#">39250.108.045</a> |
| 4X4X45MM  | 50 | <a href="#">39250.044.045</a> | 6X6X75MM  | 50 | <a href="#">39250.066.075</a> | 10X8X50MM | 25 | <a href="#">39250.108.050</a> |

**39250 Parallel key high type**

| <b>b x h x L</b> | <b>Art.number</b> | <b>b x h x L</b> | <b>Art.number</b> | <b>b x h x L</b> | <b>Art.number</b> |
|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| 10X8X55MM        | 39250.108.055     | 16X10X80MM       | 39250.170.080     | 28X16X100MM      | 39250.296.100     |
| 10X8X56MM        | 39250.108.056     | 16X10X90MM       | 39250.170.090     | 28X16X110MM      | 39250.296.110     |
| 10X8X60MM        | 39250.108.060     | 16X10X100MM      | 39250.170.100     | 28X16X125MM      | 39250.296.125     |
| 10X8X63MM        | 39250.108.063     | 16X10X110MM      | 39250.170.110     | 28X16X140MM      | 39250.296.140     |
| 10X8X65MM        | 39250.108.065     | 16X10X120MM      | 39250.170.120     | 28X16X160MM      | 39250.296.160     |
| 10X8X70MM        | 39250.108.070     | 16X10X125MM      | 39250.170.125     | 28X16X180MM      | 39250.296.180     |
| 10X8X75MM        | 39250.108.075     | 16X10X140MM      | 39250.170.140     | 28X16X200MM      | 39250.296.200     |
| 10X8X80MM        | 39250.108.080     | 16X10X160MM      | 39250.170.160     | 28X16X220MM      | 39250.296.220     |
| 10X8X85MM        | 39250.108.085     | 16X10X180MM      | 39250.170.180     | 28X16X250MM      | 39250.296.250     |
| 10X8X90MM        | 39250.108.090     | 16X10X200MM      | 39250.170.200     | 28X16X320MM      | 39250.296.320     |
| 10X8X100MM       | 39250.108.100     | 18X11X40MM       | 39250.191.040     | 32X18X70MM       | 39250.338.070     |
| 10X8X110MM       | 39250.108.110     | 18X11X45MM       | 39250.191.045     | 32X18X80MM       | 39250.338.080     |
| 10X8X120MM       | 39250.108.120     | 18X11X50MM       | 39250.191.050     | 32X18X90MM       | 39250.338.090     |
| 10X8X125MM       | 39250.108.125     | 18X11X56MM       | 39250.191.056     | 32X18X100MM      | 39250.338.100     |
| 10X8X140MM       | 39250.108.140     | 18X11X60MM       | 39250.191.060     | 32X18X110MM      | 39250.338.110     |
| 10X8X160MM       | 39250.108.160     | 18X11X63MM       | 39250.191.063     | 32X18X125MM      | 39250.338.125     |
| 10X8X180MM       | 39250.108.180     | 18X11X70MM       | 39250.191.070     | 32X18X140MM      | 39250.338.140     |
| 12X8X200MM       | 39250.128.020     | 18X11X80MM       | 39250.191.080     | 32X18X160MM      | 39250.338.160     |
| 12X8X22MM        | 39250.128.022     | 18X11X90MM       | 39250.191.090     | 32X18X180MM      | 39250.338.180     |
| 12X8X25MM        | 39250.128.025     | 18X11X100MM      | 39250.191.100     | 32X18X200MM      | 39250.338.200     |
| 12X8X28MM        | 39250.128.028     | 18X11X110MM      | 39250.191.110     | 32X18X220MM      | 39250.338.220     |
| 12X8X30MM        | 39250.128.030     | 18X11X120MM      | 39250.191.120     | 32X18X250MM      | 39250.338.250     |
| 12X8X32MM        | 39250.128.032     | 18X11X125MM      | 39250.191.125     | 32X18X280MM      | 39250.338.280     |
| 12X8X35MM        | 39250.128.035     | 18X11X140MM      | 39250.191.140     | 32X18X320MM      | 39250.338.320     |
| 12X8X36MM        | 39250.128.036     | 18X11X160MM      | 39250.191.160     | 32X18X360MM      | 39250.338.360     |
| 12X8X40MM        | 39250.128.040     | 18X11X180MM      | 39250.191.180     | 36X20X80MM       | 39250.380.080     |
| 12X8X45MM        | 39250.128.045     | 18X11X200MM      | 39250.191.200     | 36X20X90MM       | 39250.380.090     |
| 12X8X50MM        | 39250.128.050     | 20X12X40MM       | 39250.212.040     | 36X20X100MM      | 39250.380.100     |
| 12X8X55MM        | 39250.128.055     | 20X12X45MM       | 39250.212.045     | 36X20X110MM      | 39250.380.110     |
| 12X8X56MM        | 39250.128.056     | 20X12X50MM       | 39250.212.050     | 36X20X120MM      | 39250.380.120     |
| 12X8X60MM        | 39250.128.060     | 20X12X56MM       | 39250.212.056     | 36X20X125MM      | 39250.380.125     |
| 12X8X63MM        | 39250.128.063     | 20X12X60MM       | 39250.212.060     | 36X20X140MM      | 39250.380.140     |
| 12X8X65MM        | 39250.128.065     | 20X12X63MM       | 39250.212.063     | 36X20X160MM      | 39250.380.160     |
| 12X8X70MM        | 39250.128.070     | 20X12X70MM       | 39250.212.070     | 36X20X180MM      | 39250.380.180     |
| 12X8X75MM        | 39250.128.075     | 20X12X80MM       | 39250.212.080     | 36X20X200MM      | 39250.380.200     |
| 12X8X80MM        | 39250.128.080     | 20X12X90MM       | 39250.212.090     | 36X20X220MM      | 39250.380.220     |
| 12X8X85MM        | 39250.128.085     | 20X12X100MM      | 39250.212.100     | 36X20X250MM      | 39250.380.250     |
| 12X8X90MM        | 39250.128.090     | 20X12X110MM      | 39250.212.110     | 36X20X280MM      | 39250.380.280     |
| 12X8X100MM       | 39250.128.100     | 20X12X120MM      | 39250.212.120     | 36X20X320MM      | 39250.380.320     |
| 12X8X110MM       | 39250.128.110     | 20X12X125MM      | 39250.212.125     | 36X20X360MM      | 39250.380.360     |
| 12X8X120MM       | 39250.128.120     | 20X12X140MM      | 39250.212.140     | 36X20X400MM      | 39250.380.400     |
| 12X8X125MM       | 39250.128.125     | 20X12X160MM      | 39250.212.160     | 40X22X80MM       | 39250.422.080     |
| 12X8X140MM       | 39250.128.140     | 20X12X180MM      | 39250.212.180     | 40X22X90MM       | 39250.422.090     |
| 12X8X160MM       | 39250.128.160     | 20X12X200MM      | 39250.212.200     | 40X22X100MM      | 39250.422.100     |
| 12X8X180MM       | 39250.128.180     | 20X12X220MM      | 39250.212.220     | 40X22X110MM      | 39250.422.110     |
| 14X9X25MM        | 39250.149.025     | 22X14X50MM       | 39250.234.050     | 40X22X125MM      | 39250.422.125     |
| 14X9X28MM        | 39250.149.028     | 22X14X56MM       | 39250.234.056     | 40X22X140MM      | 39250.422.140     |
| 14X9X30MM        | 39250.149.030     | 22X14X60MM       | 39250.234.060     | 40X22X160MM      | 39250.422.160     |
| 14X9X32MM        | 39250.149.032     | 22X14X63MM       | 39250.234.063     | 40X22X180MM      | 39250.422.180     |
| 14X9X35MM        | 39250.149.035     | 22X14X70MM       | 39250.234.070     | 40X22X200MM      | 39250.422.200     |
| 14X9X36MM        | 39250.149.036     | 22X14X80MM       | 39250.234.080     | 40X22X220MM      | 39250.422.220     |
| 14X9X40MM        | 39250.149.040     | 22X14X90MM       | 39250.234.090     | 40X22X250MM      | 39250.422.250     |
| 14X9X45MM        | 39250.149.045     | 22X14X100MM      | 39250.234.100     | 40X22X280MM      | 39250.422.280     |
| 14X9X50MM        | 39250.149.050     | 22X14X110MM      | 39250.234.110     | 40X22X320MM      | 39250.422.320     |
| 14X9X55MM        | 39250.149.055     | 22X14X120MM      | 39250.234.120     | 40X22X360MM      | 39250.422.360     |
| 14X9X56MM        | 39250.149.056     | 22X14X125MM      | 39250.234.125     | 40X22X400MM      | 39250.422.400     |
| 14X9X60MM        | 39250.149.060     | 22X14X140MM      | 39250.234.140     | 45X25X100MM      | 39250.475.100     |
| 14X9X63MM        | 39250.149.063     | 22X14X160MM      | 39250.234.160     | 45X25X110MM      | 39250.475.110     |
| 14X9X65MM        | 39250.149.065     | 22X14X180MM      | 39250.234.180     | 45X25X125MM      | 39250.475.125     |
| 14X9X70MM        | 39250.149.070     | 22X14X200MM      | 39250.234.200     | 45X25X140MM      | 39250.475.140     |
| 14X9X75MM        | 39250.149.075     | 22X14X220MM      | 39250.234.220     | 45X25X160MM      | 39250.475.160     |
| 14X9X80MM        | 39250.149.080     | 22X14X250MM      | 39250.234.250     | 45X25X180MM      | 39250.475.180     |
| 14X9X85MM        | 39250.149.085     | 25X14X63MM       | 39250.264.063     | 45X25X200MM      | 39250.475.200     |
| 14X9X90MM        | 39250.149.090     | 25X14X70MM       | 39250.264.070     | 45X25X220MM      | 39250.475.220     |
| 14X9X100MM       | 39250.149.100     | 25X14X80MM       | 39250.264.080     | 45X25X250MM      | 39250.475.250     |
| 14X9X110MM       | 39250.149.110     | 25X14X90MM       | 39250.264.090     | 45X25X280MM      | 39250.475.280     |
| 14X9X120MM       | 39250.149.120     | 25X14X100MM      | 39250.264.100     | 45X25X320MM      | 39250.475.320     |
| 14X9X125MM       | 39250.149.125     | 25X14X110MM      | 39250.264.110     | 45X25X360MM      | 39250.475.360     |
| 14X9X140MM       | 39250.149.140     | 25X14X120MM      | 39250.264.120     | 45X25X400MM      | 39250.475.400     |
| 14X9X160MM       | 39250.149.160     | 25X14X125MM      | 39250.264.125     | 50X28X125MM      | 39250.528.125     |
| 14X9X180MM       | 39250.149.180     | 25X14X140MM      | 39250.264.140     | 50X28X140MM      | 39250.528.140     |
| 16X10X30MM       | 39250.170.030     | 25X14X160MM      | 39250.264.160     | 50X28X160MM      | 39250.528.160     |
| 16X10X32MM       | 39250.170.032     | 25X14X180MM      | 39250.264.180     | 50X28X180MM      | 39250.528.180     |
| 16X10X36MM       | 39250.170.036     | 25X14X200MM      | 39250.264.200     | 50X28X200MM      | 39250.528.200     |
| 16X10X40MM       | 39250.170.040     | 25X14X220MM      | 39250.264.220     | 50X28X220MM      | 39250.528.220     |
| 16X10X45MM       | 39250.170.045     | 25X14X250MM      | 39250.264.250     | 50X28X250MM      | 39250.528.250     |
| 16X10X50MM       | 39250.170.050     | 25X14X280MM      | 39250.264.280     | 50X28X280MM      | 39250.528.280     |
| 16X10X56MM       | 39250.170.056     | 28X16X63MM       | 39250.296.063     | 50X28X320MM      | 39250.528.320     |
| 16X10X60MM       | 39250.170.060     | 28X16X70MM       | 39250.296.070     | 50X28X360MM      | 39250.528.360     |
| 16X10X63MM       | 39250.170.063     | 28X16X80MM       | 39250.296.080     | 50X28X400MM      | 39250.528.400     |
| 16X10X70MM       | 39250.170.070     | 28X16X90MM       | 39250.296.090     |                  |                   |

• Steel for keys acc. to DIN 1652 and DIN 6880.



**55510 Parallel key high type R49A**
**Material** Stainless steel A4  
**Packaging** Standard


| <b>b x h x L</b> | ☒   | <b>Art.number</b>             | <b>b x h x L</b> | ☒   | <b>Art.number</b>             | <b>b x h x L</b> | ☒  | <b>Art.number</b>             |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|----|-------------------------------|
| 3X3X25MM         | 50  | <a href="#">55510.033.025</a> | 8X7X32MM         | 25  | <a href="#">55510.087.032</a> | 12X8X80MM        | 5  | <a href="#">55510.128.080</a> |
| 4X4X12MM         | 25  | <a href="#">55510.044.012</a> | 8X7X36MM         | 25  | <a href="#">55510.087.036</a> | 12X8X100MM       | 5  | <a href="#">55510.128.100</a> |
| 4X4X16MM         | 25  | <a href="#">55510.044.016</a> | 8X7X40MM         | 10  | <a href="#">55510.087.040</a> | 14X9X28MM        | 5  | <a href="#">55510.149.028</a> |
| 4X4X20MM         | 25  | <a href="#">55510.044.020</a> | 8X7X45MM         | 100 | <a href="#">55510.087.045</a> | 14X9X40MM        | 5  | <a href="#">55510.149.040</a> |
| 4X4X25MM         | 25  | <a href="#">55510.044.025</a> | 8X7X50MM         | 10  | <a href="#">55510.087.050</a> | 14X9X50MM        | 5  | <a href="#">55510.149.050</a> |
| 4X4X32MM         | 25  | <a href="#">55510.044.032</a> | 8X7X60MM         | 10  | <a href="#">55510.087.060</a> | 14X9X60MM        | 5  | <a href="#">55510.149.060</a> |
| 4X4X40MM         | 25  | <a href="#">55510.044.040</a> | 8X7X63MM         | 10  | <a href="#">55510.087.063</a> | 14X9X63MM        | 5  | <a href="#">55510.149.063</a> |
| 5X5X12MM         | 25  | <a href="#">55510.055.012</a> | 8X7X70MM         | 10  | <a href="#">55510.087.070</a> | 14X9X70MM        | 5  | <a href="#">55510.149.070</a> |
| 5X5X16MM         | 25  | <a href="#">55510.055.016</a> | 8X7X80MM         | 10  | <a href="#">55510.087.080</a> | 14X9X80MM        | 5  | <a href="#">55510.149.080</a> |
| 5X5X20MM         | 25  | <a href="#">55510.055.020</a> | 8X7X100MM        | 10  | <a href="#">55510.087.100</a> | 14X9X90MM *      | 50 | <a href="#">55510.149.090</a> |
| 5X5X22MM         | 200 | <a href="#">55510.055.022</a> | 8X7X125MM        | 5   | <a href="#">55510.087.125</a> | 14X9X100MM       | 5  | <a href="#">55510.149.100</a> |
| 5X5X25MM         | 25  | <a href="#">55510.055.025</a> | 10X8X16MM        | 10  | <a href="#">55510.108.016</a> | 16X10X50MM       | 5  | <a href="#">55510.170.050</a> |
| 5X5X30MM         | 200 | <a href="#">55510.055.030</a> | 10X8X25MM        | 10  | <a href="#">55510.108.025</a> | 16X10X63MM       | 5  | <a href="#">55510.170.063</a> |
| 5X5X32MM         | 25  | <a href="#">55510.055.032</a> | 10X8X30MM *      | 100 | <a href="#">55510.108.030</a> | 16X10X70MM       | 5  | <a href="#">55510.170.070</a> |
| 5X5X40MM         | 25  | <a href="#">55510.055.040</a> | 10X8X32MM        | 10  | <a href="#">55510.108.032</a> | 16X10X80MM       | 5  | <a href="#">55510.170.080</a> |
| 5X5X50MM         | 25  | <a href="#">55510.055.050</a> | 10X8X40MM        | 10  | <a href="#">55510.108.040</a> | 16X10X100MM      | 5  | <a href="#">55510.170.100</a> |
| 6X6X16MM         | 25  | <a href="#">55510.066.016</a> | 10X8X45MM *      | 100 | <a href="#">55510.108.045</a> | 18X11X50MM       | 5  | <a href="#">55510.191.050</a> |
| 6X6X20MM         | 25  | <a href="#">55510.066.020</a> | 10X8X50MM        | 10  | <a href="#">55510.108.050</a> | 18X11X60MM       | 5  | <a href="#">55510.191.060</a> |
| 6X6X25MM         | 25  | <a href="#">55510.066.025</a> | 10X8X60MM        | 10  | <a href="#">55510.108.060</a> | 18X11X63MM       | 5  | <a href="#">55510.191.063</a> |
| 6X6X28MM         | 200 | <a href="#">55510.066.028</a> | 10X8X63MM        | 10  | <a href="#">55510.108.063</a> | 18X11X70MM       | 5  | <a href="#">55510.191.070</a> |
| 6X6X30MM         | 200 | <a href="#">55510.066.030</a> | 10X8X70MM        | 10  | <a href="#">55510.108.070</a> | 18X11X80MM       | 5  | <a href="#">55510.191.080</a> |
| 6X6X32MM         | 25  | <a href="#">55510.066.032</a> | 10X8X80MM        | 10  | <a href="#">55510.108.080</a> | 18X11X90MM       | 5  | <a href="#">55510.191.090</a> |
| 6X6X35MM         | 25  | <a href="#">55510.066.035</a> | 10X8X100MM       | 10  | <a href="#">55510.108.100</a> | 18X11X100MM      | 5  | <a href="#">55510.191.100</a> |
| 6X6X36MM         | 200 | <a href="#">55510.066.036</a> | 10X8X125MM       | 5   | <a href="#">55510.108.125</a> | 18X11X110MM      | 5  | <a href="#">55510.191.110</a> |
| 6X6X40MM         | 25  | <a href="#">55510.066.040</a> | 12X8X32MM        | 10  | <a href="#">55510.128.032</a> | 18X11X140MM      | 5  | <a href="#">55510.191.140</a> |
| 6X6X50MM         | 25  | <a href="#">55510.066.050</a> | 12X8X40MM        | 10  | <a href="#">55510.128.040</a> | 20X12X50MM       | 5  | <a href="#">55510.212.050</a> |
| 6X6X63MM         | 25  | <a href="#">55510.066.063</a> | 12X8X45MM *      | 50  | <a href="#">55510.128.045</a> | 20X12X70MM       | 5  | <a href="#">55510.212.070</a> |
| 6X6X70MM         | 25  | <a href="#">55510.066.070</a> | 12X8X50MM        | 10  | <a href="#">55510.128.050</a> | 20X12X80MM       | 5  | <a href="#">55510.212.080</a> |
| 8X7X16MM         | 25  | <a href="#">55510.087.016</a> | 12X8X56MM *      | 50  | <a href="#">55510.128.056</a> | 20X12X90MM       | 5  | <a href="#">55510.212.090</a> |
| 8X7X20MM         | 25  | <a href="#">55510.087.020</a> | 12X8X60MM *      | 50  | <a href="#">55510.128.060</a> | 20X12X100MM      | 5  | <a href="#">55510.212.100</a> |
| 8X7X25MM         | 25  | <a href="#">55510.087.025</a> | 12X8X63MM        | 5   | <a href="#">55510.128.063</a> | 20X12X140MM      | 5  | <a href="#">55510.212.140</a> |
| 8X7X30MM         | 25  | <a href="#">55510.087.030</a> | 12X8X70MM        | 5   | <a href="#">55510.128.070</a> |                  |    |                               |

## FABORY blind rivets

The technology of blind riveting is simple. The materials to be riveted have to be accessible from one side only. This explains the term 'blind'.

The rivet consists of two parts: the body and the mandrel. The body is deformed when the rivet is set and this deforming is what clamps the materials together. The mandrel is the part that deforms the body of the rivet. This part is stronger than the body. The mandrel breaks off at its own specific breaking point. This breaking point ensures that the mandrel breaks off at the exact right moment, so the body is deformed and the materials are clamped together correctly.

### Tools

Complementary to the blind rivet fastener range, a series of hand and power tools is available. There are tools for small and light assembly work as well as for heavy duty purposes.

### Five main groups

The FABORY range of blind rivets consists of five main groups:

**OMNI:** standard open rivets

**PLUS:** open rivets with a longer break point

**MULTI:** open rivets with a large grip range

**SIGMA:** closed end rivets

**SPECIALS:** special rivets for application in soft materials (EXPO, TRIPO, HAMMER)



### FABORY OMNI

FABORY's OMNI label represents the product range of standard open blind rivets. The FABORY OMNI rivet is a rivet for general use, with the mandrel breaking point placed just below the head.

### FABORY PLUS

Typical of the FABORY PLUS and PLUS BULB product ranges is the long captive mandrel that remains in the rivet shaft when the mandrel has reached its predetermined breaking point. This provides additional shear strength, equal to that of a solid rivet.

The PLUS BULB has a higher clamping force on the components. The rivet is vibration proof, and the mandrel is secured against falling out. Moreover, it is splash and drip proof.

### FABORY MULTI

FABORY's MULTI rivet is a multi-grip rivet with a larger clamping range. This can help achieve a significant reduction of stock. The MULTI rivets can be used for general purposes. A large bulb is formed at the back of the rivet, spreading the clamping load to a wide area. After setting, the mandrel remains in the rivet and makes it vibration resistant. Due to the rivet's structural features, it has a good capacity to fill the pre-drilled hole and is dust and splash proof.

### FABORY SIGMA

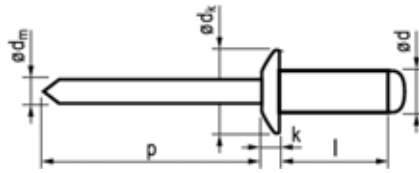
The FABORY SIGMA range offers closed end rivets that have been especially developed to combine a strong fixation with a water or air proof seal. During setting, the rivet body expands to fill the hole, enabling the rivet to withstand pressures up to 35 bar (3500 kPa). The mandrel head is 100% retained, providing high resistance to vibration. The result is a rivet connection with higher tensile and shear strengths. To ensure optimal setting of the closed end rivets, it is important that the pre-drilled hole has the correct size.

### FABORY SPECIALS

In addition to the standard ranges of blind rivets, FABORY offers the supply of many other types of blind rivets for specific applications from stock: the FABORY SPECIALS. For application in soft materials.

- EXPO Peel rivets
- TRIPO rivets
- HAMMER rivets

## Domed head blind rivet



### Technical data

| $\varnothing d$ | Drill $\varnothing$ | $\varnothing d_k$ | k   | p         |
|-----------------|---------------------|-------------------|-----|-----------|
| 2,4             | 2,5                 | 5,0               | 0,7 | $\geq 27$ |
| 3,0             | 3,1                 | 6,5               | 0,8 | $\geq 27$ |
| 3,2             | 3,3                 | 6,5               | 0,8 | $\geq 27$ |
| 4,0             | 4,1                 | 8,0               | 1,0 | $\geq 27$ |
| 4,8             | 4,9                 | 9,5               | 1,1 | $\geq 27$ |
| 5,0             | 5,1                 | 9,5               | 1,1 | $\geq 27$ |
| 6,0             | 6,1                 | 12,0              | 1,5 | $\geq 31$ |
| 6,4             | 6,5                 | 13,0              | 1,8 | $\geq 31$ |

### Article groups

| Material        | Surface treatment | Packaging           | Code     | Page       |
|-----------------|-------------------|---------------------|----------|------------|
| Al AIMg 3       |                   | Al-St.St. A2        | Standard | 34190 9-52 |
| Al AIMg 2,5/3,5 |                   | Al-St.zipl          | Standard | 34110 9-53 |
| Al AIMg 2,5     |                   | Al-Al               | Standard | 33190 9-54 |
| St              | Zipl              | St zipl-St zipl     | Standard | 34130 9-55 |
| St.St. A2       |                   | St.St. A2-St.St. A2 | Standard | 34180 9-56 |
| St.St. A4       |                   | St.St. A4-St.St. A4 | Standard | 34186 9-57 |
| Cu              |                   | Cu-St zipl          | Standard | 34150 9-57 |
| Al AIMg 2,5/3,5 |                   | Al blk a.-St zipl   | Standard | 34310 9-58 |
| Al AIMg 2,5     |                   | Al-Al               | Standard | 32440 9-58 |

#### 34190 OMNI Domed head blind rivet

**T05A**

**Material** Aluminium AIMg 3  
**Packaging** Standard


**9**

| $\varnothing d$ | l    | $\varnothing d_m$ | (N)            | (N)       |
|-----------------|------|-------------------|----------------|-----------|
| 3,0             | 4,0  | $\approx 1,5$     | $\approx 1,75$ | 810 620   |
| 3,0             | 6,0  | 1,5-3,5           | $\approx 1,75$ | 810 620   |
| 3,0             | 8,0  | 3,5-5,5           | $\approx 1,75$ | 810 620   |
| 3,0             | 10,0 | 5,5-7,0           | $\approx 1,75$ | 810 620   |
| 3,0             | 12,0 | 7,0-9,0           | $\approx 1,75$ | 810 620   |
| 3,2             | 6,0  | 1,5-3,5           | $\approx 1,95$ | 980 760   |
| 3,2             | 8,0  | 3,5-5,5           | $\approx 1,95$ | 980 760   |
| 4,0             | 6,0  | 1,0-3,0           | $\approx 2,10$ | 1600 1200 |
| 4,0             | 8,0  | 3,0-5,0           | $\approx 2,10$ | 1600 1200 |
| 4,0             | 10,0 | 5,0-7,0           | $\approx 2,10$ | 1600 1200 |
| 4,0             | 12,0 | 7,0-9,0           | $\approx 2,10$ | 1600 1200 |
| 4,0             | 16,0 | 11,5-12,5         | $\approx 2,10$ | 1600 1200 |

| $\varnothing d$ | l    | $\varnothing d_m$ | (N)            | (N)       |
|-----------------|------|-------------------|----------------|-----------|
| 4,0             | 20,0 | 15,0-17,0         | $\approx 2,10$ | 1600 1200 |
| 4,0             | 25,0 | 17,0-20,0         | $\approx 2,10$ | 1600 1200 |
| 4,8             | 10,0 | 4,5-6,5           | $\approx 2,70$ | 2230 1690 |
| 4,8             | 12,0 | 6,5-8,5           | $\approx 2,70$ | 2230 1690 |
| 4,8             | 14,0 | 8,5-10,5          | $\approx 2,70$ | 2230 1690 |
| 4,8             | 16,0 | 10,5-12,5         | $\approx 2,70$ | 2230 1690 |
| 5,0             | 8,0  | 2,5-4,5           | $\approx 2,70$ | 2500 2000 |
| 5,0             | 10,0 | 4,5-6,5           | $\approx 2,70$ | 2500 2000 |
| 5,0             | 12,0 | 6,5-8,5           | $\approx 2,70$ | 2500 2000 |
| 5,0             | 14,0 | 8,5-10,5          | $\approx 2,70$ | 2500 2000 |
| 5,0             | 16,0 | 10,5-12,5         | $\approx 2,70$ | 2500 2000 |

| $\varnothing \times L$ | Art.number                        | $\varnothing \times L$ | Art.number                        | $\varnothing \times L$ | Art.number                        |
|------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------|-----------------------------------|
| 3,0X4MM                | 500 <a href="#">34190.030.004</a> | 3,2X8MM                | 500 <a href="#">34190.032.008</a> | 4,0X20MM               | 250 <a href="#">34190.040.020</a> |
| 3,0X6MM                | 500 <a href="#">34190.030.006</a> |                        |                                   | 4,0X25MM               | 500 <a href="#">34190.040.025</a> |
| 3,0X8MM                | 500 <a href="#">34190.030.008</a> | 4,0X6MM                | 500 <a href="#">34190.040.006</a> |                        |                                   |
| 3,0X10MM               | 500 <a href="#">34190.030.010</a> | 4,0X8MM                | 500 <a href="#">34190.040.008</a> | 4,8X10MM               | 500 <a href="#">34190.048.010</a> |
| 3,0X12MM               | 500 <a href="#">34190.030.012</a> | 4,0X10MM               | 500 <a href="#">34190.040.010</a> | 4,8X12MM               | 500 <a href="#">34190.048.012</a> |
|                        |                                   | 4,0X12MM               | 500 <a href="#">34190.040.012</a> | 4,8X14MM               | 500 <a href="#">34190.048.014</a> |
|                        |                                   | 4,0X16MM               | 500 <a href="#">34190.040.016</a> | 4,8X16MM               | 500 <a href="#">34190.048.016</a> |

**34190 OMNI Domed head blind rivet**

| ø x L    | Art.number                        | ø x L    | Art.number                        | ø x L    | Art.number                        |
|----------|-----------------------------------|----------|-----------------------------------|----------|-----------------------------------|
| 5,0X8MM  | 500 <a href="#">34190.050.008</a> | 5,0X12MM | 500 <a href="#">34190.050.012</a> | 5,0X16MM | 500 <a href="#">34190.050.016</a> |
| 5,0X10MM | 500 <a href="#">34190.050.010</a> | 5,0X14MM | 500 <a href="#">34190.050.014</a> |          |                                   |

**34110 OMNI Domed head blind rivet**
**T05A**

**Material** Aluminium AIMg 2,5/3,5  
**Packaging** Standard



| ø d  | l    |           | ø d <sub>m</sub> |      |      |
|------|------|-----------|------------------|------|------|
| (mm) | (mm) | (mm)      | (mm)             | (N)  | (N)  |
| 2,4  | 4,0  | ≈ 2,0     | ≈ 1,45           | 355  | 315  |
| 2,4  | 6,0  | 2,0-4,0   | ≈ 1,45           | 355  | 315  |
| 2,4  | 8,0  | 4,0-6,0   | ≈ 1,45           | 355  | 315  |
| 3,0  | 4,0  | ≈ 1,5     | ≈ 1,75           | 810  | 620  |
| 3,0  | 6,0  | 1,5-3,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 8,0  | 3,5-5,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 10,0 | 5,5-7,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 12,0 | 7,5-9,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 16,0 | 11,5-13,5 | ≈ 1,75           | 810  | 620  |
| 3,2  | 4,0  | ≈ 1,5     | ≈ 1,75           | 980  | 760  |
| 3,2  | 6,0  | 1,5-3,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 8,0  | 3,5-5,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 10,0 | 5,5-7,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 12,0 | 7,5-9,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 14,0 | 9,5-11,5  | ≈ 1,75           | 980  | 760  |
| 3,2  | 16,0 | 11,5-13,5 | ≈ 1,75           | 980  | 760  |
| 3,2  | 18,0 | 13,5-15,5 | ≈ 1,75           | 980  | 760  |
| 3,2  | 20,0 | 15,5-17,5 | ≈ 1,75           | 980  | 760  |
| 4,0  | 5,0  | ≈ 1,5     | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 6,0  | 1,5-3,0   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 8,0  | 3,0-5,0   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 10,0 | 5,0-6,5   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 12,0 | 6,5-8,5   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 14,0 | 8,5-10,5  | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 16,0 | 10,5-12,5 | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 18,0 | 12,5-14,5 | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 20,0 | 14,5-16,5 | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 25,0 | 19,0-21,5 | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 30,0 | 21,5-26,0 | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 35,0 | 26,0-30,0 | ≈ 2,10           | 1600 | 1200 |
| 4,8  | 6,0  | 1,0-3,0   | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 8,0  | 3,0-4,5   | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 10,0 | 4,5-6,0   | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 12,0 | 6,0-8,0   | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 14,0 | 8,0-10,0  | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 16,0 | 10,0-12,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 18,0 | 12,0-14,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 20,0 | 14,0-16,0 | ≈ 2,70           | 2230 | 1690 |

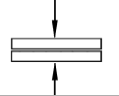
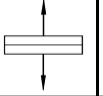
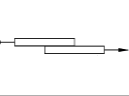
| ø d  | l    |           | ø d <sub>m</sub> |      |      |
|------|------|-----------|------------------|------|------|
| (mm) | (mm) | (mm)      | (mm)             | (N)  | (N)  |
| 4,8  | 22,0 | 16,0-18,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 25,0 | 18,0-21,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 28,0 | 21,0-23,5 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 30,0 | 23,5-25,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 35,0 | 25,0-30,0 | ≈ 2,70           | 2230 | 1690 |
| 5,0  | 6,0  | 1,0-3,0   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 8,0  | 3,0-4,5   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 10,0 | 4,5-6,0   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 12,0 | 6,0-8,0   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 14,0 | 8,0-10,0  | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 16,0 | 10,0-12,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 18,0 | 12,0-14,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 21,0 | 14,0-17,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 25,0 | 17,0-20,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 27,0 | 20,0-23,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 30,0 | 23,0-25,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 35,0 | 25,0-30,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 40,0 | 30,0-35,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 45,0 | 35,0-40,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 50,0 | 40,0-45,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 55,0 | 45,0-50,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 60,0 | 50,0-55,0 | ≈ 2,70           | 2500 | 2000 |
| 6,0  | 8,0  | 2,0-4,0   | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 10,0 | 4,0-6,0   | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 12,0 | 6,0-8,0   | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 14,0 | 7,0-9,0   | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 16,0 | 9,0-11,0  | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 18,0 | 11,0-13,0 | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 22,0 | 13,0-17,0 | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 26,0 | 17,0-20,0 | ≈ 3,60           | 3900 | 3000 |
| 6,0  | 30,0 | 20,0-24,0 | ≈ 3,60           | 3900 | 3000 |
| 6,4  | 12,0 | 4,0-6,0   | ≈ 3,85           | 4090 | 3120 |
| 6,4  | 15,0 | 6,0-9,0   | ≈ 3,85           | 4090 | 3120 |
| 6,4  | 18,0 | 9,0-13,0  | ≈ 3,85           | 4090 | 3120 |
| 6,4  | 22,0 | 13,0-16,0 | ≈ 3,85           | 4090 | 3120 |
| 6,4  | 26,0 | 16,0-20,0 | ≈ 3,85           | 4090 | 3120 |
| 6,4  | 30,0 | 18,0-24,0 | ≈ 3,85           | 4090 | 3120 |
| 6,4  | 35,0 | 24,0-30,0 | ≈ 3,85           | 4090 | 3120 |

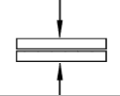
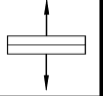
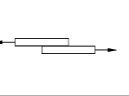
| ø x L    | Art.number                        | ø x L    | Art.number                        | ø x L    | Art.number                        |
|----------|-----------------------------------|----------|-----------------------------------|----------|-----------------------------------|
| 2,4X4MM  | 500 <a href="#">34110.024.004</a> | 3,2X6MM  | 500 <a href="#">34110.032.006</a> | 4,0X10MM | 500 <a href="#">34110.040.010</a> |
| 2,4X6MM  | 500 <a href="#">34110.024.006</a> | 3,2X8MM  | 500 <a href="#">34110.032.008</a> | 4,0X12MM | 500 <a href="#">34110.040.012</a> |
| 2,4X8MM  | 500 <a href="#">34110.024.008</a> | 3,2X10MM | 500 <a href="#">34110.032.010</a> | 4,0X14MM | 500 <a href="#">34110.040.014</a> |
|          |                                   | 3,2X12MM | 500 <a href="#">34110.032.012</a> | 4,0X16MM | 500 <a href="#">34110.040.016</a> |
| 3,0X4MM  | 500 <a href="#">34110.030.004</a> | 3,2X14MM | 500 <a href="#">34110.032.014</a> | 4,0X18MM | 500 <a href="#">34110.040.018</a> |
| 3,0X6MM  | 500 <a href="#">34110.030.006</a> | 3,2X16MM | 500 <a href="#">34110.032.016</a> | 4,0X20MM | 500 <a href="#">34110.040.020</a> |
| 3,0X8MM  | 500 <a href="#">34110.030.008</a> | 3,2X18MM | 500 <a href="#">34110.032.018</a> | 4,0X25MM | 500 <a href="#">34110.040.025</a> |
| 3,0X10MM | 500 <a href="#">34110.030.010</a> | 3,2X20MM | 500 <a href="#">34110.032.020</a> | 4,0X30MM | 500 <a href="#">34110.040.030</a> |
| 3,0X12MM | 500 <a href="#">34110.030.012</a> |          |                                   | 4,0X35MM | 500 <a href="#">34110.040.035</a> |
| 3,0X16MM | 500 <a href="#">34110.030.016</a> | 4,0X5MM  | 500 <a href="#">34110.040.005</a> |          |                                   |
|          |                                   | 4,0X6MM  | 500 <a href="#">34110.040.006</a> | 4,8X6MM  | 500 <a href="#">34110.048.006</a> |
| 3,2X4MM  | 500 <a href="#">34110.032.004</a> | 4,0X8MM  | 500 <a href="#">34110.040.008</a> | 4,8X8MM  | 500 <a href="#">34110.048.008</a> |

**34110 OMNI Domed head blind rivet**

| ø x L    | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 4,8X10MM | 500 | <a href="#">34110.048.010</a> | 5,0X14MM | 500 | <a href="#">34110.050.014</a> | 6,0X12MM | 500 | <a href="#">34110.060.012</a> |
| 4,8X12MM | 500 | <a href="#">34110.048.012</a> | 5,0X16MM | 500 | <a href="#">34110.050.016</a> | 6,0X14MM | 250 | <a href="#">34110.060.014</a> |
| 4,8X14MM | 500 | <a href="#">34110.048.014</a> | 5,0X18MM | 500 | <a href="#">34110.050.018</a> | 6,0X16MM | 500 | <a href="#">34110.060.016</a> |
| 4,8X16MM | 500 | <a href="#">34110.048.016</a> | 5,0X21MM | 500 | <a href="#">34110.050.021</a> | 6,0X18MM | 250 | <a href="#">34110.060.018</a> |
| 4,8X18MM | 500 | <a href="#">34110.048.018</a> | 5,0X25MM | 500 | <a href="#">34110.050.025</a> | 6,0X22MM | 250 | <a href="#">34110.060.022</a> |
| 4,8X20MM | 500 | <a href="#">34110.048.020</a> | 5,0X27MM | 250 | <a href="#">34110.050.027</a> | 6,0X26MM | 250 | <a href="#">34110.060.026</a> |
| 4,8X22MM | 500 | <a href="#">34110.048.022</a> | 5,0X30MM | 500 | <a href="#">34110.050.030</a> | 6,0X30MM | 250 | <a href="#">34110.060.030</a> |
| 4,8X25MM | 500 | <a href="#">34110.048.025</a> | 5,0X35MM | 100 | <a href="#">34110.050.035</a> |          |     |                               |
| 4,8X28MM | 250 | <a href="#">34110.048.028</a> | 5,0X40MM | 250 | <a href="#">34110.050.040</a> | 6,4X12MM | 250 | <a href="#">34110.064.012</a> |
| 4,8X30MM | 500 | <a href="#">34110.048.030</a> | 5,0X45MM | 100 | <a href="#">34110.050.045</a> | 6,4X15MM | 250 | <a href="#">34110.064.015</a> |
| 4,8X35MM | 250 | <a href="#">34110.048.035</a> | 5,0X50MM | 100 | <a href="#">34110.050.050</a> | 6,4X18MM | 250 | <a href="#">34110.064.018</a> |
|          |     |                               | 5,0X55MM | 250 | <a href="#">34110.050.055</a> | 6,4X22MM | 250 | <a href="#">34110.064.022</a> |
| 5,0X6MM  | 500 | <a href="#">34110.050.006</a> | 5,0X60MM | 250 | <a href="#">34110.050.060</a> | 6,4X26MM | 250 | <a href="#">34110.064.026</a> |
| 5,0X8MM  | 500 | <a href="#">34110.050.008</a> |          |     |                               | 6,4X30MM | 250 | <a href="#">34110.064.030</a> |
| 5,0X10MM | 500 | <a href="#">34110.050.010</a> | 6,0X8MM  | 500 | <a href="#">34110.060.008</a> | 6,4X35MM | 250 | <a href="#">34110.064.035</a> |
| 5,0X12MM | 500 | <a href="#">34110.050.012</a> | 6,0X10MM | 500 | <a href="#">34110.060.010</a> |          |     |                               |

**33190 OMNI Domed head blind rivet**
**T05A**
**Material** Aluminium AIMg 2,5  
**Packaging** Standard


| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|--|------------------|--|--|
| (mm) | (mm) | (mm)   | (mm)             | (N)  | (N)  |
| 3,2  | 6,0  | 1,5-3,5  | ≈ 1,95           | 670  | 535  |
| 3,2  | 8,0  | 3,5-5,5  | ≈ 1,95           | 670  | 535  |
| 3,2  | 10,0 | 5,5-7,5  | ≈ 1,95           | 670  | 535  |
| 4,0  | 6,0  | 1,5-3,0  | ≈ 2,45           | 1025   | 845  |
| 4,0  | 8,0  | 3,0-5,0  | ≈ 2,45           | 1025   | 845  |
| 4,0  | 10,0 | 5,0-7,0  | ≈ 2,45           | 1025   | 845  |

| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|--|------------------|--|--|
| (mm) | (mm) | (mm)   | (mm)             | (N)  | (N)  |
| 4,0  | 12,0 | 7,0-9,0  | ≈ 2,45           | 1025   | 845  |
| 4,8  | 8,0  | 2,5-4,5  | ≈ 2,90           | 1425   | 1155   |
| 4,8  | 10,0 | 4,5-6,5  | ≈ 2,90           | 1425   | 1155   |
| 4,8  | 12,0 | 6,5-8,5  | ≈ 2,90           | 1425   | 1155   |
| 4,8  | 14,0 | 8,5-10,5   | ≈ 2,90           | 1425   | 1155   |

| ø x L    | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3,2X6MM  | 500 | <a href="#">33190.032.006</a> | 4,0X8MM  | 500 | <a href="#">33190.040.008</a> | 4,8X10MM | 500 | <a href="#">33190.048.010</a> |
| 3,2X8MM  | 500 | <a href="#">33190.032.008</a> | 4,0X10MM | 500 | <a href="#">33190.040.010</a> | 4,8X12MM | 500 | <a href="#">33190.048.012</a> |
| 3,2X10MM | 500 | <a href="#">33190.032.010</a> | 4,0X12MM | 500 | <a href="#">33190.040.012</a> | 4,8X14MM | 500 | <a href="#">33190.048.014</a> |
| 4,0X6MM  | 500 | <a href="#">33190.040.006</a> | 4,8X8MM  | 500 | <a href="#">33190.048.008</a> |          |     |                               |



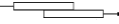
**34130 OMNI Domed head blind rivet**
**T05A**
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



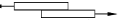

| $\varnothing d$ | l    |           | $\varnothing d_m$ |      |      |
|-----------------|------|-----------|-------------------|------|------|
| (mm)            | (mm) | (mm)      | (mm)              | (N)  | (N)  |
| 3,0             | 6,0  | 1,5-3,0   | ≈ 1,90            | 1125 | 915  |
| 3,0             | 8,0  | 3,0-5,0   | ≈ 1,90            | 1125 | 915  |
| 3,0             | 10,0 | 5,0-7,0   | ≈ 1,90            | 1125 | 915  |
| 3,0             | 12,0 | 7,0-9,0   | ≈ 1,90            | 1125 | 915  |
| 3,0             | 14,0 | 9,0-11,0  | ≈ 1,90            | 1125 | 915  |
| 3,2             | 6,0  | 1,5-3,0   | ≈ 2,00            | 1285 | 1060 |
| 3,2             | 8,0  | 3,0-5,0   | ≈ 2,00            | 1285 | 1060 |
| 3,2             | 10,0 | 5,0-7,0   | ≈ 2,00            | 1285 | 1060 |
| 3,2             | 12,0 | 7,0-9,0   | ≈ 2,00            | 1285 | 1060 |
| 3,2             | 14,0 | 9,0-11,0  | ≈ 2,00            | 1285 | 1060 |
| 4,0             | 6,0  | 1,5-2,5   | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 8,0  | 2,5-4,5   | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 10,0 | 4,5-6,5   | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 12,0 | 6,5-8,5   | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 14,0 | 8,5-10,5  | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 16,0 | 10,5-12,5 | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 18,0 | 12,5-14,5 | ≈ 2,50            | 1990 | 1550 |
| 4,0             | 20,0 | 14,5-16,5 | ≈ 2,50            | 1990 | 1550 |
| 4,8             | 6,0  | 1,0-2,5   | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 8,0  | 2,5-4,5   | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 10,0 | 4,5-6,0   | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 12,0 | 6,0-8,0   | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 14,0 | 8,0-10,0  | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 16,0 | 10,0-11,5 | ≈ 2,90            | 2920 | 2300 |

| $\varnothing d$ | l    |           | $\varnothing d_m$ |      |      |
|-----------------|------|-----------|-------------------|------|------|
| (mm)            | (mm) | (mm)      | (mm)              | (N)  | (N)  |
| 4,8             | 18,0 | 11,5-13,5 | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 20,0 | 13,5-15,0 | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 22,0 | 15,0-17,0 | ≈ 2,90            | 2920 | 2300 |
| 4,8             | 25,0 | 17,0-20,0 | ≈ 2,90            | 2920 | 2300 |
| 5,0             | 8,0  | 2,5-4,0   | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 10,0 | 4,0-6,0   | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 12,0 | 6,0-8,0   | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 14,0 | 8,0-10,0  | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 16,0 | 10,0-11,5 | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 18,0 | 11,5-13,5 | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 20,0 | 13,5-15,0 | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 25,0 | 15,0-16,5 | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 30,0 | 21,0-24,0 | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 35,0 | 22,0-30,0 | ≈ 2,90            | 3255 | 2575 |
| 5,0             | 40,0 | 27,0-35,0 | ≈ 2,90            | 3255 | 2575 |
| 6,0             | 10,0 | 1,5-4,5   | ≈ 3,60            | 5020 | 4040 |
| 6,0             | 12,0 | 3,5-6,5   | ≈ 3,60            | 5020 | 4040 |
| 6,4             | 12,0 | 3,5-6,5   | ≈ 3,85            | 5415 | 4355 |
| 6,4             | 15,0 | 6,5-9,5   | ≈ 3,85            | 5415 | 4355 |
| 6,4             | 18,0 | 9,5-12,5  | ≈ 3,85            | 5415 | 4355 |
| 6,4             | 22,0 | 14,5-16,5 | ≈ 3,85            | 5415 | 4355 |
| 6,4             | 26,0 | 18,5-20,5 | ≈ 3,85            | 5415 | 4355 |
| 6,4             | 30,0 | 22,5-24,5 | ≈ 3,85            | 5415 | 4355 |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,0X6MM                | 500 | <a href="#">34130.030.006</a> | 4,0X18MM               | 500 | <a href="#">34130.040.018</a> | 5,0X16MM               | 250 | <a href="#">34130.050.016</a> |
| 3,0X8MM                | 500 | <a href="#">34130.030.008</a> | 4,0X20MM               | 500 | <a href="#">34130.040.020</a> | 5,0X18MM               | 200 | <a href="#">34130.050.018</a> |
| 3,0X10MM               | 500 | <a href="#">34130.030.010</a> |                        |     |                               | 5,0X20MM               | 500 | <a href="#">34130.050.020</a> |
| 3,0X12MM               | 500 | <a href="#">34130.030.012</a> | 4,8X6MM                | 500 | <a href="#">34130.048.006</a> | 5,0X25MM               | 500 | <a href="#">34130.050.025</a> |
| 3,0X14MM               | 500 | <a href="#">34130.030.014</a> | 4,8X8MM                | 500 | <a href="#">34130.048.008</a> | 5,0X30MM               | 200 | <a href="#">34130.050.030</a> |
|                        |     |                               | 4,8X10MM               | 500 | <a href="#">34130.048.010</a> | 5,0X35MM               | 250 | <a href="#">34130.050.035</a> |
| 3,2X6MM                | 500 | <a href="#">34130.032.006</a> | 4,8X12MM               | 500 | <a href="#">34130.048.012</a> | 5,0X40MM               | 250 | <a href="#">34130.050.040</a> |
| 3,2X8MM                | 500 | <a href="#">34130.032.008</a> | 4,8X14MM               | 500 | <a href="#">34130.048.014</a> |                        |     |                               |
| 3,2X10MM               | 500 | <a href="#">34130.032.010</a> | 4,8X16MM               | 500 | <a href="#">34130.048.016</a> | 6,0X10MM               | 250 | <a href="#">34130.060.010</a> |
| 3,2X12MM               | 500 | <a href="#">34130.032.012</a> | 4,8X18MM               | 500 | <a href="#">34130.048.018</a> | 6,0X12MM               | 250 | <a href="#">34130.060.012</a> |
| 3,2X14MM               | 500 | <a href="#">34130.032.014</a> | 4,8X20MM               | 500 | <a href="#">34130.048.020</a> |                        |     |                               |
|                        |     |                               | 4,8X22MM               | 250 | <a href="#">34130.048.022</a> | 6,4X12MM               | 250 | <a href="#">34130.064.012</a> |
| 4,0X6MM                | 500 | <a href="#">34130.040.006</a> | 4,8X25MM               | 250 | <a href="#">34130.048.025</a> | 6,4X15MM               | 250 | <a href="#">34130.064.015</a> |
| 4,0X8MM                | 500 | <a href="#">34130.040.008</a> |                        |     |                               | 6,4X18MM               | 200 | <a href="#">34130.064.018</a> |
| 4,0X10MM               | 500 | <a href="#">34130.040.010</a> | 5,0X8MM                | 500 | <a href="#">34130.050.008</a> | 6,4X22MM               | 250 | <a href="#">34130.064.022</a> |
| 4,0X12MM               | 500 | <a href="#">34130.040.012</a> | 5,0X10MM               | 500 | <a href="#">34130.050.010</a> | 6,4X26MM               | 250 | <a href="#">34130.064.026</a> |
| 4,0X14MM               | 500 | <a href="#">34130.040.014</a> | 5,0X12MM               | 500 | <a href="#">34130.050.012</a> | 6,4X30MM               | 100 | <a href="#">34130.064.030</a> |
| 4,0X16MM               | 500 | <a href="#">34130.040.016</a> | 5,0X14MM               | 500 | <a href="#">34130.050.014</a> |                        |     |                               |

**34180 OMNI Domed head blind rivet**
**T05A**
**Material** Stainless steel A2  
**Packaging** Standard


| $\varnothing d$ | $l$   |  | $\varnothing d_m$ |  |  |
|-----------------|-------|---|-------------------|---|---|
| (mm)            | (mm)  | (mm)  | (mm)              | (N)   | (N)   |
| 3,0             | 6,0   | 1,5-2,5   | ≈ 1,90            | 2000  | 1600  |
| 3,0             | 8,0   | 2,5-4,5   | ≈ 1,90            | 2000  | 1600  |
| 3,0             | 10,10 | 4,5-6,5   | ≈ 1,90            | 2000  | 1600  |
| 3,0             | 12,0  | 6,5-8,5   | ≈ 1,90            | 2000  | 1600  |
| 3,0             | 15,0  | 9,5-11,5  | ≈ 1,90            | 2000  | 1600  |
| 3,2             | 6,0   | 1,5-2,5   | ≈ 2,00            | 2500  | 1800  |
| 3,2             | 8,0   | 2,5-4,5   | ≈ 2,00            | 2500  | 1800  |
| 3,2             | 10,0  | 4,5-6,5   | ≈ 2,00            | 2500  | 1800  |
| 3,2             | 12,0  | 6,5-8,5   | ≈ 2,00            | 2500  | 1800  |
| 3,2             | 15,0  | 8,5-12,0  | ≈ 2,00            | 2500  | 1800  |
| 4,0             | 6,0   | ≈ 2,0   | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 8,0   | 2,0-4,0   | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 10,0  | 4,0-6,0   | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 13,0  | 7,0-9,0   | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 14,0  | 9,0-10,0  | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 16,0  | 10,0-12,0   | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 18,0  | 12,0-14,0   | ≈ 2,50            | 3800  | 3100  |
| 4,0             | 20,0  | 14,0-16,0   | ≈ 2,50            | 3800  | 3100  |

| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 25,0 | 17,0-21,0   | ≈ 2,50            | 3800  | 3100  |
| 4,8             | 8,0  | 1,5-3,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 10,0 | 3,0-5,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 12,0 | 5,0-7,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 16,0 | 9,0-11,0  | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 18,0 | 11,0-13,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 20,0 | 13,0-15,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 25,0 | 15,0-20,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 27,0 | 18,0-22,0   | ≈ 2,90            | 6000  | 4500  |
| 4,8             | 30,0 | 21,0-25,0   | ≈ 2,90            | 6000  | 4500  |
| 5,0             | 8,0  | 1,5-3,0   | ≈ 2,90            | 6500  | 5000  |
| 5,0             | 10,0 | 3,0-5,0   | ≈ 2,90            | 6500  | 5000  |
| 5,0             | 12,0 | 5,0-7,0   | ≈ 2,90            | 6500  | 5000  |
| 5,0             | 16,0 | 9,0-11,0  | ≈ 2,90            | 6500  | 5000  |
| 5,0             | 18,0 | 11,0-13,0   | ≈ 2,90            | 6500  | 5000  |
| 5,0             | 20,0 | 13,0-15,0   | ≈ 2,90            | 6500  | 5000  |
| 5,0             | 25,0 | 17,0-20,0   | ≈ 2,90            | 6500  | 5000  |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,0X6MM                | 500 | <a href="#">34180.030.006</a> | 4,0X10MM               | 500 | <a href="#">34180.040.010</a> | 4,8X25MM               | 500 | <a href="#">34180.048.025</a> |
| 3,0X8MM                | 500 | <a href="#">34180.030.008</a> | 4,0X13MM               | 500 | <a href="#">34180.040.013</a> | 4,8X27MM               | 500 | <a href="#">34180.048.027</a> |
| 3,0X10MM               | 500 | <a href="#">34180.030.010</a> | 4,0X14MM               | 500 | <a href="#">34180.040.014</a> | 4,8X30MM               | 500 | <a href="#">34180.048.030</a> |
| 3,0X12MM               | 500 | <a href="#">34180.030.012</a> | 4,0X16MM               | 500 | <a href="#">34180.040.016</a> |                        |     |                               |
| 3,0X15MM               | 500 | <a href="#">34180.030.015</a> | 4,0X18MM               | 500 | <a href="#">34180.040.018</a> | 5,0X8MM                | 500 | <a href="#">34180.050.008</a> |
|                        |     |                               | 4,0X20MM               | 500 | <a href="#">34180.040.020</a> | 5,0X10MM               | 500 | <a href="#">34180.050.010</a> |
| 3,2X6MM                | 500 | <a href="#">34180.032.006</a> | 4,0X25MM               | 500 | <a href="#">34180.040.025</a> | 5,0X12MM               | 500 | <a href="#">34180.050.012</a> |
| 3,2X8MM                | 500 | <a href="#">34180.032.008</a> |                        |     |                               | 5,0X16MM               | 500 | <a href="#">34180.050.016</a> |
| 3,2X10MM               | 500 | <a href="#">34180.032.010</a> | 4,8X8MM                | 500 | <a href="#">34180.048.008</a> | 5,0X18MM               | 250 | <a href="#">34180.050.018</a> |
| 3,2X12MM               | 500 | <a href="#">34180.032.012</a> | 4,8X10MM               | 500 | <a href="#">34180.048.010</a> | 5,0X20MM               | 250 | <a href="#">34180.050.020</a> |
| 3,2X15MM               | 500 | <a href="#">34180.032.015</a> | 4,8X12MM               | 500 | <a href="#">34180.048.012</a> | 5,0X25MM               | 250 | <a href="#">34180.050.025</a> |
|                        |     |                               | 4,8X16MM               | 500 | <a href="#">34180.048.016</a> |                        |     |                               |
| 4,0X6MM                | 500 | <a href="#">34180.040.006</a> | 4,8X18MM               | 500 | <a href="#">34180.048.018</a> |                        |     |                               |
| 4,0X8MM                | 500 | <a href="#">34180.040.008</a> | 4,8X20MM               | 100 | <a href="#">34180.048.020</a> |                        |     |                               |

**34186 OMNI Domed head blind rivet**
**T05A**
**Material** Stainless steel A4  
**Packaging** Standard


| $\varnothing d$ | l    |         | $\varnothing d_m$ |      |      |
|-----------------|------|---------|-------------------|------|------|
| (mm)            | (mm) | (mm)    | (mm)              | (N)  | (N)  |
| 3,0             | 6,0  | 1,5-2,5 | ≈ 1,90            | 2000 | 1600 |
| 3,0             | 8,0  | 2,5-4,5 | ≈ 1,90            | 2000 | 1600 |
| 3,0             | 10,0 | 4,6-6,5 | ≈ 1,90            | 2000 | 1600 |
| 3,0             | 12,0 | 6,5-8,5 | ≈ 1,90            | 2000 | 1600 |
| 4,0             | 6,0  | ≈ 2,0   | ≈ 2,50            | 3800 | 3100 |
| 4,0             | 8,0  | 2,0-4,0 | ≈ 2,50            | 3800 | 3100 |
| 4,0             | 10,0 | 4,0-6,0 | ≈ 2,50            | 3800 | 3100 |
| 4,0             | 13,0 | 7,0-9,0 | ≈ 2,50            | 3800 | 3100 |

| $\varnothing d$ | l    |           | $\varnothing d_m$ |      |      |
|-----------------|------|-----------|-------------------|------|------|
| (mm)            | (mm) | (mm)      | (mm)              | (N)  | (N)  |
| 4,0             | 16,0 | 10,0-12,0 | ≈ 2,50            | 3800 | 3100 |
| 4,8             | 8,0  | 1,5-3,0   | ≈ 2,90            | 6000 | 4500 |
| 4,8             | 10,0 | 3,0-5,0   | ≈ 2,90            | 6000 | 4500 |
| 4,8             | 12,0 | 5,0-7,0   | ≈ 2,90            | 6000 | 4500 |
| 4,8             | 16,0 | 9,0-11,0  | ≈ 2,90            | 6000 | 4500 |
| 4,8             | 18,0 | 11,0-13,0 | ≈ 2,90            | 6000 | 4500 |
| 4,8             | 20,0 | 13,0-15,0 | ≈ 2,90            | 6000 | 4500 |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,0X6MM                | 500 | <a href="#">34186.030.006</a> | 4,0X8MM                | 500 | <a href="#">34186.040.008</a> | 4,8X10MM               | 500 | <a href="#">34186.048.010</a> |
| 3,0X8MM                | 500 | <a href="#">34186.030.008</a> | 4,0X10MM               | 500 | <a href="#">34186.040.010</a> | 4,8X12MM               | 500 | <a href="#">34186.048.012</a> |
| 3,0X10MM               | 500 | <a href="#">34186.030.010</a> | 4,0X13MM               | 500 | <a href="#">34186.040.013</a> | 4,8X16MM               | 500 | <a href="#">34186.048.016</a> |
| 3,0X12MM               | 500 | <a href="#">34186.030.012</a> | 4,0X16MM               | 500 | <a href="#">34186.040.016</a> | 4,8X18MM               | 500 | <a href="#">34186.048.018</a> |
| 4,0X6MM                | 500 | <a href="#">34186.040.006</a> | 4,8X8MM                | 500 | <a href="#">34186.048.008</a> | 4,8X20MM               | 500 | <a href="#">34186.048.020</a> |

**34150 OMNI Domed head blind rivet**
**T05A**
**Material** Copper  
**Packaging** Standard

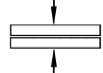

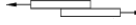

| $\varnothing d$ | l    |         | $\varnothing d_m$ |      |      |
|-----------------|------|---------|-------------------|------|------|
| (mm)            | (mm) | (mm)    | (mm)              | (N)  | (N)  |
| 3,0             | 6,0  | 1,0-3,0 | ≈ 1,75            | 700  | 600  |
| 3,0             | 8,0  | 3,0-5,0 | ≈ 1,75            | 700  | 600  |
| 3,0             | 10,0 | 5,0-7,0 | ≈ 1,75            | 700  | 600  |
| 3,0             | 12,0 | 7,0-9,0 | ≈ 1,75            | 700  | 600  |
| 4,0             | 6,0  | 1,0-2,5 | ≈ 2,10            | 1500 | 1000 |

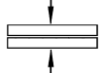

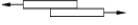
| $\varnothing d$ | l    |           | $\varnothing d_m$ |      |      |
|-----------------|------|-----------|-------------------|------|------|
| (mm)            | (mm) | (mm)      | (mm)              | (N)  | (N)  |
| 4,0             | 8,0  | 2,5-4,5   | ≈ 2,10            | 1500 | 1000 |
| 4,0             | 10,0 | 4,5-6,5   | ≈ 2,10            | 1500 | 1000 |
| 4,0             | 12,0 | 6,5-8,5   | ≈ 2,10            | 1500 | 1000 |
| 4,0             | 16,0 | 10,5-12,5 | ≈ 2,10            | 1500 | 1000 |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,0X6MM                | 500 | <a href="#">34150.030.006</a> | 4,0X6MM                | 500 | <a href="#">34150.040.006</a> | 4,0X16MM               | 500 | <a href="#">34150.040.016</a> |
| 3,0X8MM                | 500 | <a href="#">34150.030.008</a> | 4,0X8MM                | 500 | <a href="#">34150.040.008</a> |                        |     |                               |
| 3,0X10MM               | 500 | <a href="#">34150.030.010</a> | 4,0X10MM               | 500 | <a href="#">34150.040.010</a> |                        |     |                               |
| 3,0X12MM               | 500 | <a href="#">34150.030.012</a> | 4,0X12MM               | 500 | <a href="#">34150.040.012</a> |                        |     |                               |



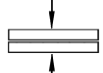

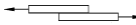
**34310 OMNI Domed head blind rivet**
**T05A**
**Material** Aluminium AlMg 2,5/3,5  
**Packaging** Standard



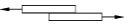

| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 3,0             | 8,0  | 3,5-5,5   | $\approx 1,75$    | 810   | 620   |
| 3,0             | 10,0 | 5,5-7,5   | $\approx 1,75$    | 810   | 620   |
| 3,0             | 12,0 | 7,5-9,5   | $\approx 1,75$    | 810   | 620   |

| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 8,0  | 3,0-5,0   | $\approx 2,10$    | 1600  | 1200  |
| 4,0             | 10,0 | 5,0-6,5   | $\approx 2,10$    | 1600  | 1200  |
| 4,0             | 12,0 | 6,5-8,5   | $\approx 2,10$    | 1600  | 1200  |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒ | Art.number |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|---|------------|
| 3,0X8MM                | 500 | <a href="#">34310.030.008</a> | 4,0X8MM                | 500 | <a href="#">34310.040.008</a> |                        |   |            |
| 3,0X10MM               | 500 | <a href="#">34310.030.010</a> | 4,0X10MM               | 500 | <a href="#">34310.040.010</a> |                        |   |            |
| 3,0X12MM               | 500 | <a href="#">34310.030.012</a> | 4,0X12MM               | 500 | <a href="#">34310.040.012</a> |                        |   |            |

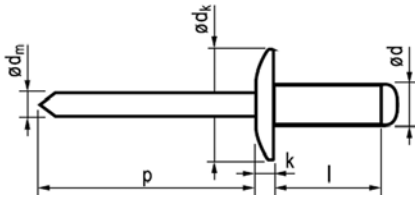
**32440 PLUS Domed head blind rivet**
**T01A**
**Material** Aluminium AlMg 2,5  
**Packaging** Standard


| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 3,2             | 6,0  | 3,0-4,0   | $\approx 1,95$    | 700   | 800   |
| 3,2             | 8,0  | 5,0-6,0   | $\approx 1,95$    | 700   | 800   |
| 3,2             | 10,0 | 6,0-8,0   | $\approx 1,95$    | 700   | 800   |
| 3,2             | 12,0 | 8,0-10,0  | $\approx 1,95$    | 700   | 800   |
| 4,0             | 7,0  | 3,5-4,5   | $\approx 2,45$    | 1350  | 1500  |
| 4,0             | 8,0  | 4,5-5,5   | $\approx 2,45$    | 1350  | 1500  |
| 4,0             | 10,0 | 5,5-7,0   | $\approx 2,45$    | 1350  | 1500  |
| 4,0             | 12,0 | 7,0-9,0   | $\approx 2,45$    | 1350  | 1500  |
| 4,0             | 14,0 | 9,0-11,0  | $\approx 2,45$    | 1350  | 1500  |
| 4,0             | 16,0 | 11,0-12,5   | $\approx 2,45$    | 1350  | 1500  |

| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 18,0 | 12,5-14,0   | $\approx 2,45$    | 1350  | 1500  |
| 4,8             | 8,0  | 4,0-5,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 10,0 | 6,0-7,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 12,0 | 7,0-9,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 16,0 | 11,0-12,5   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 18,0 | 12,5-14,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 20,0 | 14,0-16,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 22,0 | 16,0-18,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 24,0 | 18,0-20,0   | $\approx 2,90$    | 1700  | 2000  |
| 4,8             | 29,0 | 20,0-24,5   | $\approx 2,90$    | 1700  | 2000  |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒ | Art.number | $\varnothing \times L$ | ☒ | Art.number |
|------------------------|-----|-------------------------------|------------------------|---|------------|------------------------|---|------------|
| 4,0X16MM               | 500 | <a href="#">32440.040.016</a> |                        |   |            |                        |   |            |

## Large domed head blind rivet



### Technical data

| ø d      | Drill ø | ø d <sub>k</sub> | k     | p    |
|----------|---------|------------------|-------|------|
| 3,2      | 3,3     | 9,5              | ≤ 2,0 | ≥ 27 |
| 4,0      | 4,1     | 12,0             | ≤ 2,0 | ≥ 27 |
| 4,8xk14  | 4,9     | 14,0             | ≤ 2,5 | ≥ 27 |
| 4,8xk16  | 4,9     | 16,0             | ≤ 2,5 | ≥ 27 |
| 5,0xk9,5 | 5,1     | 9,5              | ≤ 2,5 | ≥ 27 |
| 5,0xk11  | 5,1     | 11,0             | ≤ 2,5 | ≥ 27 |
| 5,0xk14  | 5,1     | 14,0             | ≤ 2,5 | ≥ 27 |
| 5,0xk16  | 5,1     | 16,0             | 1,1   | ≥ 27 |

### Article groups




| Material    | Packaging         | Code  | Page |
|-------------|-------------------|-------|------|
| Al AlMg 3,5 | Al-St ziopl large | 34113 | 9-59 |
| Al AlMg 2,5 | Al-St ziopl large | 34126 | 9-60 |




#### 34113 OMNI Large domed head blind rivet

T05A

Material Aluminium AlMg 3,5  
 Packaging Standard



| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|---|------------------|---|---|
| (mm) | (mm) | (mm)  | (mm)             | (N)   | (N)   |
| 3,2  | 6,0  | 1,5-3,5   | ≈ 1,70           | 980   | 760   |
| 3,2  | 8,0  | 3,5-5,5   | ≈ 1,70           | 980   | 760   |
| 3,2  | 10,0 | 5,5-7,5   | ≈ 1,70           | 980   | 760   |
| 3,2  | 12,0 | 7,5-9,5   | ≈ 1,70           | 980   | 760   |
| 4,0  | 6,0  | 1,5-3,0   | ≈ 2,10           | 1600  | 1200  |
| 4,0  | 8,0  | 3,0-5,0   | ≈ 2,10           | 1600  | 1200  |
| 4,0  | 10,0 | 5,0-6,5   | ≈ 2,10           | 1600  | 1200  |
| 4,0  | 12,0 | 6,5-8,5   | ≈ 2,10           | 1600  | 1200  |
| 4,0  | 14,0 | 8,5-10,5  | ≈ 2,10           | 1600  | 1200  |
| 4,0  | 16,0 | 10,5-12,5   | ≈ 2,10           | 1600  | 1200  |
| 4,8  | 8,0  | 3,0-4,5   | ≈ 2,10           | 2230  | 1690  |
| 4,8  | 10,0 | 4,5-6,0   | ≈ 2,10           | 2230  | 1690  |
| 4,8  | 12,0 | 6,0-8,0   | ≈ 2,10           | 2230  | 1690  |
| 4,8  | 16,0 | 10,0-12,0   | ≈ 2,10           | 2230  | 1690  |
| 4,8  | 18,0 | 12,0-14,0   | ≈ 2,10           | 2230  | 1690  |
| 4,8  | 20,0 | 14,0-16,0   | ≈ 2,10           | 2230  | 1690  |
| 5,0  | 8,0  | 2,0-5,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 10,0 | 4,0-6,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 12,0 | 6,0-8,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 14,0 | 7,0-10,0  | ≈ 2,70           | 2500  | 2000  |

| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|---|------------------|---|---|
| (mm) | (mm) | (mm)  | (mm)             | (N)   | (N)   |
| 5,0  | 16,0 | 8,0-12,0  | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 18,0 | 11,5-13,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 20,0 | 12,0-15,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 25,0 | 15,0-20,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 30,0 | 20,0-25,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 8,0  | 3,0-4,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 10,0 | 4,5-6,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 12,0 | 6,0-8,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 14,0 | 8,0-10,0  | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 16,0 | 10,0-12,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 18,0 | 12,0-14,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 21,0 | 14,0-17,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 25,0 | 17,0-20,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 30,0 | 23,0-26,0   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 10,0 | 2,0-6,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 16,0 | 6,0-12,0  | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 20,0 | 11,5-15,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 25,0 | 15,0-20,5   | ≈ 2,70           | 2500  | 2000  |
| 5,0  | 33,0 | 20,0-28,0   | ≈ 2,70           | 2500  | 2000  |

| ø x L          | ☒   | Art.number                    | ø x L         | ☒   | Art.number                    | ø x L         | ☒   | Art.number                    |
|----------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3,2X6MM D=9,5  | 500 | <a href="#">34113.320.609</a> | 4,0X6MM D=12  | 500 | <a href="#">34113.400.612</a> | 4,0X16MM D=12 | 500 | <a href="#">34113.401.612</a> |
| 3,2X8MM D=9,5  | 500 | <a href="#">34113.320.809</a> | 4,0X8MM D=12  | 500 | <a href="#">34113.400.812</a> | 4,8X8MM D=16  | 500 | <a href="#">34113.480.816</a> |
| 3,2X10MM D=9,5 | 500 | <a href="#">34113.321.009</a> | 4,0X10MM D=12 | 500 | <a href="#">34113.401.012</a> | 4,8X10MM D=16 | 500 | <a href="#">34113.481.016</a> |
| 3,2X12MM D=9,5 | 500 | <a href="#">34113.321.209</a> | 4,0X12MM D=12 | 500 | <a href="#">34113.401.212</a> | 4,8X12MM D=16 | 500 | <a href="#">34113.481.216</a> |
|                |     |                               | 4,0X14MM D=12 | 100 | <a href="#">34113.401.412</a> |               |     |                               |

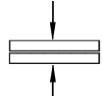
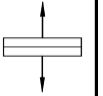
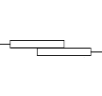
**34113 OMNI Large domed head blind rivet**

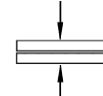
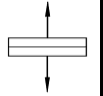
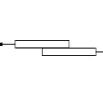
| ø x L         | ☒   | Art.number                    | ø x L         | ☒   | Art.number                    | ø x L         | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 4,8X16MM D=16 | 500 | <a href="#">34113.481.616</a> | 5,0X12MM D=14 | 500 | <a href="#">34113.501.214</a> | 5,0X21MM D=14 | 250 | <a href="#">34113.502.114</a> |
| 4,8X18MM D=16 | 250 | <a href="#">34113.481.816</a> | 5,0X14MM D=11 | 500 | <a href="#">34113.501.411</a> | 5,0X24D14     | 250 | <a href="#">34113.502.414</a> |
| 4,8X20MM D=16 | 250 | <a href="#">34113.482.016</a> | 5,0X14MM D=14 | 500 | <a href="#">34113.501.414</a> | 5,0X25MM D=11 | 500 | <a href="#">34113.502.511</a> |
|               |     |                               | 5,0X16MM D=11 | 500 | <a href="#">34113.501.611</a> | 5,0X25MM D=16 | 250 | <a href="#">34113.502.516</a> |
| 5,0X8MM D=11  | 500 | <a href="#">34113.500.811</a> | 5,0X16MM D=14 | 500 | <a href="#">34113.501.614</a> | 5,0X30MM D=11 | 250 | <a href="#">34113.503.011</a> |
| 5,0X8MM D=14  | 250 | <a href="#">34113.500.814</a> | 5,0X16MM D=16 | 500 | <a href="#">34113.501.616</a> | 5,0X30MM D=14 | 250 | <a href="#">34113.503.014</a> |
| 5,0X10MM D=11 | 500 | <a href="#">34113.501.011</a> | 5,0X18MM D=11 | 500 | <a href="#">34113.501.811</a> | 5,0X35MMD=16  | 250 | <a href="#">34113.503.516</a> |
| 5,0X10MM D=14 | 250 | <a href="#">34113.501.014</a> | 5,0X18MM D=14 | 500 | <a href="#">34113.501.814</a> |               |     |                               |
| 5,0X10MM D=16 | 250 | <a href="#">34113.501.016</a> | 5,0X20MM D=11 | 250 | <a href="#">34113.502.011</a> |               |     |                               |
| 5,0X12MM D=11 | 500 | <a href="#">34113.501.211</a> | 5,0X20MM D=16 | 250 | <a href="#">34113.502.016</a> |               |     |                               |

**34126 MULTI Large domed head blind rivet**
**T05A**

**Material** Aluminium AlMg 2,5  
**Packaging** Standard

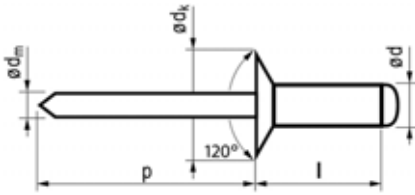


| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|---|------------------|---|---|
| (mm) | (mm) | (mm)  | (mm)             | (N)   | (N)   |
| 3,2  | 8,0  | 0,5-5,0   | ≈ 1,78           | 980   | 680   |
| 3,2  | 9,5  | 2,0-6,5   | ≈ 1,78           | 980   | 680   |
| 3,2  | 11,1 | 3,5-8,0   | ≈ 1,78           | 980   | 680   |
| 4,0  | 8,0  | 0,5-4,5   | ≈ 2,18           | 1600  | 1150  |
| 4,0  | 12,7 | 4,0-9,5   | ≈ 2,18           | 1600  | 1150  |

| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|---|------------------|---|---|
| (mm) | (mm) | (mm)  | (mm)             | (N)   | (N)   |
| 4,0  | 17,0 | 8,5-13,5  | ≈ 2,18           | 1600  | 1150  |
| 4,8  | 10,0 | 0,5-5,0   | ≈ 2,78           | 2350  | 1500  |
| 4,8  | 14,0 | 4,0-9,0   | ≈ 2,78           | 2350  | 1500  |
| 4,8  | 16,0 | 6,0-11,0  | ≈ 2,78           | 2350  | 1500  |
| 4,8  | 20,0 | 10,0-15,0   | ≈ 2,78           | 2350  | 1500  |

| ø x L          | ☒   | Art.number                    | ø x L         | ☒   | Art.number                    | ø x L         | ☒   | Art.number                    |
|----------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 3,2X8MM D=9,5  | 500 | <a href="#">34126.320.809</a> | 4,0X13MM D=12 | 500 | <a href="#">34126.401.312</a> | 4,8X16MM D=14 | 250 | <a href="#">34126.481.614</a> |
| 3,2X9MM D=9,5  | 500 | <a href="#">34126.320.909</a> | 4,0X17MM D=12 | 500 | <a href="#">34126.401.712</a> | 4,8X20MM D=14 | 250 | <a href="#">34126.482.014</a> |
| 3,2X10MM D=9,5 | 500 | <a href="#">34126.321.109</a> |               |     |                               |               |     |                               |
|                |     |                               | 4,8X10MM D=14 | 250 | <a href="#">34126.481.014</a> |               |     |                               |
| 4,0X8MM D=12   | 500 | <a href="#">34126.400.812</a> | 4,8X14MM D=14 | 250 | <a href="#">34126.481.414</a> |               |     |                               |

## Countersunk head blind rivet



### Technical data

| ø d | Drill ø | ø d <sub>k</sub> | p   |
|-----|---------|------------------|-----|
| 3,0 | 3,1     | 6,0              | ≥27 |
| 3,2 | 3,3     | 6,0              | ≥27 |
| 4,0 | 4,1     | 7,5              | ≥27 |
| 4,8 | 4,9     | 9,0              | ≥27 |
| 5,0 | 5,1     | 9,0              | ≥27 |

### Article groups

| Material        | Surface treatment | Packaging | Code  | Page |
|-----------------|-------------------|-----------|-------|------|
| Al AlMg 2,5/3,5 |                   | Standard  | 34120 | 9-61 |
| Al AlMg 3       |                   | Standard  | 34200 | 9-62 |
| St              | Zipl              | Standard  | 34140 | 9-62 |
| St.St. A2       |                   | Standard  | 34184 | 9-63 |

#### 34120 OMNI Countersunk head blind rivet

T05A

**Material** Aluminium AlMg 2,5/3,5  
**Packaging** Standard

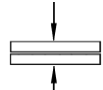




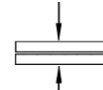


| ø d  | l    | mm        | ø d <sub>m</sub> | (N)  | (N)  |
|------|------|-----------|------------------|------|------|
| (mm) | (mm) | (mm)      | (mm)             | (N)  | (N)  |
| 3,0  | 6,0  | 1,5-3,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 8,0  | 3,5-5,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 10,0 | 5,5-7,5   | ≈ 1,75           | 810  | 620  |
| 3,0  | 12,0 | 7,5-9,5   | ≈ 1,75           | 810  | 620  |
| 3,2  | 6,0  | 1,5-3,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 8,0  | 3,5-5,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 10,0 | 5,5-7,5   | ≈ 1,75           | 980  | 760  |
| 3,2  | 12,0 | 7,5-9,5   | ≈ 1,75           | 980  | 760  |
| 4,0  | 6,0  | 1,5-3,0   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 8,0  | 3,0-5,0   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 10,0 | 5,0-6,5   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 12,0 | 6,5-8,5   | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 14,0 | 10,5-12,5 | ≈ 2,10           | 1600 | 1200 |
| 4,0  | 16,0 | 12,5-14,5 | ≈ 2,10           | 1600 | 1200 |
| 4,8  | 8,0  | 3,0-4,5   | ≈ 2,70           | 2230 | 1690 |

| ø d  | l    | mm        | ø d <sub>m</sub> | (N)  | (N)  |
|------|------|-----------|------------------|------|------|
| (mm) | (mm) | (mm)      | (mm)             | (N)  | (N)  |
| 4,8  | 10,0 | 4,5-6,0   | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 12,0 | 6,0-8,0   | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 14,0 | 8,0-10,0  | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 16,0 | 10,0-12,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 18,0 | 12,0-14,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 20,0 | 14,0-16,0 | ≈ 2,70           | 2230 | 1690 |
| 4,8  | 25,0 | 18,0-21,0 | ≈ 2,70           | 2230 | 1690 |
| 5,0  | 8,0  | 3,0-4,5   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 10,0 | 4,5-6,0   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 12,0 | 6,0-8,0   | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 14,0 | 8,0-10,0  | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 16,0 | 10,0-12,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 18,0 | 12,0-14,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 21,0 | 14,0-17,0 | ≈ 2,70           | 2500 | 2000 |
| 5,0  | 25,0 | 17,0-20,0 | ≈ 2,70           | 2500 | 2000 |

| ø x L    | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3,0X6MM  | 500 | <a href="#">34120.030.006</a> | 4,0X10MM | 500 | <a href="#">34120.040.010</a> | 4,8X25MM | 250 | <a href="#">34120.048.025</a> |
| 3,0X8MM  | 500 | <a href="#">34120.030.008</a> | 4,0X12MM | 500 | <a href="#">34120.040.012</a> | 5,0X8MM  | 500 | <a href="#">34120.050.008</a> |
| 3,0X10MM | 500 | <a href="#">34120.030.010</a> | 4,0X16MM | 500 | <a href="#">34120.040.016</a> | 5,0X10MM | 500 | <a href="#">34120.050.010</a> |
| 3,0X12MM | 500 | <a href="#">34120.030.012</a> | 4,0X18MM | 500 | <a href="#">34120.040.018</a> | 5,0X12MM | 500 | <a href="#">34120.050.012</a> |
| 3,2X6MM  | 500 | <a href="#">34120.032.006</a> | 4,8X8MM  | 500 | <a href="#">34120.048.008</a> | 5,0X14MM | 250 | <a href="#">34120.050.014</a> |
| 3,2X8MM  | 500 | <a href="#">34120.032.008</a> | 4,8X10MM | 500 | <a href="#">34120.048.010</a> | 5,0X16MM | 500 | <a href="#">34120.050.016</a> |
| 3,2X10MM | 500 | <a href="#">34120.032.010</a> | 4,8X12MM | 500 | <a href="#">34120.048.012</a> | 5,0X18MM | 500 | <a href="#">34120.050.018</a> |
| 3,2X12MM | 500 | <a href="#">34120.032.012</a> | 4,8X14MM | 500 | <a href="#">34120.048.014</a> | 5,0X20MM | 250 | <a href="#">34120.050.020</a> |
| 4,0X6MM  | 500 | <a href="#">34120.040.006</a> | 4,8X16MM | 500 | <a href="#">34120.048.016</a> | 5,0X25MM | 250 | <a href="#">34120.050.025</a> |
| 4,0X8MM  | 500 | <a href="#">34120.040.008</a> | 4,8X18MM | 500 | <a href="#">34120.048.018</a> |          |     |                               |
|          |     |                               | 4,8X20MM | 250 | <a href="#">34120.048.020</a> |          |     |                               |

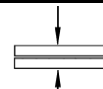


**34200 OMNI Countersunk head blind rivet**
**T05A**
**Material** Aluminium AIMg 3  
**Packaging** Standard

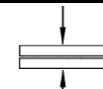



| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 3,0             | 6,0  | 1,5-3,5   | $\approx 1,75$    | 870   | 680   |
| 3,0             | 8,0  | 3,5-5,0   | $\approx 1,75$    | 870   | 680   |
| 3,0             | 10,0 | 5,0-7,0   | $\approx 1,75$    | 870   | 680   |
| 4,0             | 6,0  | 1,0-2,5   | $\approx 2,10$    | 1600  | 1200  |
| 4,0             | 8,0  | 2,5-5,0   | $\approx 2,10$    | 1600  | 1200  |

| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 10,0 | 5,0-6,5   | $\approx 2,10$    | 1600  | 1200  |
| 4,0             | 12,0 | 6,0-8,0   | $\approx 2,10$    | 1600  | 1200  |
| 5,0             | 12,0 | 4,0-8,5   | $\approx 2,70$    | 2500  | 2000  |
| 5,0             | 14,0 | 8,0-10,0  | $\approx 2,70$    | 2500  | 2000  |
| 5,0             | 16,0 | 10,0-12,0   | $\approx 2,70$    | 2500  | 2000  |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,0X6MM                | 500 | <a href="#">34200.030.006</a> | 4,0X8MM                | 500 | <a href="#">34200.040.008</a> | 5,0X14MM               | 500 | <a href="#">34200.050.014</a> |
| 3,0X8MM                | 500 | <a href="#">34200.030.008</a> | 4,0X10MM               | 500 | <a href="#">34200.040.010</a> | 5,0X16MM               | 500 | <a href="#">34200.050.016</a> |
| 3,0X10MM               | 500 | <a href="#">34200.030.010</a> | 4,0X12MM               | 500 | <a href="#">34200.040.012</a> |                        |     |                               |
| 4,0X6MM                | 500 | <a href="#">34200.040.006</a> | 5,0X12MM               | 500 | <a href="#">34200.050.012</a> |                        |     |                               |

**34140 OMNI Countersunk head blind rivet**
**T05A**
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard


| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 3,0             | 6,0  | 1,5-3,0   | $\approx 1,90$    | 1125  | 915   |
| 3,0             | 8,0  | 3,0-5,0   | $\approx 1,90$    | 1125  | 915   |
| 3,0             | 10,0 | 5,0-7,0   | $\approx 1,90$    | 1125  | 915   |
| 3,0             | 12,0 | 7,0-9,0   | $\approx 1,90$    | 1125  | 915   |
| 3,2             | 6,0  | 1,5-3,0   | $\approx 2,00$    | 1285  | 1060  |
| 3,2             | 8,0  | 3,0-5,0   | $\approx 2,00$    | 1285  | 1060  |
| 4,0             | 6,0  | 1,5-2,5   | $\approx 2,50$    | 1990  | 1550  |
| 4,0             | 8,0  | 2,5-4,5   | $\approx 2,50$    | 1990  | 1550  |
| 4,0             | 10,0 | 4,5-6,5   | $\approx 2,50$    | 1990  | 1550  |
| 4,0             | 12,0 | 6,5-8,5   | $\approx 2,50$    | 1990  | 1550  |

| $\varnothing d$ | $l$  |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 14,0 | 8,5-10,5  | $\approx 2,50$    | 1990  | 1550  |
| 4,0             | 16,0 | 10,5-12,5   | $\approx 2,50$    | 1990  | 1550  |
| 4,8             | 8,0  | 2,5-4,5   | $\approx 2,90$    | 2920  | 2300  |
| 4,8             | 10,0 | 4,5-6,0   | $\approx 2,90$    | 2920  | 2300  |
| 4,8             | 12,0 | 6,0-8,0   | $\approx 2,90$    | 2920  | 2300  |
| 4,8             | 14,0 | 8,0-10,0  | $\approx 2,90$    | 2920  | 2300  |
| 4,8             | 16,0 | 10,0-11,5   | $\approx 2,90$    | 2920  | 2300  |
| 4,8             | 18,0 | 11,5-13,5   | $\approx 2,90$    | 2920  | 2300  |
| 5,0             | 20,0 | 13,5-15,0   | $\approx 2,90$    | 4000  | 3100  |
| 5,0             | 25,0 | 17,0-20,0   | $\approx 2,90$    | 4000  | 3100  |

| $\varnothing \times L$ | ☒    | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|------|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,0X6MM                | 500  | <a href="#">34140.030.006</a> | 4,0X8MM                | 500 | <a href="#">34140.040.008</a> | 4,8X14MM               | 500 | <a href="#">34140.048.014</a> |
| 3,0X8MM                | 500  | <a href="#">34140.030.008</a> | 4,0X10MM               | 500 | <a href="#">34140.040.010</a> | 4,8X16MM               | 500 | <a href="#">34140.048.016</a> |
| 3,0X10MM               | 500  | <a href="#">34140.030.010</a> | 4,0X12MM               | 500 | <a href="#">34140.040.012</a> | 4,8X18MM               | 500 | <a href="#">34140.048.018</a> |
| 3,0X12MM               | 500  | <a href="#">34140.030.012</a> | 4,0X14MM               | 500 | <a href="#">34140.040.014</a> |                        |     |                               |
|                        |      |                               | 4,0X16MM               | 500 | <a href="#">34140.040.016</a> | 5,0X20MM               | 250 | <a href="#">34140.050.020</a> |
| 3,2X6MM                | 1000 | <a href="#">34140.032.006</a> |                        |     |                               | 5,0X25MM               | 250 | <a href="#">34140.050.025</a> |
| 3,2X8MM                | 500  | <a href="#">34140.032.008</a> | 4,8X8MM                | 500 | <a href="#">34140.048.008</a> |                        |     |                               |
|                        |      |                               | 4,8X10MM               | 500 | <a href="#">34140.048.010</a> |                        |     |                               |
| 4,0X6MM                | 500  | <a href="#">34140.040.006</a> | 4,8X12MM               | 200 | <a href="#">34140.048.012</a> |                        |     |                               |

**34184 OMNI Countersunk head blind rivet**

T05A

**Material** Stainless steel A2  
**Packaging** Standard

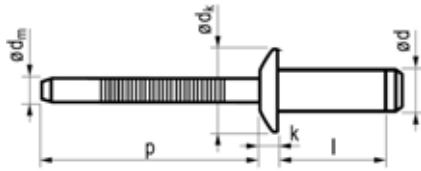


| $\varnothing d$ | $l$  |          | $\varnothing d_m$ |      |      |
|-----------------|------|----------|-------------------|------|------|
| (mm)            | (mm) | (mm)     | (mm)              | (N)  | (N)  |
| 4,0             | 8,0  | 2,0-4,0  | $\approx 2,50$    | 3800 | 3100 |
| 4,0             | 10,0 | 4,0-6,0  | $\approx 2,50$    | 3800 | 3100 |
| 4,0             | 12,0 | 6,0-8,0  | $\approx 2,50$    | 3800 | 3100 |
| 4,0             | 15,0 | 9,0-11,0 | $\approx 2,50$    | 3800 | 3100 |

| $\varnothing d$ | $l$  |          | $\varnothing d_m$ |      |      |
|-----------------|------|----------|-------------------|------|------|
| (mm)            | (mm) | (mm)     | (mm)              | (N)  | (N)  |
| 4,8             | 8,0  | 1,5-3,0  | $\approx 2,90$    | 6000 | 4500 |
| 4,8             | 10,0 | 3,0-5,0  | $\approx 2,90$    | 6000 | 4500 |
| 4,8             | 12,0 | 5,0-7,0  | $\approx 2,90$    | 6000 | 4500 |
| 4,8             | 15,0 | 8,0-10,0 | $\approx 2,90$    | 6000 | 4500 |

| $d1 \times L$ | ☒   | Art.number                    | $d1 \times L$ | ☒   | Art.number                    | $d1 \times L$ | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| 4,0X8MM       | 500 | <a href="#">34184.040.008</a> | 4,8X8MM       | 500 | <a href="#">34184.048.008</a> | 4,8X15MM      | 500 | <a href="#">34184.048.015</a> |
| 4,0X10MM      | 500 | <a href="#">34184.040.010</a> | 4,8X10MM      | 500 | <a href="#">34184.048.010</a> |               |     |                               |
| 4,0X12MM      | 500 | <a href="#">34184.040.012</a> | 4,8X12MM      | 500 | <a href="#">34184.048.012</a> |               |     |                               |
| 4,0X15MM      | 500 | <a href="#">34184.040.015</a> |               |     |                               |               |     |                               |

## Domed head blind rivet BULB



### Technical data



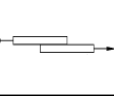
|                     |           |           |
|---------------------|-----------|-----------|
| $\varnothing d$     | 4,8       | 6,4       |
| Drill $\varnothing$ | 5,0       | 6,6       |
| $\varnothing d_k$   | 9,8       | 13,0      |
| k                   | 2,2       | 3,0       |
| p                   | $\geq 32$ | $\geq 32$ |



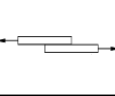
### 32635 PLUS BULB Domed head blind rivet

T01A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

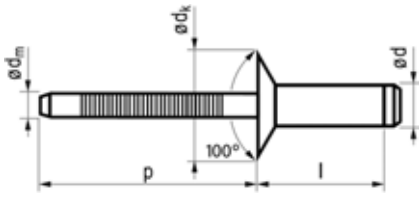


| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|--|-------------------|--|--|
| (mm)            | (mm) | (mm)   | (mm)              | (N)  | (N)  |
| 4,8             | 11,5 | 3,5-6,0  | $\approx 3,02$    | 3600   | 3920/6270  |
| 4,8             | 14,0 | 6,0-8,5  | $\approx 3,02$    | 3600   | 3920/6270  |
| 6,4             | 10,5 | 2,8-4,8  | $\approx 4,17$    | 6600   | 5390/11180   |
| 6,4             | 12,5 | 4,8-6,8  | $\approx 4,17$    | 6600   | 5390/11180   |

| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|--|-------------------|--|--|
| (mm)            | (mm) | (mm)   | (mm)              | (N)  | (N)  |
| 6,4             | 14,5 | 6,8-8,8  | $\approx 4,17$    | 6600   | 5390/11180   |
| 6,4             | 16,5 | 8,8-10,8   | $\approx 4,17$    | 6600   | 5390/11180   |
| 6,4             | 18,5 | 10,8-12,8  | $\approx 4,17$    | 6600   | 5390/11180   |
| 6,4             | 20,5 | 12,8-14,8  | $\approx 4,17$    | 6600   | 5390/11180   |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 4,8X11,5MM             | 500 | <a href="#">32635.048.011</a> | 6,4X12,5MM             | 250 | <a href="#">32635.064.012</a> | 6,4X20,5MM             | 200 | <a href="#">32635.064.020</a> |
| 4,8X14MM               | 250 | <a href="#">32635.048.014</a> | 6,4X14,5MM             | 200 | <a href="#">32635.064.014</a> |                        |     |                               |
| 6,4X10,5MM             | 250 | <a href="#">32635.064.010</a> | 6,4X16,5MM             | 200 | <a href="#">32635.064.016</a> |                        |     |                               |
|                        |     |                               | 6,4X18,5MM             | 200 | <a href="#">32635.064.018</a> |                        |     |                               |

## Countersunk head blind rivet BULB



### Technical data

|                  |      |
|------------------|------|
| ø d              | 6,4  |
| Drill ø          | 6,6  |
| ø d <sub>k</sub> | 10,0 |
| k                | 2,0  |
| p                | ≥32  |

### 32642 PLUS BULB Countersunk head blind rivet

T05A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| ø d  | l    |         | ø d <sub>m</sub> |      |            |
|------|------|---------|------------------|------|------------|
| (mm) | (mm) | (mm)    | (mm)             | (N)  | (N)        |
| 6,4  | 13,5 | 5,8-7,8 | ≈ 4,17           | 5490 | 5390/10300 |
| 6,4  | 15,5 | 7,8-9,8 | ≈ 4,17           | 5490 | 5390/10300 |

| ø d  | l    |           | ø d <sub>m</sub> |      |            |
|------|------|-----------|------------------|------|------------|
| (mm) | (mm) | (mm)      | (mm)             | (N)  | (N)        |
| 6,4  | 17,5 | 9,8-11,8  | ≈ 4,17           | 5490 | 5390/10300 |
| 6,4  | 19,5 | 11,8-13,8 | ≈ 4,17           | 5490 | 5390/10300 |

| ø x L      | ☒   | Art.number                    | ø x L      | ☒   | Art.number                    | ø x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 6,4X13,5MM | 250 | <a href="#">32642.064.013</a> | 6,4X17,5MM | 250 | <a href="#">32642.064.017</a> | 6,4X19,5MM | 250 | <a href="#">32642.064.019</a> |
| 6,4X15,5MM | 250 | <a href="#">32642.064.015</a> |            |     |                               |            |     |                               |



**Expanding blind rivet domed head with cap**



**Technical data**

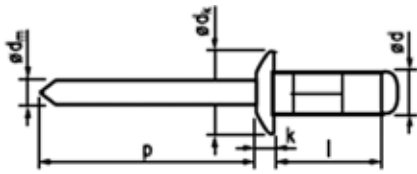
|              |     |
|--------------|-----|
| d            | 4,8 |
| Rivet head ø | 9,5 |

|                  |  |             |
|------------------|--|-------------|
| <b>72004</b>     | <b>Expanding blind rivet domed head with cap</b> | <b>Y92D</b> |
| <b>Material</b>  | Aluminium  |             |
| <b>Packaging</b> | Standard   |             |



| d x L      | ⊗ | Art.number | d x L | ⊗ | Art.number                    | d x L | ⊗ | Art.number |
|------------|---|------------|-------|---|-------------------------------|-------|---|------------|
| 4,8X15,5MM |   | 100        |       |   | <a href="#">72004.048.015</a> |       |   |            |

## Domed head multigrip blind rivet



### Technical data

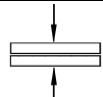
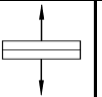

|                        |       |       |       |
|------------------------|-------|-------|-------|
| <b>ø d</b>             | 3,2   | 4,0   | 4,8   |
| <b>Drill ø</b>         | 3,3   | 4,1   | 4,9   |
| <b>ø d<sub>k</sub></b> | 6,0   | 8,0   | 9,5   |
| <b>k</b>               | ≤ 1,4 | ≤ 1,7 | ≤ 2,0 |
| <b>p</b>               | ≥ 27  | ≥ 27  | ≥ 27  |

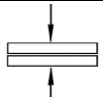
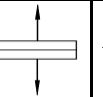

### 34125 MULTI Domed head multigrip blind rivet

T05A

**Material** Aluminium AlMg 2,5  
**Packaging** Standard

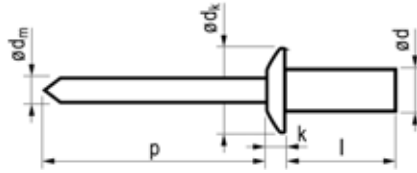


| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|--|------------------|--|--|
| (mm) | (mm) | (mm)   | (mm)             | (N)  | (N)  |
| 3,2  | 8,0  | 0,5-5,0  | ≈ 1,78           | 980  | 680  |
| 3,2  | 9,5  | 2,0-6,5  | ≈ 1,78           | 980  | 680  |
| 3,2  | 11,1 | 3,5-8,0  | ≈ 1,78           | 980  | 680  |
| 4,0  | 9,5  | 1,0-6,0  | ≈ 2,18           | 1600   | 1150   |
| 4,0  | 12,7 | 4,0-9,5  | ≈ 2,18           | 1600   | 1150   |

| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|--|------------------|--|--|
| (mm) | (mm) | (mm)   | (mm)             | (N)  | (N)  |
| 4,0  | 17,0 | 8,5-13,5   | ≈ 2,18           | 1600   | 1150   |
| 4,8  | 10,3 | 0,5-5,5  | ≈ 2,78           | 2350   | 1500   |
| 4,8  | 15,1 | 5,0-10,5   | ≈ 2,78           | 2350   | 1500   |
| 4,8  | 17,0 | 7,0-12,0   | ≈ 2,78           | 2350   | 1500   |
| 4,8  | 24,8 | 14,5-19,5  | ≈ 2,78           | 2350   | 1500   |

| ø x L     | ☒   | Art.number                    | ø x L      | ☒   | Art.number                    | ø x L    | ☒   | Art.number                    |
|-----------|-----|-------------------------------|------------|-----|-------------------------------|----------|-----|-------------------------------|
| 3,2X8MM   | 500 | <a href="#">34125.032.008</a> | 4,0X13MM   | 500 | <a href="#">34125.040.013</a> | 4,8X17MM | 500 | <a href="#">34125.048.017</a> |
| 3,2X9,5MM | 500 | <a href="#">34125.032.009</a> | 4,0X17MM   | 500 | <a href="#">34125.040.017</a> | 4,8X25MM | 500 | <a href="#">34125.048.025</a> |
| 3,2X11MM  | 500 | <a href="#">34125.032.011</a> | 4,8X11MM   | 500 | <a href="#">34125.048.011</a> |          |     |                               |
| 4,0X9,5MM | 500 | <a href="#">34125.040.009</a> | 4,8X15,1MM | 250 | <a href="#">34125.048.015</a> |          |     |                               |

## Sealed domed head blind rivet



### Technical data

| ø d         | Drill ø | ø d <sub>k</sub> | k     | p   |
|-------------|---------|------------------|-------|-----|
| 3,2         | 3,3     | 6,0              | ≤ 1,4 | ≥27 |
| 4,0xk 1,4   | 4,1     | 8,0              | 1,4   | ≥27 |
| 4,0xk ≤ 1,7 | 4,1     | 8,0              | ≤ 1,7 | ≥27 |
| 4,8xk 1,7   | 4,9     | 9,5              | 1,7   | ≥27 |
| 4,8xk ≤ 2,0 | 4,9     | 9,5              | ≤ 2,0 | ≥27 |
| 6,4         | 6,5     | 12,7             | ≤ 2,5 | ≥27 |

### Article groups

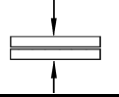
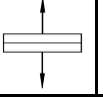

| Material   | Surface treatment |                     | Packaging | Code  | Page |
|------------|-------------------|---------------------|-----------|-------|------|
| Al AlMg 5  |                   | Al-St               | Standard  | 33610 | 9-68 |
| Al AlMg 5  |                   | Al-St.St. A2        | Standard  | 33650 | 9-69 |
| Al Al 99,5 |                   | Al-Al               | Standard  | 33600 | 9-69 |
| St         | Zipl              | St zipl-St zipl     | Standard  | 33695 | 9-70 |
| St.St. A2  |                   | St.St. A2-St.St. A2 | Standard  | 33670 | 9-70 |

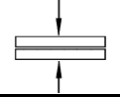
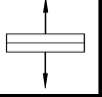

#### 33610 SIGMA Sealed domed head blind rivet

T03A

Material Aluminium AlMg 5  
 Packaging Standard



| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|---|------------------|---|---|
| (mm) | (mm) | (mm)  | (mm)             | (N)   | (N)   |
| 3,2  | 6,5  | 0,5-2,0   | ≈ 1,70           | 1250  | 1070  |
| 3,2  | 8,0  | 2,0-3,5   | ≈ 1,70           | 1250  | 1070  |
| 3,2  | 9,5  | 3,5-5,0   | ≈ 1,70           | 1250  | 1070  |
| 3,2  | 10,7 | 5,0-6,5   | ≈ 1,70           | 1250  | 1070  |
| 3,2  | 12,7 | 6,5-8,0   | ≈ 1,70           | 1250  | 1070  |
| 4,0  | 8,0  | 0,5-3,5   | ≈ 2,18           | 2240  | 1700  |
| 4,0  | 9,5  | 3,5-4,5   | ≈ 2,18           | 2240  | 1700  |
| 4,0  | 11,0 | 4,5-6,0   | ≈ 2,18           | 2240  | 1700  |
| 4,0  | 12,7 | 6,0-7,5   | ≈ 2,18           | 2240  | 1700  |
| 4,8  | 8,0  | 1,0-3,0   | ≈ 2,63           | 3100  | 2200  |

| ø d  | l    |  | ø d <sub>m</sub> |  |  |
|------|------|---|------------------|---|---|
| (mm) | (mm) | (mm)  | (mm)             | (N)   | (N)   |
| 4,8  | 9,5  | 3,0-4,5   | ≈ 2,63           | 3100  | 2200  |
| 4,8  | 11,0 | 4,5-6,0   | ≈ 2,63           | 3100  | 2200  |
| 4,8  | 12,5 | 6,0-7,5   | ≈ 2,63           | 3100  | 2200  |
| 4,8  | 14,0 | 7,5-9,0   | ≈ 2,63           | 3100  | 2200  |
| 4,8  | 16,0 | 9,0-11,0  | ≈ 2,63           | 3100  | 2200  |
| 4,8  | 18,0 | 11,0-13,0   | ≈ 2,63           | 3100  | 2200  |
| 4,8  | 21,0 | 13,0-16,0   | ≈ 2,63           | 3100  | 2200  |
| 6,4  | 12,5 | 1,5-6,0   | ≈ 3,70           | 4900  | 3950  |
| 6,4  | 16,0 | 6,0-8,0   | ≈ 3,70           | 4900  | 3950  |

9

| ø x L      | ☒   | Art.number                    | ø x L      | ☒   | Art.number                    | ø x L      | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 3,2X6,5MM  | 500 | <a href="#">33610.032.006</a> | 4,0X11MM   | 500 | <a href="#">33610.040.011</a> | 4,8X16MM   | 500 | <a href="#">33610.048.016</a> |
| 3,2X8MM    | 500 | <a href="#">33610.032.008</a> | 4,0X12,5MM | 500 | <a href="#">33610.040.012</a> | 4,8X18MM   | 500 | <a href="#">33610.048.018</a> |
| 3,2X9,5MM  | 500 | <a href="#">33610.032.009</a> |            |     |                               | 4,8X21MM   | 250 | <a href="#">33610.048.021</a> |
| 3,2X10MM   | 500 | <a href="#">33610.032.010</a> | 4,8X8MM    | 500 | <a href="#">33610.048.008</a> |            |     |                               |
| 3,2X12,5MM | 500 | <a href="#">33610.032.012</a> | 4,8X9,5MM  | 500 | <a href="#">33610.048.009</a> | 6,4X12,5MM | 250 | <a href="#">33610.064.012</a> |
|            |     |                               | 4,8X11MM   | 500 | <a href="#">33610.048.011</a> | 6,4X16MM   | 250 | <a href="#">33610.064.016</a> |
| 4,0X8MM    | 500 | <a href="#">33610.040.008</a> | 4,8X12MM   | 500 | <a href="#">33610.048.012</a> |            |     |                               |
| 4,0X9,5MM  | 500 | <a href="#">33610.040.009</a> | 4,8X14MM   | 500 | <a href="#">33610.048.014</a> |            |     |                               |

**33650 SIGMA Sealed domed head blind rivet**
**T03A**
**Material** Aluminium AlMg 5  
**Packaging** Standard


| $\varnothing d$ | $l$  |         | $\varnothing d_m$ |      |      |
|-----------------|------|---------|-------------------|------|------|
| (mm)            | (mm) | (mm)    | (mm)              | (N)  | (N)  |
| 3,2             | 6,5  | 0,5-2,0 | ≈ 1,70            | 1250 | 1070 |
| 3,2             | 8,0  | 2,0-3,5 | ≈ 1,70            | 1250 | 1070 |
| 3,2             | 9,5  | 3,5-5,0 | ≈ 1,70            | 1250 | 1070 |
| 3,2             | 11,0 | 5,0-6,5 | ≈ 1,70            | 1250 | 1070 |
| 3,2             | 12,7 | 6,5-8,0 | ≈ 1,70            | 1250 | 1070 |
| 4,0             | 8,0  | 0,5-3,5 | ≈ 2,18            | 2240 | 1700 |
| 4,0             | 9,5  | 3,5-4,5 | ≈ 2,18            | 2240 | 1700 |
| 4,0             | 11,0 | 4,5-6,5 | ≈ 2,18            | 2240 | 1700 |
| 4,0             | 12,7 | 6,5-8,0 | ≈ 2,18            | 2240 | 1700 |

| $\varnothing d$ | $l$  |           | $\varnothing d_m$ |      |      |
|-----------------|------|-----------|-------------------|------|------|
| (mm)            | (mm) | (mm)      | (mm)              | (N)  | (N)  |
| 4,8             | 8,0  | 1,0-3,0   | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 9,5  | 3,0-4,5   | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 11,0 | 4,5-6,0   | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 12,5 | 6,0-7,5   | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 14,0 | 7,5-9,0   | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 16,0 | 9,0-11,0  | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 18,0 | 11,0-13,0 | ≈ 2,63            | 3100 | 2200 |
| 4,8             | 21,0 | 13,0-16,0 | ≈ 2,63            | 3100 | 2200 |

| $\varnothing \times L$ | ☒    | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|------|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,2X6,5MM              | 1000 | <a href="#">33650.032.006</a> | 4,0X9,5MM              | 500 | <a href="#">33650.040.009</a> | 4,8X12,5MM             | 500 | <a href="#">33650.048.012</a> |
| 3,2X8MM                | 500  | <a href="#">33650.032.008</a> | 4,0X11MM               | 500 | <a href="#">33650.040.011</a> | 4,8X14MM               | 250 | <a href="#">33650.048.014</a> |
| 3,2X9,5MM              | 500  | <a href="#">33650.032.009</a> | 4,0X12,5MM             | 500 | <a href="#">33650.040.012</a> | 4,8X16MM               | 500 | <a href="#">33650.048.016</a> |
| 3,2X11MM               | 500  | <a href="#">33650.032.011</a> |                        |     |                               | 4,8X18MM               | 500 | <a href="#">33650.048.018</a> |
| 3,2X12,5MM             | 500  | <a href="#">33650.032.012</a> | 4,8X8MM                | 500 | <a href="#">33650.048.008</a> | 4,8X21MM               | 500 | <a href="#">33650.048.021</a> |
| 4,0X8MM                | 500  | <a href="#">33650.040.008</a> | 4,8X9,5MM              | 500 | <a href="#">33650.048.009</a> |                        |     |                               |
|                        |      |                               | 4,8X11MM               | 500 | <a href="#">33650.048.011</a> |                        |     |                               |

**33600 SIGMA Sealed domed head blind rivet**
**T03A**
**Material** Aluminium Al 99,5  
**Packaging** Standard


| $\varnothing d$ | $l$  |         | $\varnothing d_m$ |     |     |
|-----------------|------|---------|-------------------|-----|-----|
| (mm)            | (mm) | (mm)    | (mm)              | (N) | (N) |
| 3,2             | 8,0  | 0,5-3,5 | ≈ 1,80            | 460 | 450 |
| 3,2             | 9,5  | 3,5-5,5 | ≈ 1,80            | 460 | 450 |
| 4,0             | 9,5  | 0,5-5,0 | ≈ 2,20            | 820 | 580 |
| 4,0             | 12,5 | 5,0-8,0 | ≈ 2,20            | 820 | 580 |

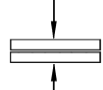

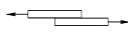
| $\varnothing d$ | $l$  |          | $\varnothing d_m$ |      |     |
|-----------------|------|----------|-------------------|------|-----|
| (mm)            | (mm) | (mm)     | (mm)              | (N)  | (N) |
| 4,8             | 9,5  | 1,0-4,5  | ≈ 2,65            | 1120 | 900 |
| 4,8             | 11,5 | 4,5-6,5  | ≈ 2,65            | 1120 | 900 |
| 4,8             | 14,5 | 6,5-9,5  | ≈ 2,65            | 1120 | 900 |
| 4,8             | 18,0 | 9,5-13,0 | ≈ 2,65            | 1120 | 900 |

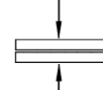

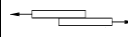
| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,2X8MM                | 500 | <a href="#">33600.032.008</a> | 4,0X12,5MM             | 500 | <a href="#">33600.040.012</a> | 4,8X14,5MM             | 250 | <a href="#">33600.048.014</a> |
| 3,2X9,5MM              | 500 | <a href="#">33600.032.009</a> | 4,8X9,5MM              | 500 | <a href="#">33600.048.009</a> | 4,8X18MM               | 500 | <a href="#">33600.048.018</a> |
| 4,0X9,5MM              | 500 | <a href="#">33600.040.009</a> | 4,8X11,5MM             | 500 | <a href="#">33600.048.011</a> |                        |     |                               |

**33695 SIGMA Sealed domed head blind rivet T03A**

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 6,0  | 0,5-1,5   | ≈ 2,30            | 2500  | 2300  |
| 4,0             | 8,0  | 1,5-3,0   | ≈ 2,30            | 2500  | 2300  |
| 4,0             | 12,0 | 5,0-6,5   | ≈ 2,30            | 2500  | 2300  |
| 4,0             | 15,0 | 6,5-10,5  | ≈ 2,30            | 2500  | 2300  |

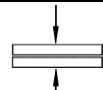


| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,8             | 8,0  | 1,0-3,0   | ≈ 2,90            | 3800  | 2900  |
| 4,8             | 12,0 | 5,0-6,5   | ≈ 2,90            | 3800  | 2900  |
| 4,8             | 16,0 | 6,5-10,5  | ≈ 2,90            | 3800  | 2900  |

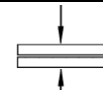


| $\varnothing x L$ | ☒   | Art.number                    | $\varnothing x L$ | ☒   | Art.number                    | $\varnothing x L$ | ☒   | Art.number                    |
|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|-------------------|-----|-------------------------------|
| 4,0X6MM           | 500 | <a href="#">33695.040.006</a> | 4,0X15MM          | 500 | <a href="#">33695.040.015</a> | 4,8X12MM          | 500 | <a href="#">33695.048.012</a> |
| 4,0X8MM           | 500 | <a href="#">33695.040.008</a> |                   |     |                               | 4,8X16MM          | 500 | <a href="#">33695.048.016</a> |
| 4,0X12MM          | 500 | <a href="#">33695.040.012</a> | 4,8X8MM           | 500 | <a href="#">33695.048.008</a> |                   |     |                               |

**33670 SIGMA Sealed domed head blind rivet T03A**

Material Stainless steel A2  
 Packaging Standard

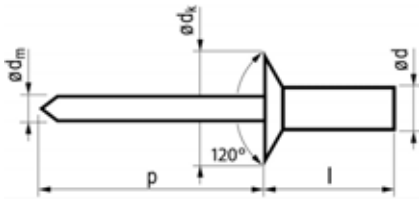


| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 3,2             | 6,0  | 0,5-1,5   | ≈ 1,90            | 2500  | 2000  |
| 3,2             | 8,0  | 1,5-3,0   | ≈ 1,90            | 2500  | 2000  |
| 3,2             | 9,5  | 3,0-5,0   | ≈ 1,90            | 2500  | 2000  |
| 3,2             | 12,0 | 5,0-7,0   | ≈ 1,90            | 2500  | 2000  |
| 4,0             | 6,0  | 0,5-1,5   | ≈ 2,30            | 4000  | 3000  |
| 4,0             | 8,0  | 1,5-3,0   | ≈ 2,30            | 4000  | 3000  |
| 4,0             | 9,5  | 3,0-5,0   | ≈ 2,30            | 4000  | 3000  |

| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|---|-------------------|---|---|
| (mm)            | (mm) | (mm)  | (mm)              | (N)   | (N)   |
| 4,0             | 12,0 | 5,0-6,5   | ≈ 2,30            | 4000  | 3000  |
| 4,0             | 16,0 | 6,5-10,5  | ≈ 2,30            | 4000  | 3000  |
| 4,8             | 8,0  | 1,0-3,0   | ≈ 2,90            | 5500  | 4500  |
| 4,8             | 9,5  | 3,0-5,0   | ≈ 2,90            | 5500  | 4500  |
| 4,8             | 12,0 | 5,0-6,5   | ≈ 2,90            | 5500  | 4500  |
| 4,8             | 16,0 | 6,5-10,5  | ≈ 2,90            | 5500  | 4500  |

| d1 x L   | ☒   | Art.number                    | d1 x L   | ☒   | Art.number                    | d1 x L   | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 3,2X6MM  | 500 | <a href="#">33670.032.006</a> | 4,0X8MM  | 500 | <a href="#">33670.040.008</a> | 4,8X9MM  | 500 | <a href="#">33670.048.009</a> |
| 3,2X8MM  | 500 | <a href="#">33670.032.008</a> | 4,0X9MM  | 500 | <a href="#">33670.040.009</a> | 4,8X12MM | 500 | <a href="#">33670.048.012</a> |
| 3,2X9MM  | 500 | <a href="#">33670.032.009</a> | 4,0X12MM | 500 | <a href="#">33670.040.012</a> | 4,8X16MM | 500 | <a href="#">33670.048.016</a> |
| 3,2X12MM | 500 | <a href="#">33670.032.012</a> | 4,0X16MM | 500 | <a href="#">33670.040.016</a> |          |     |                               |
| 4,0X6MM  | 500 | <a href="#">33670.040.006</a> | 4,8X8MM  | 500 | <a href="#">33670.048.008</a> |          |     |                               |

## Sealed countersunk head blind rivet



### Technical data

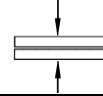
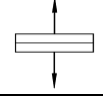
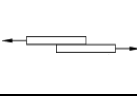
|                     |           |           |           |
|---------------------|-----------|-----------|-----------|
| $\varnothing d$     | 3,2       | 4,0       | 4,8       |
| Drill $\varnothing$ | 3,3       | 4,1       | 4,9       |
| $\varnothing d_k$   | 6,0       | 7,5       | 9,0       |
| p                   | $\geq 27$ | $\geq 27$ | $\geq 27$ |

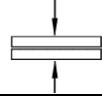
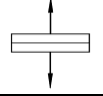
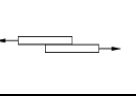
### 33620 SIGMA Sealed countersunk head blind rivet

**T03A**

**Material** Aluminium AlMg 5  
**Packaging** Standard

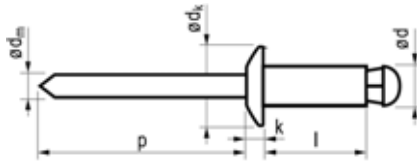


| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|--|-------------------|--|--|
| (mm)            | (mm) | (mm)   | (mm)              | (N)  | (N)  |
| 3,2             | 7,5  | 1,5-3,5  | $\approx 1,70$    | 1245   | 1070   |
| 3,2             | 9,0  | 3,0-5,0  | $\approx 1,70$    | 1245   | 1070   |
| 3,2             | 10,5 | 4,5-6,5  | $\approx 1,70$    | 1245   | 1070   |
| 3,2             | 12,0 | 6,0-7,5  | $\approx 1,70$    | 1245   | 1070   |
| 4,0             | 9,5  | 3,0-5,0  | $\approx 2,20$    | 2240   | 1710   |
| 4,0             | 11,0 | 4,5-6,5  | $\approx 2,20$    | 2240   | 1710   |
| 4,0             | 12,5 | 6,0-8,0  | $\approx 2,20$    | 2240   | 1710   |

| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|--|-------------------|--|--|
| (mm)            | (mm) | (mm)   | (mm)              | (N)  | (N)  |
| 4,8             | 9,5  | 2,5-4,5  | $\approx 2,65$    | 3070   | 2230   |
| 4,8             | 11,0 | 4,0-6,0  | $\approx 2,65$    | 3070   | 2230   |
| 4,8             | 12,5 | 5,5-7,5  | $\approx 2,65$    | 3070   | 2230   |
| 4,8             | 14,0 | 7,0-9,0  | $\approx 2,65$    | 3070   | 2230   |
| 4,8             | 15,5 | 8,5-10,5   | $\approx 2,65$    | 3070   | 2230   |
| 4,8             | 19,0 | 12,0-14,0  | $\approx 2,65$    | 3070   | 2230   |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,2X7,5MM              | 500 | <a href="#">33620.032.007</a> | 4,0X11MM               | 500 | <a href="#">33620.040.011</a> | 4,8X14MM               | 500 | <a href="#">33620.048.014</a> |
| 3,2X9,5MM              | 500 | <a href="#">33620.032.009</a> | 4,0X12,5MM             | 500 | <a href="#">33620.040.012</a> | 4,8X15,5MM             | 500 | <a href="#">33620.048.015</a> |
| 3,2X10,5MM             | 500 | <a href="#">33620.032.010</a> |                        |     |                               | 4,8X19,5MM             | 250 | <a href="#">33620.048.019</a> |
| 3,2X12MM               | 500 | <a href="#">33620.032.012</a> | 4,8X9,5MM              | 250 | <a href="#">33620.048.009</a> |                        |     |                               |
|                        |     |                               | 4,8X11MM               | 500 | <a href="#">33620.048.011</a> |                        |     |                               |
| 4,0X9,5MM              | 500 | <a href="#">33620.040.009</a> | 4,8X12,5MM             | 500 | <a href="#">33620.048.012</a> |                        |     |                               |

## Domed head expanding blind rivet



### Technical data

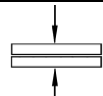
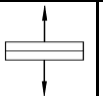
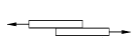
|                     |           |           |           |
|---------------------|-----------|-----------|-----------|
| $\varnothing d$     | 3,2       | 4,0       | 4,8       |
| Drill $\varnothing$ | 3,7       | 4,5       | 5,3       |
| $\varnothing d_k$   | 6,5       | 8,0       | 9,0       |
| k                   | 1         | 1,2       | 1,4       |
| p                   | $\geq 27$ | $\geq 27$ | $\geq 27$ |

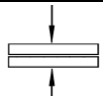
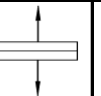

### 33410 EXPO Domed head expanding blind rivet

T03A

**Material** Aluminium AlMg 3,5  
**Packaging** Standard

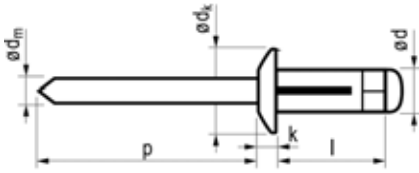


| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|--|-------------------|--|--|
| (mm)            | (mm) | (mm)   | (mm)              | (N)  | (N)  |
| 3,2             | 10,0 | 1,0-3,0  | $\approx 1,80$    | 750  | 820  |
| 3,2             | 16,0 | 7,0-9,0  | $\approx 1,80$    | 750  | 820  |
| 3,2             | 18,0 | 9,0-11,0   | $\approx 1,80$    | 750  | 820  |
| 4,0             | 10,0 | 1,5-5,0  | $\approx 2,10$    | 1140   | 1280   |
| 4,0             | 16,0 | 8,0-11,0   | $\approx 2,10$    | 1140   | 1280   |
| 4,0             | 18,0 | 10,0-13,0  | $\approx 2,10$    | 1140   | 1280   |
| 4,8             | 10,0 | 1,5-4,0  | $\approx 2,70$    | 2450   | 2100   |

| $\varnothing d$ | l    |  | $\varnothing d_m$ |  |  |
|-----------------|------|--|-------------------|--|--|
| (mm)            | (mm) | (mm)   | (mm)              | (N)  | (N)  |
| 4,8             | 14,0 | 4,0-8,0  | $\approx 2,70$    | 2450   | 2100   |
| 4,8             | 18,0 | 8,0-12,0   | $\approx 2,70$    | 2450   | 2100   |
| 4,8             | 22,0 | 12,0-16,0  | $\approx 2,70$    | 2450   | 2100   |
| 4,8             | 25,0 | 16,0-19,0  | $\approx 2,70$    | 2450   | 2100   |
| 4,8             | 30,0 | 19,0-24,0  | $\approx 2,70$    | 2450   | 2100   |
| 4,8             | 35,0 | 24,0-29,0  | $\approx 2,70$    | 2450   | 2100   |

| $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    | $\varnothing \times L$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 3,2X10MM               | 500 | <a href="#">33410.032.010</a> | 4,0X18MM               | 500 | <a href="#">33410.040.018</a> | 4,8X25MM               | 250 | <a href="#">33410.048.025</a> |
| 3,2X16MM               | 500 | <a href="#">33410.032.016</a> | 4,8X10MM               | 500 | <a href="#">33410.048.010</a> | 4,8X30MM               | 250 | <a href="#">33410.048.030</a> |
| 3,2X18MM               | 500 | <a href="#">33410.032.018</a> | 4,8X14MM               | 500 | <a href="#">33410.048.014</a> | 4,8X35MM               | 250 | <a href="#">33410.048.035</a> |
| 4,0X10MM               | 500 | <a href="#">33410.040.010</a> | 4,8X18MM               | 500 | <a href="#">33410.048.018</a> |                        |     |                               |
| 4,0X16MM               | 500 | <a href="#">33410.040.016</a> | 4,8X22MM               | 500 | <a href="#">33410.048.022</a> |                        |     |                               |

## Domed head expanding blind rivet



### Technical data

|                  |       |       |
|------------------|-------|-------|
| ø d              | 4,0   | 4,8   |
| Drill ø          | 4,2   | 5,0   |
| ø d <sub>k</sub> | 8,0   | 9,6   |
| k                | ≤ 1,7 | ≤ 2,0 |
| p                | ≥ 27  | ≥ 27  |

### 34121 TRIPO Domed head expanding blind rivet

T05A

**Material** Aluminium AlMg 3  
**Packaging** Standard



| ø d  | l    |         | ø d <sub>m</sub> |      |     |
|------|------|---------|------------------|------|-----|
| (mm) | (mm) | (mm)    | (mm)             | (N)  | (N) |
| 4,0  | 13,6 | 1,0-3,0 | ≈ 2,50           | 800  | 500 |
| 4,0  | 18,8 | 3,0-7,0 | ≈ 2,50           | 800  | 500 |
| 4,8  | 15,3 | 1,0-3,0 | ≈ 2,90           | 1100 | 800 |

| ø d  | l    |          | ø d <sub>m</sub> |      |     |
|------|------|----------|------------------|------|-----|
| (mm) | (mm) | (mm)     | (mm)             | (N)  | (N) |
| 4,8  | 20,5 | 3,0-9,0  | ≈ 2,90           | 1100 | 800 |
| 4,8  | 24,5 | 5,0-12,0 | ≈ 2,90           | 1100 | 800 |



| ø x d    | ☒   | Art.number                    | ø x d    | ☒   | Art.number                    | ø x d    | ☒   | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|-----|-------------------------------|
| 4,0X13MM | 500 | <a href="#">34121.040.013</a> | 4,8X15MM | 500 | <a href="#">34121.048.015</a> | 4,8X24MM | 250 | <a href="#">34121.048.024</a> |
| 4,0X18MM | 500 | <a href="#">34121.040.018</a> | 4,8X20MM | 250 | <a href="#">34121.048.020</a> |          |     |                               |




## Blind rivet tool





|                | ø 2,4 |    |        | ø 3,0 - 3,2 |    |        | ø 4,0 |    |        | ø 4,8 - 5,0 |    |        | ø 6,0 - 6,4 |    |        |
|----------------|-------|----|--------|-------------|----|--------|-------|----|--------|-------------|----|--------|-------------|----|--------|
|                | Al    | St | St.st. | Al          | St | St.st. | Al    | St | St.st. | Al          | St | St.st. | Al          | St | St.st. |
| <b>F 150</b>   |       |    |        |             |    |        |       |    |        |             |    |        |             |    |        |
| <b>F 260</b>   |       |    |        |             |    |        |       |    |        |             |    |        |             |    |        |
| <b>FEZ1000</b> |       |    |        |             |    |        |       |    |        |             |    |        |             |    |        |
| <b>FEZ2000</b> |       |    |        |             |    |        |       |    |        |             |    |        |             |    |        |

 additional option  
 recommended capacity

|                  |                               |             |
|------------------|-------------------------------|-------------|
| <b>35145</b>     | <b>Blind rivet hand plier</b> | <b>T90A</b> |
| <b>Packaging</b> | Standard                      |             |




| Type   | ✉ | Art.number                    |   |   |
|--------|---|-------------------------------|---|---|
| F150 B | 1 | <a href="#">35145.150.001</a> | <ul style="list-style-type: none"> <li>Professional blind riveting tool for small and light assembly work.</li> <li>Equipped with an opening spring.</li> <li>Capacity: ø2,4 - 5,0 mm.</li> <li>Weight: 0,7 kg.</li> <li>Dimensions: 255 mm.</li> <li>Body: Aluminium.</li> <li>Lever: Steel.</li> </ul>  |  |
| F260   | 1 | <a href="#">35145.260.001</a> | <ul style="list-style-type: none"> <li>Equipment: nose pieces ø3,0 - 5,0 mm.</li> <li>Heavy duty long arm riveter with adjustable front sleeve, allowing the breaking point to be set in the most ideal position.</li> <li>Capacity: ø3,0 - 6,4 mm.</li> <li>Weight: 1,8 kg.</li> <li>Dimensions: 500 mm.</li> <li>Body: Plastic with steel parts.</li> <li>Lever: Steel.</li> <li>Equipment: nose pieces ø3,0 - 6,4 mm.</li> </ul> |  |


9

|                  |                                   |             |
|------------------|-----------------------------------|-------------|
| <b>35760</b>     | <b>Blind rivet tool pneumatic</b> | <b>T91A</b> |
| <b>Packaging</b> | Standard                          |             |



| Type     | ✉ | Art.number                    |  |   |
|----------|---|-------------------------------|--|---|
| FEZ 1000 | 1 | <a href="#">35760.100.001</a> | <ul style="list-style-type: none"> <li>New generation hydraulic/pneumatic blind riveting tool with extraction, mandrel collector and suspension bracket.</li> <li>Capacity: ø3,0 - 5,0 mm.</li> <li>Weight: 1,25 kg.</li> <li>Dimensions: 264 x 272 x 102mm.</li> <li>Stroke: 17,0 mm.</li> <li>Pressure required: 5-7 Bar.</li> <li>Traction power (6 Bar): 7,3 kN.</li> <li>Equipment: Nose pieces ø3,0 - 5,0 mm.</li> </ul> |  |


**35760 Blind rivet tool pneumatic** ←

| Type     | Art.number                      | Type   | Art.number  |
|----------|---------------------------------|--|---|
| FEZ 2000 | 1 <a href="#">35760.200.001</a> | <ul style="list-style-type: none"> <li>• New generation hydraulic/pneumatic blind riveting tool with extraction, mandrel collector and suspension bracket.</li> <li>• Capacity: ø4,0 - 6,4 mm.</li> <li>• Weight: 1,65 kg.</li> <li>• Dimensions: 275 x 272 x 125 mm.</li> <li>• Stroke: 21,0 mm.</li> <li>• Pressure required: 5-7 Bar.</li> <li>• Traction power (6 Bar): 12,5 kN.</li> <li>• Equipment: Nose pieces ø4,0 - 6,4 mm.</li> </ul> |  |

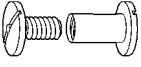






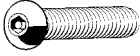




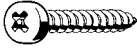






# Systems/furniture-/security fasteners 10

|  |   |   |   |   |
|--|---|---|---|---|
|  <p>Page 10-4<br/>ISO 299<br/>DIN 787</p> <p><b>For T-slots Metric</b></p>  |  <p>Page 10-5<br/>ISO 299<br/>DIN 508</p> <p><b>For T-slots Metric</b></p>       |  <p>Page 10-6<br/>DIN 6330 B<br/>NEN 2307</p> <p><b>Single sphere Metric</b></p> |  <p>Page 10-8<br/>DIN 6331</p> <p><b>With collar Metric</b></p> |  <p>Page 10-9</p> <p><b>3xd Metric</b></p>                     |
|  <p>Page 10-10<br/>DIN 6319<br/>NEN 2308</p> <p><b>Spherical washer</b></p> |  <p>Page 10-12<br/>DIN 6340<br/>NF E25-518</p> <p><b>Washers for T-slots</b></p> |  <p>Page 10-13<br/>DIN 6379</p> <p><b>For T-slots Metric</b></p>                 |  <p>Page 10-14</p> <p><b>Assortment for T-slots</b></p>         |  <p>Page 10-18</p> <p><b>LINDAPTER Hollo-bolt</b></p>          |
|  <p>Page 10-19</p> <p><b>LINDAPTER Clamp system</b></p>                     |  <p>Page 10-23</p> <p><b>LINDAPTER Packings</b></p>                              |  <p>Page 10-26</p> <p><b>LINDAPTER Tip type T</b></p>                            |  <p>Page 10-26</p> <p><b>LINDAPTER Deep washer</b></p>          |  <p>Page 10-27</p> <p><b>LINDAPTER High friction clamp</b></p> |
|  <p>Page 10-27</p> <p><b>LINDAPTER Self adjusting clamp</b></p>            |  <p>Page 10-28</p> <p><b>LINDAPTER Adjustable tail clamp</b></p>                |  <p>Page 10-29</p> <p><b>LINDAPTER Steelwork fixing</b></p>                     |  <p>Page 10-30</p> <p><b>LINDAPTER Flange clamp</b></p>        |  <p>Page 10-31</p> <p><b>LINDAPTER Flush clamp</b></p>        |
|  <p>Page 10-32</p> <p><b>LINDAPTER Floorfast</b></p>                      |  <p>Page 10-33</p> <p><b>LINDAPTER GF3030</b></p>                              |  <p>Page 10-34</p> <p><b>FISCHER Saddle</b></p>                                |  <p>Page 10-35</p> <p><b>Hinged pipe clamp</b></p>            |  <p>Page 10-36</p> <p><b>Pipe clamp</b></p>                  |
|  <p>Page 10-37</p> <p><b>Refrigeration pipe clamp</b></p>                 |  <p>Page 10-38</p> <p><b>Channel</b></p>                                       |  <p>Page 10-39</p> <p><b>Cantilever arm</b></p>                                |  <p>Page 10-40</p> <p><b>Cover cap</b></p>                    |  <p>Page 10-41</p> <p><b>T-head bolt clix</b></p>            |
|  <p>Page 10-42</p> <p><b>Sliding nut</b></p>                              |  <p>Page 10-43</p> <p><b>Channel washer</b></p>                                |  <p>Page 10-44</p> <p><b>T-head bolt</b></p>                                   |  <p>Page 10-45</p> <p><b>Installation angle bracket</b></p>   |  <p>Page 10-46</p> <p><b>Angle bracket</b></p>               |
|  <p>Page 10-47</p> <p><b>Saddle flange</b></p>                            |  <p>Page 10-48</p> <p><b>Beam clamp</b></p>                                    |  <p>Page 10-49</p> <p><b>Channel connector</b></p>                             |  <p>Page 10-50</p> <p><b>Parallel connector</b></p>           |  <p>Page 10-51</p> <p><b>Clamp hanger</b></p>                |
|  <p>Page 10-52</p> <p><b>Perforated steel banding</b></p>                 |  <p>Page 10-53</p> <p><b>Double connector plate</b></p>                        |  <p>Page 10-54</p> <p><b>Bolt connector</b></p>                                |  <p>Page 10-56</p> <p><b>Beam clamp type H</b></p>            |  <p>Page 10-56</p> <p><b>Beam clamp type 50H</b></p>         |
|  <p>Page 10-57</p> <p><b>Beam clip type BC</b></p>                        |  <p>Page 10-57</p> <p><b>Beam clip type BCC</b></p>                            |  <p>Page 10-58</p> <p><b>Beam clip type RH</b></p>                             |  <p>Page 10-59</p> <p><b>Push fastener type PF</b></p>        |  <p>Page 10-59</p> <p><b>Snap-on clip</b></p>                |

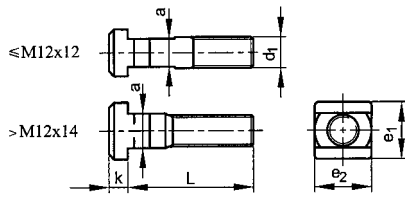
# Systems/furniture-/security fasteners 10

|   |  |   |  |   |
|---|--|---|--|---|
| <br>Page 10-60<br><b>Master clamp type MC</b>        | <br>Page 10-61<br><b>Cable run clip</b>                 | <br>Page 10-63<br><b>Toggle latch</b>              | <br>Page 10-67<br><b>Strike</b>             | <br>Page 10-70<br><b>Locking</b>                       |
| <br>Page 10-73<br><b>Pawl</b>                        | <br>Page 10-76<br><b>Key</b>                            | <br>Page 10-77<br><b>Bare guide</b>                | <br>Page 10-77<br><b>Bare guide</b>         | <br>Page 10-79<br><b>Stud with slotted head</b>        |
| <br>Page 10-80<br><b>Stud with wing head</b>         | <br>Page 10-80<br><b>Stud with knurled slotted knob</b> | <br>Page 10-81<br><b>Ball stud</b>                 | <br>Page 10-82<br><b>Retaining washer</b>   | <br>Page 10-83<br><b>Grommet</b>                       |
| <br>Page 10-84<br><b>Protecting washer</b>          | <br>Page 10-84<br><b>Sealing ring</b>                  | <br>Page 10-85<br><b>Conical retaining spring</b> | <br>Page 10-85<br><b>Rivet spring</b>      | <br>Page 10-86<br><b>Welding spring plate</b>         |
| <br>Page 10-86<br><b>Slip-on spring receptacle</b> | <br>Page 10-87<br><b>Spring bracket</b>               | <br>Page 10-88<br><b>Front load receptacle</b>   | <br>Page 10-88<br><b>Three part clips</b> | <br>Page 10-89<br><b>Tolerance offset</b>            |
| <br>Page 10-90<br><b>Type C brass</b>              | <br>Page 10-91<br><b>Type D brass</b>                 | <br>Page 10-92<br><b>Type E brass</b>            | <br>Page 10-93<br><b>Type 530 brass</b>   | <br>Page 10-94<br><b>For wood</b>                    |
| <br>Page 10-95<br><b>Type SK/SKD</b>               | <br>Page 10-96<br>DIN 7965<br><b>Type A</b>           | <br>Page 10-97<br><b>Type SKDZ</b>               | <br>Page 10-98<br><b>Type TS</b>          | <br>Page 10-98<br><b>Type RM</b>                     |
| <br>Page 10-99<br><b>Type RSK</b>                  | <br>Page 10-100<br><b>Type RF</b>                     | <br>Page 10-101<br><b>Type RT</b>                | <br>Page 10-102<br><b>Type KF</b>         | <br>Page 10-102<br><b>Type KT</b>                    |
| <br>Page 10-103<br><b>Type KOK</b>                 | <br>Page 10-103<br><b>Type Q</b>                      | <br>Page 10-104<br><b>Open</b>                   | <br>Page 10-105<br><b>Closed</b>          | <br>Page 10-106<br><b>For countersunk head screw</b> |
| <br>Page 10-107<br><b>Sleeve nut</b>               | <br>Page 10-108<br><b>Booknut</b>                     | <br>Page 10-109<br><b>Bookscrew</b>              | <br>Page 10-110<br><b>Bookscrew</b>       | <br>Page 10-110<br><b>Elongation piece</b>           |

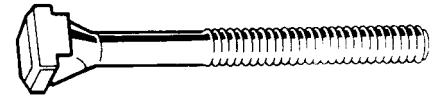
## Systems/furniture-/security fasteners 10

|   |   |  |   |   |
|---|---|--|---|---|
|  <p>Page 10-111</p> <p><b>Binderscrew</b></p>                        |  <p>Page 10-111</p> <p><b>Tube cap</b></p>         |  <p>Page 10-112</p> <p><b>Tube cap</b></p>                              |  <p>Page 10-112</p> <p><b>Tube cap</b></p>                             |  <p>Page 10-113</p> <p><b>Tube cap conical</b></p>       |
|  <p>Page 10-115</p> <p><b>SECURITY Nut</b></p>                       |  <p>Page 10-116</p> <p><b>Inviolable nut</b></p>   |  <p>Page 10-117</p> <p><b>SECURITY With socket head and pin</b></p>     |  <p>Page 10-118</p> <p><b>SECURITY With hexalobular and pin</b></p>     |  <p>Page 10-119</p> <p><b>SECURITY With 2 holes</b></p>  |
|  <p>Page 10-120</p> <p><b>SECURITY With 2 holes</b></p>              |  <p>Page 10-121</p> <p><b>SECURITY One-way</b></p> |  <p>Page 10-122</p> <p><b>SECURITY With cross rec. head and pin</b></p> |  <p>Page 10-123</p> <p><b>SECURITY With cross rec. head and pin</b></p> |  <p>Page 10-124</p> <p><b>SECURITY With Tri-wing</b></p> |
|  <p>Page 10-125</p> <p><b>SECURITY With square socket drive</b></p> |  <p>Page 10-126</p> <p><b>SECURITY</b></p>        |  <p>Page 10-128</p> <p><b>SECURITY</b></p>                             |  <p>Page 10-129</p> <p><b>SECURITY Screw key</b></p>                   |   |

## Bolt and screw for T-slots



ISO 299  
DIN 787  
NF E21-301  
BS 2485



### Technical data

| d1 x a        | P    | e (e <sub>2</sub> ≥ e <sub>1</sub> ) | k  |
|---------------|------|--------------------------------------|----|
| M8x8          | 1,25 | 13                                   | 6  |
| M10x10        | 1,5  | 15                                   | 6  |
| M12x12        | 1,75 | 18                                   | 7  |
| M12x14        | 1,75 | 22                                   | 8  |
| M16x16 (#DIN) | 2    | 25                                   | 9  |
| M16x18        | 2    | 28                                   | 10 |
| M20x20 (#DIN) | 2,5  | 32                                   | 12 |
| M20x22        | 2,5  | 35                                   | 14 |
| M24x24 (#DIN) | 3    | 40                                   | 16 |
| M24x28        | 3    | 44                                   | 18 |

- For sizes of T-slots, see DIN 650.

### 16202 Bolt and screw for T-slots

F95A

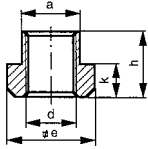
**Thread** Metric thread  
**Material** Steel  
**Class** 10.9/8.8  
**Packaging** Standard



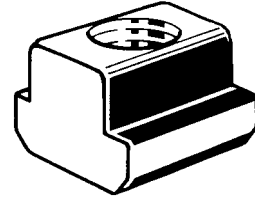
| d1 x a x L | ☒  | Art.number                    | d1 x a x L | ☒  | Art.number                    | d1 x a x L | ☒ | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|---|-------------------------------|
| M8X8X32    | 25 | <a href="#">16202.088.032</a> | M12X14X80  | 25 | <a href="#">16202.134.080</a> | M20X20X160 | 5 | <a href="#">16202.220.160</a> |
| M8X8X50    | 25 | <a href="#">16202.088.050</a> | M12X14X125 | 25 | <a href="#">16202.134.125</a> | M20X20X200 | 5 | <a href="#">16202.220.200</a> |
| M8X8X80    | 25 | <a href="#">16202.088.080</a> |            |    |                               | M20X22X80  | 5 | <a href="#">16202.222.080</a> |
|            |    |                               | M16X16X63  | 10 | <a href="#">16202.176.063</a> | M20X22X125 | 5 | <a href="#">16202.222.125</a> |
| M10X10X40  | 25 | <a href="#">16202.110.040</a> | M16X16X80  | 10 | <a href="#">16202.176.080</a> | M20X22X200 | 5 | <a href="#">16202.222.200</a> |
| M10X10X63  | 25 | <a href="#">16202.110.063</a> | M16X16X100 | 10 | <a href="#">16202.176.100</a> |            |   |                               |
| M10X10X100 | 25 | <a href="#">16202.110.100</a> | M16X16X125 | 10 | <a href="#">16202.176.125</a> | M24X24X100 | 5 | <a href="#">16202.264.100</a> |
|            |    |                               | M16X16X160 | 10 | <a href="#">16202.176.160</a> | M24X24X160 | 5 | <a href="#">16202.264.160</a> |
| M12X12X50  | 25 | <a href="#">16202.132.050</a> | M16X18X63  | 10 | <a href="#">16202.178.063</a> | M24X24X250 | 5 | <a href="#">16202.264.250</a> |
| M12X12X63  | 25 | <a href="#">16202.132.063</a> | M16X18X100 | 10 | <a href="#">16202.178.100</a> | M24X28X100 | 5 | <a href="#">16202.268.100</a> |
| M12X12X80  | 25 | <a href="#">16202.132.080</a> | M16X18X160 | 10 | <a href="#">16202.178.160</a> | M24X28X160 | 5 | <a href="#">16202.268.160</a> |
| M12X12X100 | 25 | <a href="#">16202.132.100</a> |            |    |                               | M24X28X250 | 5 | <a href="#">16202.268.250</a> |
| M12X12X125 | 25 | <a href="#">16202.132.125</a> | M20X20X80  | 5  | <a href="#">16202.220.080</a> |            |   |                               |
| M12X14X50  | 25 | <a href="#">16202.134.050</a> | M20X20X100 | 5  | <a href="#">16202.220.100</a> |            |   |                               |
| M12X14X63  | 25 | <a href="#">16202.134.063</a> | M20X20X125 | 5  | <a href="#">16202.220.125</a> |            |   |                               |

- Bolts for T-slots up to and including size M12 class 10.9, above size M12 class 8.8.

## Nut for T-slot



ISO 299  
**DIN 508**  
 NF E21-301  
 BS 2485

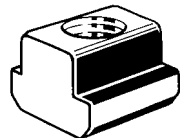


### Technical data

| d x a         | P    | e  | h  | k  |
|---------------|------|----|----|----|
| M5x6          | 0,8  | 10 | 8  | 4  |
| M6x8          | 1    | 13 | 10 | 6  |
| M8x10         | 1,25 | 15 | 12 | 6  |
| M8x12 (#DIN)  | 1,25 | 18 | 14 | 7  |
| M10x12        | 1,5  | 18 | 14 | 7  |
| M10x14 (#DIN) | 1,5  | 22 | 16 | 8  |
| M12x14        | 1,75 | 22 | 16 | 8  |
| M12x16 (#DIN) | 1,75 | 25 | 18 | 9  |
| M12x18 (#DIN) | 1,75 | 28 | 20 | 10 |
| M14x16        | 2    | 25 | 18 | 9  |
| M14x18 (#DIN) | 2    | 28 | 20 | 10 |
| M16x18        | 2    | 28 | 20 | 10 |
| M16x22 (#DIN) | 2    | 35 | 28 | 14 |
| M20x22        | 2,5  | 35 | 28 | 14 |
| M24x28        | 3    | 44 | 36 | 18 |

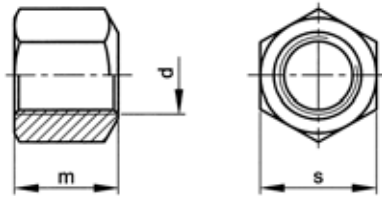
- For sizes of T-slots, see DIN 650.

| 16196 Nut for T-slot |               | F95A |
|----------------------|---------------|------|
| Thread               | Metric thread |      |
| Material             | Steel         |      |
| Class                | 10            |      |
| Packaging            | Standard      |      |

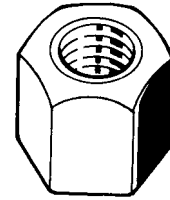


| d x a  | ☒  | Art.number                    | d x a  | ☒  | Art.number                    | d x a  | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M5X6   | 50 | <a href="#">16196.050.006</a> | M12X14 | 50 | <a href="#">16196.120.014</a> | M16X22 | 25 | <a href="#">16196.160.022</a> |
| M6X8   | 50 | <a href="#">16196.060.008</a> | M12X16 | 25 | <a href="#">16196.120.016</a> | M20X22 | 10 | <a href="#">16196.200.022</a> |
| M8X10  | 50 | <a href="#">16196.080.010</a> | M12X18 | 25 | <a href="#">16196.120.018</a> | M24X28 | 10 | <a href="#">16196.240.028</a> |
| M8X12  | 50 | <a href="#">16196.080.012</a> | M14X16 | 25 | <a href="#">16196.140.016</a> |        |    |                               |
| M10X12 | 50 | <a href="#">16196.100.012</a> | M14X18 | 25 | <a href="#">16196.140.018</a> |        |    |                               |
| M10X14 | 50 | <a href="#">16196.100.014</a> | M16X18 | 25 | <a href="#">16196.160.018</a> |        |    |                               |

## Hexagon nut



DIN 6330 B  
NEN 2307

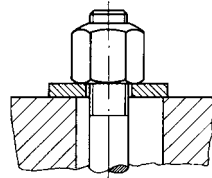


### Technical data

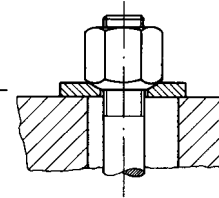
| d          | P    | m (js15) | s  |
|------------|------|----------|----|
| M6         | 1    | 9        | 10 |
| M8         | 1,25 | 12       | 13 |
| M10 (#DIN) | 1,5  | 15       | 16 |
| M10        | 1,5  | 15       | 17 |
| M12 (#DIN) | 1,75 | 18       | 18 |
| M12        | 1,75 | 18       | 19 |
| M14 (#DIN) | 2    | 21       | 22 |
| M16        | 2    | 24       | 24 |
| M20        | 2,5  | 30       | 30 |
| M24        | 3    | 36       | 36 |
| M30        | 3,5  | 45       | 46 |

### Examples of application

Washer for clamping  
acc. to DIN 6340



Conical seat acc.  
to DIN 6319D



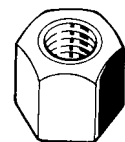
### Article groups

| Thread | Driving features | Material  | Class | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-----------|-------|------|
| M      | hexagon          | St        | 10    | Standard  | 16203 | 10-6 |
| M      | hexagon          | St.St. A1 | 70    | Standard  | 51102 | 10-6 |
| M      | hexagon          | St.St. A4 | 70    | Standard  | 55102 | 10-7 |

#### 16203 Hexagon nut

F95A

**Thread** Metric thread  
**Material** Steel  
**Class** |10|  
**Packaging** Standard



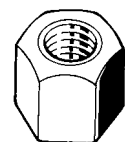
| d        | ☒  | Art.number                    | d        | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|-----|----|-------------------------------|
| M8       | 50 | <a href="#">16203.080.001</a> | M12 s=18 | 50 | <a href="#">16203.120.001</a> | M16 | 25 | <a href="#">16203.160.001</a> |
| M10 s=16 | 50 | <a href="#">16203.100.001</a> | M12 s=19 | 50 | <a href="#">16203.120.190</a> | M20 | 10 | <a href="#">16203.200.001</a> |
| M10 s=17 | 50 | <a href="#">16203.100.170</a> | M14      | 25 | <a href="#">16203.140.001</a> | M24 | 10 | <a href="#">16203.240.001</a> |
|          |    |                               |          |    |                               | M30 | 5  | <a href="#">16203.300.001</a> |

- Technical brochure available on request.

#### 51102 Hexagon nut St.st.

R09A

**Thread** Metric thread  
**Material** Stainless steel A1  
**Class** 70  
**Packaging** Standard



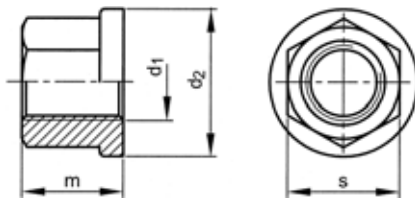
| d    | ☒  | Art.number                    | d     | ☒  | Art.number                    | d     | ☒  | Art.number                    |
|------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M6 * | 50 | <a href="#">51102.060.001</a> | M12   | 50 | <a href="#">51102.120.001</a> | M20   | 10 | <a href="#">51102.200.001</a> |
| M8   | 50 | <a href="#">51102.080.001</a> | M14 * | 25 | <a href="#">51102.140.001</a> | M24   | 10 | <a href="#">51102.240.001</a> |
| M10  | 50 | <a href="#">51102.100.001</a> | M16   | 25 | <a href="#">51102.160.001</a> | M30 * | 10 | <a href="#">51102.300.001</a> |



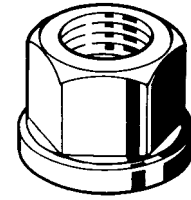
|                  |                           |  |  |  |  |  |  |   |
|------------------|---------------------------|--|--|--|--|--|--|---|
| <b>55102</b>     | <b>Hexagon nut St.st.</b> |  |  |  |  |  |  | <b>R49A</b>   |
| <b>Thread</b>    | Metric thread             |  |  |  |  |  |  |  |
| <b>Material</b>  | Stainless steel A4        |  |  |  |  |  |  |   |
| <b>Class</b>     | 70                        |  |  |  |  |  |  |   |
| <b>Packaging</b> | Standard                  |  |  |  |  |  |  |   |

| <b>d</b> | ✉  | <b>Art.number</b>             | <b>d</b> | ✉  | <b>Art.number</b>             | <b>d</b> | ✉  | <b>Art.number</b>             |
|----------|----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M6 *     | 50 | <a href="#">55102.060.001</a> | M12      | 50 | <a href="#">55102.120.001</a> | M24      | 10 | <a href="#">55102.240.001</a> |
| M8       | 50 | <a href="#">55102.080.001</a> | M16      | 25 | <a href="#">55102.160.001</a> | M30 *    | 10 | <a href="#">55102.300.001</a> |
| M10      | 50 | <a href="#">55102.100.001</a> | M20      | 10 | <a href="#">55102.200.001</a> |          |    |                               |

## Hexagon nut with collar



DIN 6331



### Technical data

| d1  | P    | d <sub>2</sub> (h13) | m (js15) | s     |
|-----|------|----------------------|----------|-------|
| M6  | 1    | 14                   | 9        | 10    |
| M8  | 1,25 | 18                   | 12       | 13    |
| M10 | 1,5  | 22                   | 15       | 16/17 |
| M12 | 1,75 | 25                   | 18       | 18    |
| M14 | 2    | 28                   | 21       | 22    |
| M16 | 2    | 31                   | 24       | 24    |
| M20 | 2,5  | 37                   | 30       | 30    |
| M24 | 3    | 45                   | 36       | 36    |
| M30 | 3,5  | 58                   | 45       | 46    |

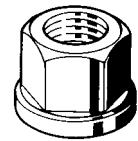
### Article groups

| Thread | Driving features | Material  | Class | Packaging | Code  | Page |
|--------|------------------|-----------|-------|-----------|-------|------|
| M      | hexagon          | St        | 10    | Standard  | 16204 | 10-8 |
| M      | hexagon          | St.St. A1 | 70    | Standard  | 51104 | 10-8 |
| M      | hexagon          | St.St. A4 | 70    | Standard  | 55104 | 10-8 |

#### 16204 Hexagon nut with collar

F95A

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Class</b>     | 10            |
| <b>Packaging</b> | Standard      |

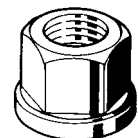


| d1       | ☒  | Art.number                    | d1       | ☒  | Art.number                    | d1  | ☒  | Art.number                    |
|----------|----|-------------------------------|----------|----|-------------------------------|-----|----|-------------------------------|
| M6       | 50 | <a href="#">16204.060.001</a> | M12 s=18 | 50 | <a href="#">16204.120.001</a> | M20 | 10 | <a href="#">16204.200.001</a> |
| M8       | 50 | <a href="#">16204.080.001</a> | M14      | 50 | <a href="#">16204.140.001</a> | M24 | 10 | <a href="#">16204.240.001</a> |
| M10 s=16 | 50 | <a href="#">16204.100.001</a> | M16      | 25 | <a href="#">16204.160.001</a> | M30 | 10 | <a href="#">16204.300.001</a> |

#### 51104 Hexagon nut with collar St.st

R09A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Metric thread         |
| <b>Material</b>  | Stainless steel A1    |
| <b>Class</b>     | 70                    |
| <b>Packaging</b> | Standard<br>DIN ≈6331 |

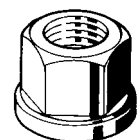


| d1       | ☒  | Art.number                    | d1    | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|----------|----|-------------------------------|-------|----|-------------------------------|-----|---|-------------------------------|
| M6 *     | 50 | <a href="#">51104.060.001</a> | M12   | 25 | <a href="#">51104.120.001</a> | M20 | 5 | <a href="#">51104.200.001</a> |
| M8       | 25 | <a href="#">51104.080.001</a> | M14 * | 25 | <a href="#">51104.140.001</a> | M24 | 5 | <a href="#">51104.240.001</a> |
| M10 s=17 | 25 | <a href="#">51104.100.001</a> | M16   | 10 | <a href="#">51104.160.001</a> |     |   |                               |

#### 55104 Hexagon nut with collar St.st

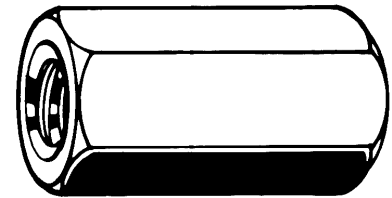
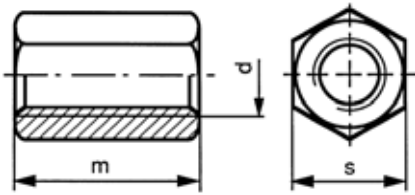
R49A

|                  |                       |
|------------------|-----------------------|
| <b>Thread</b>    | Metric thread         |
| <b>Material</b>  | Stainless steel A4    |
| <b>Class</b>     | 70                    |
| <b>Packaging</b> | Standard<br>DIN ≈6331 |



| d1       | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|----------|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M6 *     | 50 | <a href="#">55104.060.001</a> | M12 | 25 | <a href="#">55104.120.001</a> | M24 | 5 | <a href="#">55104.240.001</a> |
| M8       | 25 | <a href="#">55104.080.001</a> | M16 | 10 | <a href="#">55104.160.001</a> |     |   |                               |
| M10 s=17 | 25 | <a href="#">55104.100.001</a> | M20 | 5  | <a href="#">55104.200.001</a> |     |   |                               |

## Extension nut 3xd



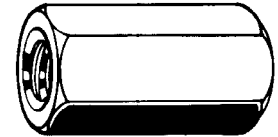
### Technical data

| d   | P    | m  | s  |
|-----|------|----|----|
| M8  | 1,25 | 24 | 13 |
| M10 | 1,5  | 30 | 17 |
| M12 | 1,75 | 36 | 19 |
| M14 | 2    | 42 | 22 |
| M16 | 2    | 48 | 24 |
| M20 | 2,5  | 60 | 30 |
| M24 | 3    | 72 | 36 |

### 16225 Extension nut 3xd

F95A

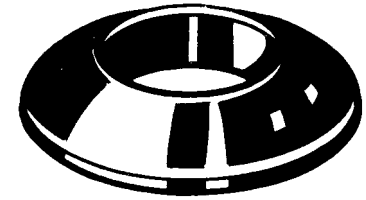
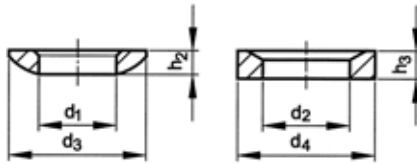
|           |               |
|-----------|---------------|
| Thread    | Metric thread |
| Material  | Steel         |
| Class     | 10            |
| Packaging | Standard      |



| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M8  | 25 | <a href="#">16225.080.001</a> | M12 | 25 | <a href="#">16225.120.001</a> | M20 | 5 | <a href="#">16225.200.001</a> |
| M10 | 25 | <a href="#">16225.100.001</a> | M16 | 10 | <a href="#">16225.160.001</a> | M24 | 5 | <a href="#">16225.240.001</a> |

## Spherical- and conical washer

DIN 6319  
 NEN 2308

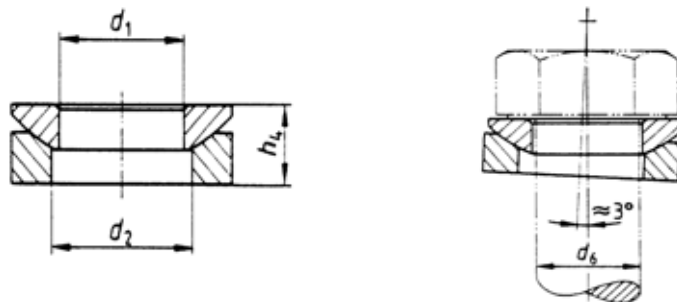


### Technical data

| For nom.size | d <sub>1</sub> (H13) | d <sub>2</sub> (H13) | d <sub>3</sub> | d <sub>4</sub> | h <sub>2</sub> | h <sub>3</sub> | h <sub>4</sub> ≈ | S   |
|--------------|----------------------|----------------------|----------------|----------------|----------------|----------------|------------------|-----|
| M6           | 6,4                  | 7,1                  | 12             | 12             | 2,3            | 2,8            | 4,2              | 9   |
| M8           | 8,4                  | 9,6                  | 17             | 17             | 3,2            | 3,5            | 5,6              | 17  |
| M10          | 10,5                 | 12                   | 21             | 21             | 4              | 4,2            | 6,5              | 26  |
| M12          | 13                   | 14,2                 | 24             | 24             | 4,6            | 5              | 8                | 38  |
| M14          | 15                   | 16,5                 | 28             | 28             | 5              | 5,6            | 8,5              | 53  |
| M16          | 17                   | 19                   | 30             | 30             | 5,3            | 6,2            | 9,6              | 73  |
| M20          | 21                   | 23,2                 | 36             | 36             | 6,3            | 7,5            | 11,7             | 117 |
| M24          | 25                   | 28                   | 44             | 44             | 8,2            | 9,5            | 15,2             | 168 |
| M30          | 31                   | 35                   | 56             | 56             | 11,2           | 12             | 19,2             | 269 |
| M36          | 37                   | 42                   | 69             | 69             | 14             | 15             | 23,5             | 394 |

- S = Static load in kN (max.).
- The combination of a spherical washer type C with a conical seat type D enables a swing of  $\approx 3^\circ$  in any direction to be attained, when positioning a bolt through.
- ATTENTION: when these washers are applied in combination with fasteners class 10.9 or 10, the allowable clamping load will be at maximum 46% of  $R_e$ ; for class 8.8 or 8 at maximum 66% of  $R_e$ .
- These washers cannot be applied on slotted holes.

### Assembly sequence



### Article groups

| Material        |   | Packaging | Code  | Page  |
|-----------------|---|-----------|-------|-------|
| St 550+100 HV10 | C | Standard  | 16206 | 10-10 |
| St 550+100 HV10 | D | Standard  | 16207 | 10-11 |

### 16206 Spherical washer type C

F95A

**Material** Steel 550+100 HV10  
**Packaging** Standard  
 DIN 6319 C  
 NEN 2308 C



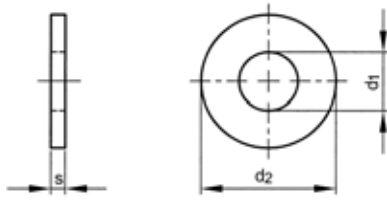
10

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 100 | <a href="#">16206.060.001</a> | M14           | 50 | <a href="#">16206.140.001</a> | M30           | 25 | <a href="#">16206.300.001</a> |
| M8            | 100 | <a href="#">16206.080.001</a> | M16           | 50 | <a href="#">16206.160.001</a> | M36           | 25 | <a href="#">16206.360.001</a> |
| M10           | 100 | <a href="#">16206.100.001</a> | M20           | 25 | <a href="#">16206.200.001</a> |               |    |                               |
| M12           | 100 | <a href="#">16206.120.001</a> | M24           | 25 | <a href="#">16206.240.001</a> |               |    |                               |

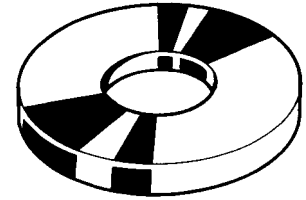
|                  |                              |   |
|------------------|------------------------------|---|
| <b>16207</b>     | <b>Conical washer type D</b> | <b>F95A</b>   |
| <b>Material</b>  | Steel 550+100 HV10           |  |
| <b>Packaging</b> | Standard                     |   |
|                  | DIN 6319 D<br>NEN 2308 D     |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M6            | 100 | <a href="#">16207.060.001</a> | M12           | 100 | <a href="#">16207.120.001</a> | M20           | 25 | <a href="#">16207.200.001</a> |
| M8            | 100 | <a href="#">16207.080.001</a> | M14           | 50  | <a href="#">16207.140.001</a> | M24           | 25 | <a href="#">16207.240.001</a> |
| M10           | 100 | <a href="#">16207.100.001</a> | M16           | 50  | <a href="#">16207.160.001</a> | M30           | 25 | <a href="#">16207.300.001</a> |

## Washer for clamping devices



DIN 6340  
 NF E25-518



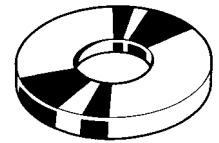
### Technical data

| For nom.size | d <sub>1</sub> (H14) | d <sub>2</sub> (h14) | s |
|--------------|----------------------|----------------------|---|
| M6           | 6,4                  | 17                   | 3 |
| M8           | 8,4                  | 23                   | 4 |
| M10          | 10,5                 | 28                   | 4 |
| M12          | 13                   | 35                   | 5 |
| M14 (≠DIN)   | 15                   | 40                   | 5 |
| M16          | 17                   | 45                   | 6 |
| M20          | 21                   | 50                   | 6 |
| M24          | 25                   | 60                   | 8 |

### 16205 Washer for clamping devices

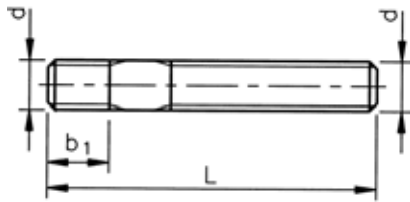
F95A

**Material** Steel 350+80 HV30  
**Packaging** Standard



| For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M6            | 50 | <a href="#">16205.060.001</a> | M12           | 50 | <a href="#">16205.120.001</a> | M20           | 10 | <a href="#">16205.200.001</a> |
| M8            | 50 | <a href="#">16205.080.001</a> | M14           | 50 | <a href="#">16205.140.001</a> | M24           | 10 | <a href="#">16205.240.001</a> |
| M10           | 50 | <a href="#">16205.100.001</a> | M16           | 25 | <a href="#">16205.160.001</a> |               |    |                               |

## Stud for nuts for T-slots



DIN 6379



### Technical data

| d          | P    | b <sub>1</sub> |
|------------|------|----------------|
| M8         | 1,25 | 11             |
| M10        | 1,5  | 13             |
| M12        | 1,75 | 15             |
| M14 (#DIN) | 2    | 17             |
| M16        | 2    | 19             |
| M20        | 2,5  | 27             |
| M24        | 3    | 35             |

- Studs up to and including size M12 class 10.9, above size M12 class 8.8.

### 16226 Stud for nuts for T-slots

F95A

**Thread** Metric thread  
**Material** Steel  
**Class** 10.9/8.8  
**Packaging** Standard



| d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    | d x L   | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M8X40   | 25 | <a href="#">16226.080.040</a> | M12X125 | 25 | <a href="#">16226.120.125</a> | M20X200 | 5  | <a href="#">16226.200.200</a> |
| M8X63   | 25 | <a href="#">16226.080.063</a> | M12X160 | 25 | <a href="#">16226.120.160</a> | M20X250 | 5  | <a href="#">16226.200.250</a> |
| M8X100  | 25 | <a href="#">16226.080.100</a> | M12X200 | 10 | <a href="#">16226.120.200</a> | M20X315 | 3  | <a href="#">16226.200.315</a> |
| M8X160  | 25 | <a href="#">16226.080.160</a> |         |    |                               | M20X400 | 3  | <a href="#">16226.200.400</a> |
|         |    |                               | M16X63  | 10 | <a href="#">16226.160.063</a> | M20X500 | 3  | <a href="#">16226.200.500</a> |
| M10X50  | 25 | <a href="#">16226.100.050</a> | M16X80  | 10 | <a href="#">16226.160.080</a> |         |    |                               |
| M10X80  | 25 | <a href="#">16226.100.080</a> | M16X100 | 10 | <a href="#">16226.160.100</a> | M24X100 | 10 | <a href="#">16226.240.100</a> |
| M10X100 | 25 | <a href="#">16226.100.100</a> | M16X125 | 10 | <a href="#">16226.160.125</a> | M24X125 | 10 | <a href="#">16226.240.125</a> |
| M10X125 | 25 | <a href="#">16226.100.125</a> | M16X160 | 10 | <a href="#">16226.160.160</a> | M24X160 | 10 | <a href="#">16226.240.160</a> |
| M10X160 | 25 | <a href="#">16226.100.160</a> | M16X200 | 5  | <a href="#">16226.160.200</a> | M24X200 | 5  | <a href="#">16226.240.200</a> |
| M10X200 | 10 | <a href="#">16226.100.200</a> | M16X250 | 5  | <a href="#">16226.160.250</a> | M24X250 | 5  | <a href="#">16226.240.250</a> |
|         |    |                               | M16X315 | 5  | <a href="#">16226.160.315</a> | M24X315 | 5  | <a href="#">16226.240.315</a> |
| M12X50  | 25 | <a href="#">16226.120.050</a> |         |    |                               | M24X400 | 3  | <a href="#">16226.240.400</a> |
| M12X63  | 25 | <a href="#">16226.120.063</a> | M20X80  | 10 | <a href="#">16226.200.080</a> | M24X500 | 3  | <a href="#">16226.240.500</a> |
| M12X80  | 25 | <a href="#">16226.120.080</a> | M20X125 | 10 | <a href="#">16226.200.125</a> | M24X630 | 3  | <a href="#">16226.240.630</a> |
| M12X100 | 25 | <a href="#">16226.120.100</a> | M20X160 | 10 | <a href="#">16226.200.160</a> |         |    |                               |

## T-Bolt sets for T-Slots



|                  |   |             |
|------------------|---|-------------|
| <b>16227</b>     | <b>T-Bolt sets for T-Slots No. 6520</b> | <b>F95A</b> |
| <b>Packaging</b> | Standard                                |             |

| No.    | ✉ | Art.number                    |  |
|--------|---|-------------------------------|--|
| M10X10 | 1 | <a href="#">16227.100.010</a> | <ul style="list-style-type: none"> <li>• Packed in wooden case</li> <li>• Contents:               <ul style="list-style-type: none"> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 40 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 63 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 100 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 50 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 80 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 200 mm</li> <li>• 4 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 4 pieces spherical washers acc. to DIN 6319 C and 4 pieces conical seats acc. to DIN 6319 G</li> </ul> </li> </ul>  |
| M12X12 | 1 | <a href="#">16227.120.012</a> | <ul style="list-style-type: none"> <li>• 4 pieces washers for clamping devices acc. to DIN 6340</li> <li>• Packed in wooden case</li> <li>• Contents:               <ul style="list-style-type: none"> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 50 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 80 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 125 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 63 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 100 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 200 mm</li> <li>• 4 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 4 pieces spherical washers acc. to DIN 6319 C and 4 pieces conical seats acc. to DIN 6319 G</li> </ul> </li> </ul>   |
| M12X14 | 1 | <a href="#">16227.120.014</a> | <ul style="list-style-type: none"> <li>• 4 pieces washers for clamping devices acc. to DIN 6340</li> <li>• Packed in wooden case</li> <li>• Contents:               <ul style="list-style-type: none"> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 50 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 80 mm</li> <li>• 4 pieces nuts for T-slots acc. to DIN 508</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 63 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 100 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 125 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 200 mm</li> <li>• 4 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 4 pieces spherical washers acc. to DIN 6319 C and 4 pieces conical seats acc. to DIN 6319 G</li> </ul> </li> </ul>  |
| M16X18 | 1 | <a href="#">16227.160.018</a> | <ul style="list-style-type: none"> <li>• 4 pieces washers for clamping devices acc. to DIN 6340</li> <li>• Packed in wooden case</li> <li>• Contents:               <ul style="list-style-type: none"> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 63 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 100 mm</li> <li>• 4 pieces nuts for T-slots acc. to DIN 508</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 80 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 125 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 160 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 250 mm</li> <li>• 4 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 4 pieces spherical washers acc. to DIN 6319 C and 4 pieces conical seats acc. to DIN 6319 G</li> </ul> </li> </ul> |



**16227 T-Bolt sets for T-Slots No. 6520**

| No.    | ✉ | Art.number                    | No.  | ✉ | Art.number | No. | ✉ | Art.number |
|--------|---|-------------------------------|--|---|------------|-----|---|------------|
| M20X22 | 1 | <a href="#">16227.200.022</a> |  |   |            |     |   |            |
|        |   |                               | <ul style="list-style-type: none"> <li>• Packed in wooden case</li> <li>• Contents:</li> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 80 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 125 mm</li> <li>• 4 pieces nuts for T-slots acc. to DIN 508</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 80 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 125 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 200 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 315 mm</li> <li>• 4 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 4 pieces spherical washers acc. to DIN 6319 C and 4 pieces conical seats acc. to DIN 6319 G</li> </ul>   |   |            |     |   |            |
| M24X28 | 1 | <a href="#">16227.240.028</a> |  |   |            |     |   |            |
|        |   |                               | <ul style="list-style-type: none"> <li>• Packed in wooden case</li> <li>• Contents:</li> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 100 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 160 mm</li> <li>• 4 pieces nuts for T-slots acc. to DIN 508</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 100 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 160 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 250 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 400 mm</li> <li>• 4 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 4 pieces spherical washers acc. to DIN 6319 C and 4 pieces conical seats acc. to DIN 6319 G</li> <li>• 4 pieces washers for clamping devices acc. to DIN 6340</li> </ul> |   |            |     |   |            |

**16228 T-Bolt sets for T-Slots No. 6530**
**F95A**
**Packaging** Standard


| No.    | ✉ | Art.number                    |   |
|--------|---|-------------------------------|---|
| M10X10 | 1 | <a href="#">16228.100.010</a> | <ul style="list-style-type: none"> <li>• Packed in wooden case with detachable lid</li> <li>• Contents:</li> <li>• 4 pieces step clamps 11 x 80 mm</li> <li>• 4 pieces universal step blocks no. 1</li> <li>• 4 pieces universal step blocks no. 2</li> <li>• 4 pieces universal step blocks no. 3</li> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 40 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 63 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 100 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 80 mm</li> <li>• 6 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 6 pieces conical seats acc. to ≈ DIN 6319 G</li> <li>• 4 pieces low-height clamping jaws (incl. hexagon socket head cap screws acc. to DIN 912, hexagon socket screw keys acc. to DIN 911 and nuts for T-slots acc. to DIN 508)</li> </ul>                               |
| M12X12 | 1 | <a href="#">16228.120.012</a> | <ul style="list-style-type: none"> <li>• 1 piece ring spanner 17 mm</li> <li>• Packed in wooden case with detachable lid</li> <li>• Contents:</li> <li>• 4 pieces step clamps 14 x 100 mm</li> <li>• 4 pieces universal step blocks no. 2</li> <li>• 4 pieces universal step blocks no. 3</li> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 50 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 80 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 125 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 100 mm</li> <li>• 6 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 6 pieces conical seats acc. to ≈ DIN 6319 G</li> <li>• 4 pieces low-height clamping jaws (incl. hexagon socket head cap screws acc. to DIN 912, hexagon socket screw keys acc. to DIN 911 and nuts for T-slots acc. to DIN 508)</li> <li>• 1 piece ring spanner 19 mm</li> </ul> |

**16228 T-Bolt sets for T-Slots No. 6530**

| No.    | ✉ | Art.number                    | No.  | ✉ | Art.number | No. | ✉ | Art.number |
|--------|---|-------------------------------|--|---|------------|-----|---|------------|
| M12X14 | 1 | <a href="#">16228.120.014</a> | <ul style="list-style-type: none"> <li>• Packed in wooden case with detachable lid</li> <li>• Contents:               <ul style="list-style-type: none"> <li>• 4 pieces step clamps 14 x 100 mm</li> <li>• 4 pieces universal step blocks no. 2</li> <li>• 4 pieces universal step blocks no. 3</li> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 50 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 80 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 125 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 100 mm</li> <li>• 6 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 6 pieces conical seats acc. to ≈ DIN 6319 G</li> <li>• 4 pieces low-height clamping jaws (incl. hexagon socket head cap screws acc. to DIN 912, hexagon socket screw keys acc. to DIN 911 and nuts for T-slots acc. to DIN 508)</li> <li>• 1 piece ring spanner 19 mm</li> <li>• 1 piece T-slot scraper</li> </ul> </li> </ul>  |   |            |     |   |            |
| M16X18 | 1 | <a href="#">16228.160.018</a> | <ul style="list-style-type: none"> <li>• Packed in wooden case with detachable lid</li> <li>• Contents:               <ul style="list-style-type: none"> <li>• 4 pieces step clamps 18 x 125 mm</li> <li>• 4 pieces universal step blocks no. 2</li> <li>• 4 pieces universal step blocks no. 3</li> <li>• 2 pieces bolts and screws for T-slots acc. to DIN 787 length 63 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 100 mm</li> <li>• 4 pieces bolts and screws for T-slots acc. to DIN 787 length 160 mm</li> <li>• 4 pieces studs for T-slots acc. to DIN 6379 length 125 mm</li> <li>• 6 pieces hexagon nuts 1,5 d acc. to DIN 6330 B</li> <li>• 4 pieces extension nuts height 3 x d</li> <li>• 6 pieces conical seats acc. to ≈ DIN 6319 G</li> <li>• 4 pieces low-height clamping jaws (incl. hexagon socket head cap screws acc. to DIN 912, hexagon socket screw keys acc. to DIN 911 and nuts for T-slots acc. to DIN 508)</li> <li>• 1 piece ring spanner 24 mm</li> <li>• 1 piece T-slot scraper</li> </ul> </li> </ul> |   |            |     |   |            |

## LINDAPTER System of fixings

**lindapter**  
LINDAPTER S.p.A.

### General

The LINDAPTER-system of fixings comprises various types of steelwork fixings (type A to D2). In combination with standard fasteners, like hexagon bolts, hexagon head wood screws, property classes 4.6 or 8.8, rigid connections can efficiently be made from steel on steel, steel on wood, steel on concrete, etc.

### Attention

For high friction clamps type **AF**, for applications where high frictional loads are encountered, see elsewhere in this section.

### Principle

The LINDAPTER steelwork fixing has been provided with a supporting tail available in 3 heights: short, medium and long, which should be chosen to suit thickness of flange to be gripped. A further increase of the clamping range is possible by using packings (type P and CW), which also are available in various heights and can mutually be combined (height of tail + height of packings = flange thickness  $\pm$  1 mm).

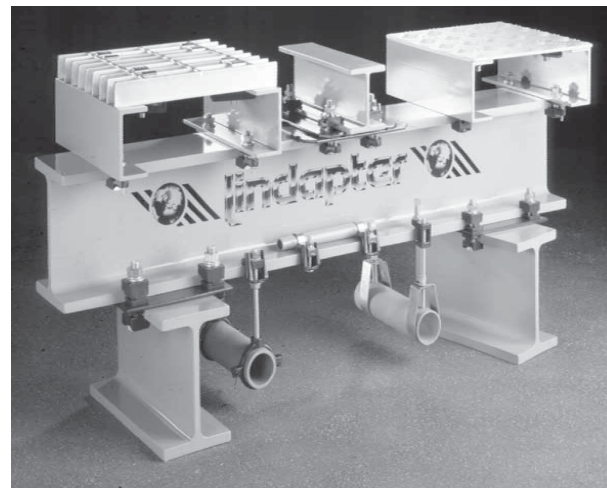
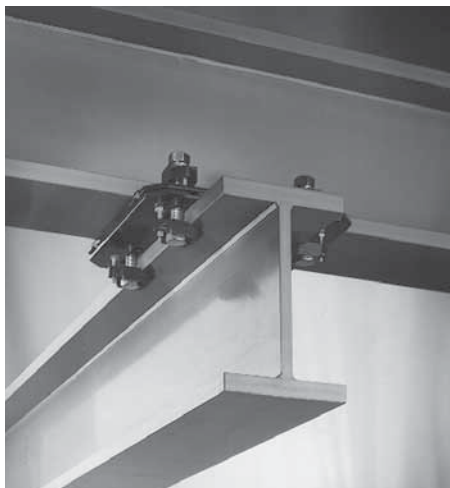
### Applications

One of the most important applications of the LINDAPTER-system of fixings is the girder clamp for securing secondary steelwork to structural members.

### Advantages:

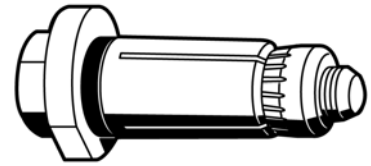
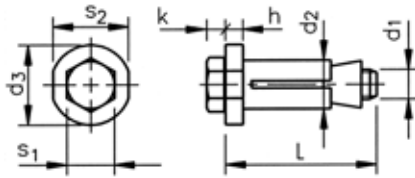
- all components available off the shelf and universally applicable
- no need for special fasteners
- no site drilling or welding necessary, ideal solution when drilling or welding is not allowed
- steelwork is not weakened
- versatile and simplified assembly
- no fitting and aligning work
- eliminates remedial work necessary due to adjustments
- the connection can be disassembled
- steelwork and protective coating are not damaged and can be re-used
- considerable cuts of installation time and labour costs especially on difficult and hazardous sites

### Technical data



For further technical data on sizes, loads, examples of application and assembly sequences, an extensive LINDAPTER brochure is available on request. For fixing hanging elements on steel structures, see *FABORY FASTCLIP*, see elsewhere in this catalogue.

## Hollo-bolt

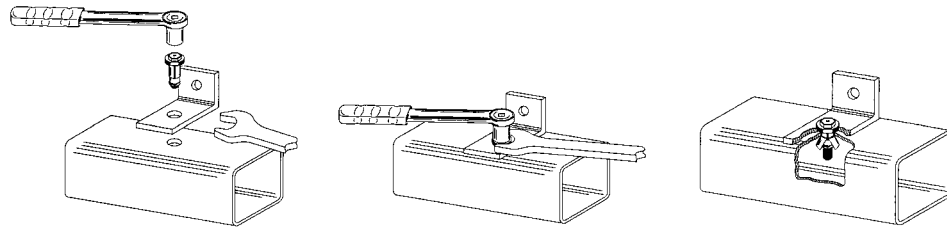


### Technical data

| d1                         | M8             | M10            | M12            | M16            | M20            |
|----------------------------|----------------|----------------|----------------|----------------|----------------|
| d <sub>2</sub> = drill ø   | 14 (+1,0/-0,2) | 18 (+1,0/-0,2) | 20 (+1,0/-0,2) | 26 (+2,0/-0,2) | 33 (+2,0/-0,2) |
| d <sub>3</sub>             | 22             | 28             | 32             | 38             | 51             |
| h                          | 5              | 6              | 7              | 8              | 10             |
| k                          | 5,3            | 6,4            | 7,5            | 10             | 12,5           |
| L                          | 50             | 55             | 60             | 75             | 90             |
| s <sub>1</sub>             | 13             | 17             | 19             | 24             | 30             |
| s <sub>2</sub>             | 19             | 24             | 30             | 36             | 46             |
| <b>Assembly data</b>       |                |                |                |                |                |
| Grip range (min.)          | 3              | 3              | 3              | 12             | 12             |
| Grip range (max.)          | 22             | 22             | 25             | 29             | 34             |
| Allowable load in kN (5:1) | 5              | 10             | 15             | 30             | 40             |
| Tightening torque in Nm    | 23             | 45             | 80             | 190            | 300            |

- A Hollo-bolt is simply inserted, through fixture and steelwork (cone end first), in a pre-drilled hole. Grip the Hollo-bolt collar with an open-ended spanner. Using a torque wrench, tighten the hexagonal bolt to the torque given by the table above.
- Allowable shear load. Application under dynamic load needs to be fixed carefully.
- The recommended tightening torque creates a limited clamping load in the assembly, the connection may **not** be compared with a regular bolt/nut assembly.
- For further technical data on sizes, loads, examples of application and assembly sequences, an extensive LINDAPTER brochure is available on request.

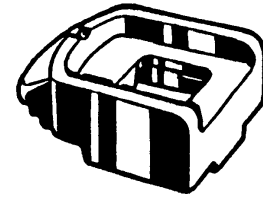
### Assembly sequence



| 61944 LINDAPTER Hollo-bolt |               | S05A |
|----------------------------|---------------|------|
| Thread                     | Metric thread |      |
| Material                   | Steel         |      |
| Surface treatment          | Zinc plated   |      |
| Packaging                  | Standard      |      |
| <b>lindapter</b>           |               |      |

| d1  | ☒   | Art.number                    | d1  | ☒  | Art.number                    | d1  | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M8  | 100 | <a href="#">61944.080.001</a> | M12 | 50 | <a href="#">61944.120.001</a> | M20 | 25 | <a href="#">61944.200.001</a> |
| M10 | 50  | <a href="#">61944.100.001</a> | M16 | 25 | <a href="#">61944.160.001</a> |     |    |                               |

## Steelworks fixing



- Technical brochure available on request.

### Article groups

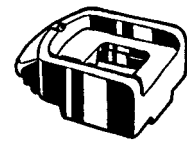
| Material | Surface treatment |           | Packaging | Code  | Page  |
|----------|-------------------|-----------|-----------|-------|-------|
| Mal.lr.  | Zipl              | A short   | Standard  | 61015 | 10-19 |
| Mal.lr.  | Hot d.g.          | A short   | Standard  | 61020 | 10-19 |
| Mal.lr.  | Zipl              | A medium  | Standard  | 61035 | 10-19 |
| Mal.lr.  | Hot d.g.          | A medium  | Standard  | 61040 | 10-20 |
| Mal.lr.  | Zipl              | A long    | Standard  | 61055 | 10-20 |
| Mal.lr.  | Hot d.g.          | A long    | Standard  | 61060 | 10-20 |
| Mal.lr.  | Zipl              | B short   | Standard  | 61115 | 10-20 |
| Mal.lr.  | Hot d.g.          | B short   | Standard  | 61120 | 10-20 |
| Mal.lr.  | Zipl              | B medium  | Standard  | 61135 | 10-21 |
| Mal.lr.  | Hot d.g.          | B medium  | Standard  | 61140 | 10-21 |
| Mal.lr.  | Zipl              | B long    | Standard  | 61155 | 10-21 |
| Mal.lr.  | Hot d.g.          | B long    | Standard  | 61165 | 10-21 |
| Cl       | Hot d.g.          | AF short  | Standard  | 61170 | 10-21 |
| Cl       | Hot d.g.          | AF medium | Standard  | 61180 | 10-22 |

#### 61015 LINDAPTER Steelwork fixing type A short

S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**<sup>®</sup>



| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10          | 100 | <a href="#">61015.100.001</a> | M16          | 50 | <a href="#">61015.160.001</a> | M24          | 20 | <a href="#">61015.240.001</a> |
| M12          | 100 | <a href="#">61015.120.001</a> | M20          | 50 | <a href="#">61015.200.001</a> |              |    |                               |

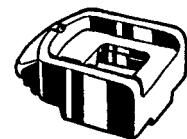
- With recess, incline max. 8°.

#### 61020 LINDAPTER Steelwork fixing type A short

S05A

|                          |                    |
|--------------------------|--------------------|
| <b>Material</b>          | Malleable iron     |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |

**lindapter**<sup>®</sup>



| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒ | Art.number |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M12          | 100 | <a href="#">61020.120.001</a> | M20          | 50 | <a href="#">61020.200.001</a> |              |   |            |
| M16          | 50  | <a href="#">61020.160.001</a> | M24          | 20 | <a href="#">61020.240.001</a> |              |   |            |

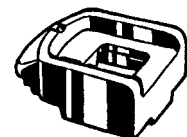
- With recess, incline max. 8°.

#### 61035 LINDAPTER Steelwork fixing type A medium

S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**<sup>®</sup>



| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10          | 100 | <a href="#">61035.100.001</a> | M16          | 50 | <a href="#">61035.160.001</a> | M24          | 20 | <a href="#">61035.240.001</a> |
| M12          | 100 | <a href="#">61035.120.001</a> | M20          | 50 | <a href="#">61035.200.001</a> |              |    |                               |

- With recess, incline max. 8°.

|   |                    |  |
|---|--------------------|--|
| <b>61040 LINDAPTER Steelwork fixing type A medium</b> |                    | <b>S05A</b>  |
| <b>Material</b>                                       | Malleable iron     |   |
| <b>Surface treatment</b>                              | Hot dip galvanized |  |
| <b>Packaging</b>                                      | Standard           |  |

| For boltsize | ✉   | Art.number                    | For boltsize | ✉  | Art.number                    | For boltsize | ✉ | Art.number |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M12          | 100 | <a href="#">61040.120.001</a> | M20          | 50 | <a href="#">61040.200.001</a> |              |   |            |
| M16          | 50  | <a href="#">61040.160.001</a> | M24          | 10 | <a href="#">61040.240.001</a> |              |   |            |

- With recess, incline max. 8°.

|   |                |  |
|---|----------------|--|
| <b>61055 LINDAPTER Steelwork fixing type A long</b> |                | <b>S05A</b>  |
| <b>Material</b>                                     | Malleable iron |   |
| <b>Surface treatment</b>                            | Zinc plated    |  |
| <b>Packaging</b>                                    | Standard       |  |

| For boltsize | ✉   | Art.number                    | For boltsize | ✉  | Art.number                    | For boltsize | ✉  | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10          | 100 | <a href="#">61055.100.001</a> | M16          | 50 | <a href="#">61055.160.001</a> | M24          | 20 | <a href="#">61055.240.001</a> |
| M12          | 100 | <a href="#">61055.120.001</a> | M20          | 50 | <a href="#">61055.200.001</a> |              |    |                               |

- With recess, incline max. 8°.

|   |                    |  |
|---|--------------------|--|
| <b>61060 LINDAPTER Steelwork fixing type A long</b> |                    | <b>S05A</b>  |
| <b>Material</b>                                     | Malleable iron     |   |
| <b>Surface treatment</b>                            | Hot dip galvanized |  |
| <b>Packaging</b>                                    | Standard           |  |

| For boltsize | ✉   | Art.number                    | For boltsize | ✉  | Art.number                    | For boltsize | ✉ | Art.number |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M12          | 100 | <a href="#">61060.120.001</a> | M20          | 50 | <a href="#">61060.200.001</a> |              |   |            |
| M16          | 50  | <a href="#">61060.160.001</a> | M24          | 10 | <a href="#">61060.240.001</a> |              |   |            |

- With recess, incline max. 8°.

|  |                |  |
|--|----------------|--|
| <b>61115 LINDAPTER Steelwork fixing type B short</b> |                | <b>S05A</b>  |
| <b>Material</b>                                      | Malleable iron |   |
| <b>Surface treatment</b>                             | Zinc plated    |  |
| <b>Packaging</b>                                     | Standard       |  |

| For boltsize | ✉   | Art.number                    | For boltsize | ✉  | Art.number                    | For boltsize | ✉  | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10          | 100 | <a href="#">61115.100.001</a> | M16          | 50 | <a href="#">61115.160.001</a> | M24          | 20 | <a href="#">61115.240.001</a> |
| M12          | 100 | <a href="#">61115.120.001</a> | M20          | 25 | <a href="#">61115.200.001</a> |              |    |                               |

- With flat top, incline max. 8°.

|  |                    |  |
|--|--------------------|--|
| <b>61120 LINDAPTER Steelwork fixing type B short</b> |                    | <b>S05A</b>  |
| <b>Material</b>                                      | Malleable iron     |   |
| <b>Surface treatment</b>                             | Hot dip galvanized |  |
| <b>Packaging</b>                                     | Standard           |  |

| For boltsize | ✉   | Art.number                    | For boltsize | ✉  | Art.number                    | For boltsize | ✉ | Art.number |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M12          | 100 | <a href="#">61120.120.001</a> | M20          | 25 | <a href="#">61120.200.001</a> |              |   |            |
| M16          | 50  | <a href="#">61120.160.001</a> | M24          | 20 | <a href="#">61120.240.001</a> |              |   |            |

- With flat top, incline max. 8°.

**61135 LINDAPTER Steelwork fixing type B medium** S05A

|                          |                |  |   |
|--------------------------|----------------|--|---|
| <b>Material</b>          | Malleable iron |  |  |
| <b>Surface treatment</b> | Zinc plated    |  |   |
| <b>Packaging</b>         | Standard       |  |   |

| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10          | 100 | <a href="#">61135.100.001</a> | M16          | 50 | <a href="#">61135.160.001</a> | M24          | 20 | <a href="#">61135.240.001</a> |
| M12          | 100 | <a href="#">61135.120.001</a> | M20          | 25 | <a href="#">61135.200.001</a> |              |    |                               |

- With flat top, incline max. 8°.

**61140 LINDAPTER Steelwork fixing type B medium** S05A

|                          |                    |  |   |
|--------------------------|--------------------|--|---|
| <b>Material</b>          | Malleable iron     |  |  |
| <b>Surface treatment</b> | Hot dip galvanized |  |   |
| <b>Packaging</b>         | Standard           |  |   |

| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒ | Art.number |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M12          | 100 | <a href="#">61140.120.001</a> | M20          | 10 | <a href="#">61140.200.001</a> |              |   |            |
| M16          | 50  | <a href="#">61140.160.001</a> | M24          | 10 | <a href="#">61140.240.001</a> |              |   |            |

- With flat top, incline max. 8°.

**61155 LINDAPTER Steelwork fixing type B long** S05A

|                          |                |  |   |
|--------------------------|----------------|--|---|
| <b>Material</b>          | Malleable iron |  |  |
| <b>Surface treatment</b> | Zinc plated    |  |   |
| <b>Packaging</b>         | Standard       |  |   |

| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒  | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M10          | 100 | <a href="#">61155.100.001</a> | M16          | 50 | <a href="#">61155.160.001</a> | M24          | 20 | <a href="#">61155.240.001</a> |
| M12          | 100 | <a href="#">61155.120.001</a> | M20          | 25 | <a href="#">61155.200.001</a> |              |    |                               |

- With flat top, incline max. 8°.

**61165 LINDAPTER Steelwork fixing type B long** S05A

|                          |                    |  |   |
|--------------------------|--------------------|--|---|
| <b>Material</b>          | Malleable iron     |  |  |
| <b>Surface treatment</b> | Hot dip galvanized |  |   |
| <b>Packaging</b>         | Standard           |  |   |

| For boltsize | ☒   | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒ | Art.number |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M12          | 100 | <a href="#">61165.120.001</a> | M20          | 25 | <a href="#">61165.200.001</a> |              |   |            |
| M16          | 50  | <a href="#">61165.160.001</a> | M24          | 20 | <a href="#">61165.240.001</a> |              |   |            |

- With flat top, incline max. 8°.

**61170 LINDAPTER Steelwork fixing type AF short** S05A

|                          |                    |  |   |
|--------------------------|--------------------|--|---|
| <b>Material</b>          | Cast iron          |  |  |
| <b>Surface treatment</b> | Hot dip galvanized |  |   |
| <b>Packaging</b>         | Standard           |  |   |

| For boltsize | ☒  | Art.number                    | For boltsize | ☒  | Art.number                    | For boltsize | ☒ | Art.number |
|--------------|----|-------------------------------|--------------|----|-------------------------------|--------------|---|------------|
| M16          | 10 | <a href="#">61170.160.001</a> | M20          | 10 | <a href="#">61170.200.001</a> |              |   |            |

- With flat top, incline max. 10°.

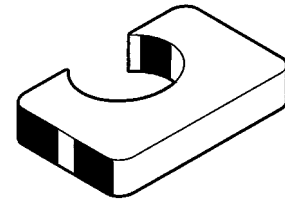
|  |                    |  |
|--|--------------------|--|
| <b>61180 LINDAPTER Steelwork fixing type AF medium</b> |                    | <b>S05A</b>  |
| <b>Material</b>  | Cast iron          |   |
| <b>Surface treatment</b>                               | Hot dip galvanized |  |
| <b>Packaging</b>                                       | Standard           |  |

| For boltsize | ☒  | Art.number                    | For boltsize | ☒ | Art.number | For boltsize | ☒ | Art.number |
|--------------|----|-------------------------------|--------------|---|------------|--------------|---|------------|
| M16          | 20 | <a href="#">61180.160.001</a> |              |   |            |              |   |            |
| M20          | 10 | <a href="#">61180.200.001</a> |              |   |            |              |   |            |

- With flat top, incline max. 10°.



## Packing



- Technical brochure available on request.

### Article groups

| Material | Surface treatment |          | Packaging | Code  | Page  |
|----------|-------------------|----------|-----------|-------|-------|
| St       | Zipl              | CW       | Standard  | 61415 | 10-23 |
| St       | Hot d.g.          | CW       | Standard  | 61420 | 10-23 |
| St       | Zipl              | P1 short | Standard  | 61515 | 10-23 |
| St       | Hot d.g.          | P1 short | Standard  | 61530 | 10-24 |
| St       | Zipl              | P2 short | Standard  | 61615 | 10-24 |
| St       | Hot d.g.          | P2 short | Standard  | 61630 | 10-24 |
| St       | Hot d.g.          | AF/CW    | Standard  | 61430 | 10-24 |
| St       | Hot d.g.          | AF/P1    | Standard  | 61435 | 10-24 |
| St       | Hot d.g.          | AF/P2    | Standard  | 61440 | 10-25 |
| St       | Zipl              | P1 long  | Standard  | 61555 | 10-25 |
| St       | Hot d.g.          | P1 long  | Standard  | 61570 | 10-25 |
| Cl       | Zipl              | P2 long  | Standard  | 61650 | 10-25 |
| Cl       | Hot d.g.          | P2 long  | Standard  | 61670 | 10-25 |

#### 61415 LINDAPTER Clipped washer type CW

S05A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

**lindapter**<sup>®</sup>



| For boltsize | ☒   | Art.number                    | For boltsize | ☒   | Art.number                    | For boltsize | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M10          | 250 | <a href="#">61415.100.001</a> | M16          | 250 | <a href="#">61415.160.001</a> | M24          | 100 | <a href="#">61415.240.001</a> |
| M12          | 250 | <a href="#">61415.120.001</a> | M20          | 100 | <a href="#">61415.200.001</a> |              |     |                               |

- Suitable for steelwork fixings type A, B and BR.

#### 61420 LINDAPTER Clipped washer type CW

S05A

|                          |                    |
|--------------------------|--------------------|
| <b>Material</b>          | Steel              |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |

**lindapter**<sup>®</sup>



| For boltsize | ☒   | Art.number                    | For boltsize | ☒   | Art.number                    | For boltsize | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| M10          | 250 | <a href="#">61420.100.001</a> | M16          | 250 | <a href="#">61420.160.001</a> | M24          | 100 | <a href="#">61420.240.001</a> |
| M12          | 250 | <a href="#">61420.120.001</a> | M20          | 100 | <a href="#">61420.200.001</a> |              |     |                               |

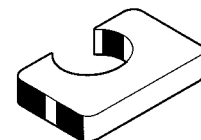
- Suitable for steelwork fixings type A, B and BR.

#### 61515 LINDAPTER Packing type P1 short

S05A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

**lindapter**<sup>®</sup>



| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|----|-------------------------------|
| M10 | 250 | <a href="#">61515.100.001</a> | M16 | 100 | <a href="#">61515.160.001</a> | M24 | 50 | <a href="#">61515.240.001</a> |
| M12 | 200 | <a href="#">61515.120.001</a> | M20 | 100 | <a href="#">61515.200.001</a> |     |    |                               |

- Suitable for steelwork fixings type A, B and BR.

|                          |  |  |
|--------------------------|--|--|
| <b>61530</b>             | <b>LINDAPTER Packing type P1 short</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                                  |   |
| <b>Surface treatment</b> | Hot dip galvanized                     |  |
| <b>Packaging</b>         | Standard                               |  |

| d   | ✉   | Art.number                    | d   | ✉   | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M12 | 200 | <a href="#">61530.120.001</a> | M20 | 100 | <a href="#">61530.200.001</a> |
| M16 | 100 | <a href="#">61530.160.001</a> | M24 | 10  | <a href="#">61530.240.001</a> |

- Suitable for steelwork fixings type A, B and BR.

|                          |  |  |
|--------------------------|--|--|
| <b>61615</b>             | <b>LINDAPTER Packing type P2 short</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                                  |   |
| <b>Surface treatment</b> | Zinc plated                            |  |
| <b>Packaging</b>         | Standard                               |  |

| d   | ✉   | Art.number                    | d   | ✉   | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|
| M10 | 100 | <a href="#">61615.100.001</a> | M16 | 100 | <a href="#">61615.160.001</a> |
| M12 | 200 | <a href="#">61615.120.001</a> | M20 | 50  | <a href="#">61615.200.001</a> |
|     |     |                               | M24 | 25  | <a href="#">61615.240.001</a> |

- Suitable for steelwork fixings type A, B and BR.

|                          |  |  |
|--------------------------|--|--|
| <b>61630</b>             | <b>LINDAPTER Packing type P2 short</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                                  |   |
| <b>Surface treatment</b> | Hot dip galvanized                     |  |
| <b>Packaging</b>         | Standard                               |  |

| d   | ✉   | Art.number                    | d   | ✉  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|
| M12 | 100 | <a href="#">61630.120.001</a> | M20 | 10 | <a href="#">61630.200.001</a> |
| M16 | 100 | <a href="#">61630.160.001</a> | M24 | 10 | <a href="#">61630.240.001</a> |

- Suitable for steelwork fixings type A, B and BR.

|                          |  |  |
|--------------------------|--|--|
| <b>61430</b>             | <b>LINDAPTER Clipped washer type AF/CW</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                                      |   |
| <b>Surface treatment</b> | Hot dip galvanized                         |  |
| <b>Packaging</b>         | Standard                                   |  |

| For boltsize | ✉  | Art.number                    | For boltsize | ✉  | Art.number                    |
|--------------|----|-------------------------------|--------------|----|-------------------------------|
| M16          | 10 | <a href="#">61430.160.001</a> | M20          | 10 | <a href="#">61430.200.001</a> |

- Suitable for high friction clamp type AF.

|                          |                                     |  |
|--------------------------|-------------------------------------|--|
| <b>61435</b>             | <b>LINDAPTER Packing type AF/P1</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                               |   |
| <b>Surface treatment</b> | Hot dip galvanized                  |  |
| <b>Packaging</b>         | Standard                            |  |

| d   | ✉  | Art.number                    | d   | ✉  | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|
| M16 | 10 | <a href="#">61435.160.001</a> | M20 | 10 | <a href="#">61435.200.001</a> |

- Suitable for high friction clamp type AF.

|                          |                                     |  |
|--------------------------|-------------------------------------|--|
| <b>61440</b>             | <b>LINDAPTER Packing type AF/P2</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                               |   |
| <b>Surface treatment</b> | Hot dip galvanized                  |  |
| <b>Packaging</b>         | Standard                            |  |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|-----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M16 | 10 | <a href="#">61440.160.001</a> | M20 | 10 | <a href="#">61440.200.001</a> |   |   |            |

- Suitable for high friction clamp type AF.

|                          |                                       |  |
|--------------------------|---------------------------------------|--|
| <b>61555</b>             | <b>LINDAPTER Packing type P1 long</b> | <b>S05A</b>  |
| <b>Material</b>          | Steel                                 |   |
| <b>Surface treatment</b> | Zinc plated                           |  |
| <b>Packaging</b>         | Standard                              |  |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d | ☒ | Art.number |
|-----|-----|-------------------------------|-----|-----|-------------------------------|---|---|------------|
| M10 | 100 | <a href="#">61555.100.001</a> | M16 | 100 | <a href="#">61555.160.001</a> |   |   |            |
| M12 | 100 | <a href="#">61555.120.001</a> | M20 | 50  | <a href="#">61555.200.001</a> |   |   |            |

- Suitable for steelwork fixings type D1, D2 and LR.

|                          |                                       |   |
|--------------------------|---------------------------------------|---|
| <b>61570</b>             | <b>LINDAPTER Packing type P1 long</b> | <b>S05A</b>   |
| <b>Material</b>          | Steel                                 |   |
| <b>Surface treatment</b> | Hot dip galvanized                    |   |
| <b>Packaging</b>         | Standard                              |   |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|-----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M12 | 10 | <a href="#">61570.120.001</a> | M20 | 10 | <a href="#">61570.200.001</a> |   |   |            |
| M16 | 10 | <a href="#">61570.160.001</a> | M24 | 10 | <a href="#">61570.240.001</a> |   |   |            |

- Suitable for steelwork fixings type D1, D2 and LR.

|                          |                                       |  |
|--------------------------|---------------------------------------|--|
| <b>61650</b>             | <b>LINDAPTER Packing type P2 long</b> | <b>S05A</b>  |
| <b>Material</b>          | Cast iron                             |   |
| <b>Surface treatment</b> | Zinc plated                           |  |
| <b>Packaging</b>         | Standard                              |  |

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|-----|-----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M10 | 10  | <a href="#">61650.100.001</a> | M16 | 10 | <a href="#">61650.160.001</a> |   |   |            |
| M12 | 100 | <a href="#">61650.120.001</a> | M20 | 10 | <a href="#">61650.200.001</a> |   |   |            |

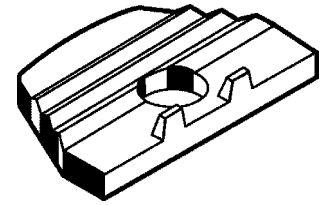
- Suitable for steelwork fixings type D2 and LR.

|                          |                                       |  |
|--------------------------|---------------------------------------|--|
| <b>61670</b>             | <b>LINDAPTER Packing type P2 long</b> | <b>S05A</b>  |
| <b>Material</b>          | Cast iron                             |   |
| <b>Surface treatment</b> | Hot dip galvanized                    |  |
| <b>Packaging</b>         | Standard                              |  |

| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|-----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M12 | 10 | <a href="#">61670.120.001</a> | M20 | 10 | <a href="#">61670.200.001</a> |   |   |            |
| M16 | 10 | <a href="#">61670.160.001</a> | M24 | 10 | <a href="#">61670.240.001</a> |   |   |            |

- Suitable for steelwork fixings type D2 and LR.

**Tip**



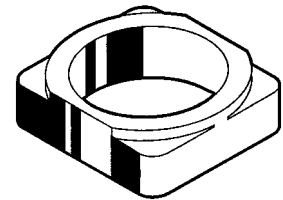
- Technical brochure available on request.

|                          |                             |  |
|--------------------------|-----------------------------|--|
| <b>61910</b>             | <b>LINDAPTER Tip type T</b> | <b>S05A</b>  |
| <b>Material</b>          | Cast iron                   |   |
| <b>Surface treatment</b> | Zinc plated                 |  |
| <b>Packaging</b>         | Standard                    |  |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d | ☒ | Art.number |
|-----|-----|-------------------------------|-----|-----|-------------------------------|---|---|------------|
| M12 | 10  | <a href="#">61910.120.001</a> | M20 | 250 | <a href="#">61910.200.001</a> |   |   |            |
| M16 | 500 | <a href="#">61910.160.001</a> | M24 | 10  | <a href="#">61910.240.001</a> |   |   |            |

- Suitable for steelwork fixings type A, B and D2.
- For filling under the nose.

**Deep washer**



- Technical brochure available on request.

|                          |                                     |  |
|--------------------------|-------------------------------------|--|
| <b>61810</b>             | <b>LINDAPTER Deep washer type W</b> | <b>S05A</b>  |
| <b>Material</b>          | Cast iron                           |   |
| <b>Surface treatment</b> | Zinc plated                         |  |
| <b>Packaging</b>         | Standard                            |  |



| d   | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|-----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M10 | 10 | <a href="#">61810.100.001</a> | M16 | 10 | <a href="#">61810.160.001</a> |   |   |            |
| M12 | 10 | <a href="#">61810.120.001</a> | M20 | 10 | <a href="#">61810.200.001</a> |   |   |            |

- Suitable for steelwork fixings type A and D2
- For filling the recess

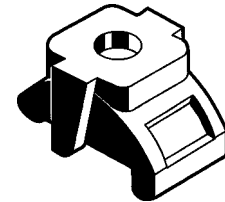
## High friction clamp




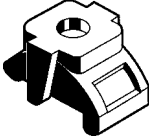
- Technical brochure available on request.

| 61265 LINDAPTER High friction clamp type CF |                                  | S05A   |                                  |
|---|----------------------------------|--|----------------------------------|
| <b>Material</b>                             | Malleable iron                   |   |                                  |
| <b>Surface treatment</b>                    | Hot dip galvanized               |  |                                  |
| <b>Packaging</b>                            | Standard                         |  |                                  |
| d   | ✉ Art.number                     | d  | ✉ Art.number                     |
| M12   | 25 <a href="#">61265.120.001</a> | M16  | 20 <a href="#">61265.160.001</a> |
|   |                                  | M20  | 10 <a href="#">61265.200.001</a> |

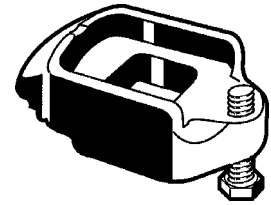
## Self-adjusting clamp



- Technical brochure available on request.

| 61951 LINDAPTER Self-adjusting clamp type LR |                                  | S05A   |                                  |
|--|----------------------------------|--|----------------------------------|
| <b>Material</b>                              | Malleable iron                   |   |                                  |
| <b>Surface treatment</b>                     | Zinc plated                      |  |                                  |
| <b>Packaging</b>                             | Standard                         |  |                                  |
| d  | ✉ Art.number                     | d  | ✉ Art.number                     |
| M10  | 50 <a href="#">61951.100.001</a> | M12  | 50 <a href="#">61951.120.001</a> |
|  |                                  | M16  | 25 <a href="#">61951.160.001</a> |

## Adjustable tail clamp and set screw tail



- Technical brochure available on request.


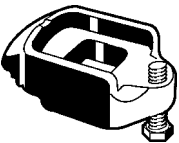
### Article groups

| Material | Surface treatment | Packaging | Code  | Page  |
|----------|-------------------|-----------|-------|-------|
| Mal.Ir.  | Zipl              | Standard  | 61290 | 10-28 |
| Mal.Ir.  | Hot d.g.          | Standard  | 61300 | 10-28 |

| 61290 LINDAPTER Adjustable tail clamp and set screw tail type D2 |                |  |  | S05A   |
|--|----------------|--|--|--|
| <b>Material</b>  | Malleable iron |  |  |   |
| <b>Surface treatment</b>   | Zinc plated    |  |  |  |
| <b>Packaging</b>   | Standard       |  |  |  |

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|-----|-----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M10 | 100 | <a href="#">61290.100.001</a> | M16 | 50 | <a href="#">61290.160.001</a> |   |   |            |
| M12 | 100 | <a href="#">61290.120.001</a> | M20 | 25 | <a href="#">61290.200.001</a> |   |   |            |

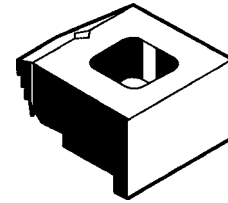
- With recess and setscrew tail.

| 61300 LINDAPTER Adjustable tail clamp and set screw tail type D2 |                    |  |  | S05A   |
|--|--------------------|--|--|--|
| <b>Material</b>  | Malleable iron     |  |  |   |
| <b>Surface treatment</b>   | Hot dip galvanized |  |  |  |
| <b>Packaging</b>   | Standard           |  |  |  |

| d   | ☒   | Art.number                    | d   | ☒  | Art.number                    | d   | ☒  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 100 | <a href="#">61300.120.001</a> | M16 | 50 | <a href="#">61300.160.001</a> | M20 | 10 | <a href="#">61300.200.001</a> |

- With recess and setscrew tail.

## Rail clip



- Technical brochure available on request.

### Article groups

| Material | Surface treatment |           | Packaging | Code  | Page  |
|----------|-------------------|-----------|-----------|-------|-------|
| Mal.ir.  | Zipl              | BR short  | Standard  | 61936 | 10-29 |
| Mal.ir.  | Zipl              | BR medium | Standard  | 61937 | 10-29 |
| Mal.ir.  | Hot d.g.          | BR short  | Standard  | 61938 | 10-29 |
| Mal.ir.  | Hot d.g.          | BR medium | Standard  | 61939 | 10-29 |

**61936 LINDAPTER Rail clip type BR short** S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**®

| d   | ✉   | Art.number                    | d   | ✉  | Art.number                    | d   | ✉  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 100 | <a href="#">61936.120.001</a> | M16 | 10 | <a href="#">61936.160.001</a> | M20 | 10 | <a href="#">61936.200.001</a> |

- With flat top, incline max. 8°.

**61937 LINDAPTER Rail clip type BR medium** S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**®

| d   | ✉   | Art.number                    | d   | ✉  | Art.number                    | d   | ✉  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 100 | <a href="#">61937.120.001</a> | M16 | 50 | <a href="#">61937.160.001</a> | M20 | 10 | <a href="#">61937.200.001</a> |

- With flat top, incline max. 8°.

**61938 LINDAPTER Rail clip type BR short** S05A

|                          |                    |
|--------------------------|--------------------|
| <b>Material</b>          | Malleable iron     |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |

**lindapter**®

| d   | ✉  | Art.number                    | d   | ✉  | Art.number                    | d   | ✉  | Art.number                    |
|-----|----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 10 | <a href="#">61938.120.001</a> | M16 | 10 | <a href="#">61938.160.001</a> | M20 | 10 | <a href="#">61938.200.001</a> |

- With flat top, incline max. 8°.

**61939 LINDAPTER Rail clip type BR medium** S05A

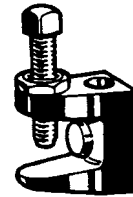
|                          |                    |
|--------------------------|--------------------|
| <b>Material</b>          | Malleable iron     |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |

**lindapter**®

| d   | ✉   | Art.number                    | d   | ✉  | Art.number                    | d   | ✉  | Art.number                    |
|-----|-----|-------------------------------|-----|----|-------------------------------|-----|----|-------------------------------|
| M12 | 100 | <a href="#">61939.120.001</a> | M16 | 50 | <a href="#">61939.160.001</a> | M20 | 10 | <a href="#">61939.200.001</a> |

- With flat top, incline max. 8°.

## Flange clamp



- Technical brochure available on request.

### Article groups

| Material | Surface treatment |     | Packaging | Code  | Page  |
|----------|-------------------|-----|-----------|-------|-------|
| Mal.Ir.  | Zipl              | FLS | Standard  | 61860 | 10-30 |
| Mal.Ir.  | Zipl              | LC  | Standard  | 61317 | 10-30 |
| Mal.Ir.  | Zipl              | FL  | Standard  | 61355 | 10-30 |
| Mal.Ir.  | Hot d.g.          | F3  | Standard  | 61390 | 10-30 |

**61860 LINDAPTER Hinge flange clamp type FLS** S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**

| For drop rod/typenr. | Art.number                       | For drop rod/typenr. | Art.number | For drop rod/typenr. | Art.number |
|----------------------|----------------------------------|----------------------|------------|----------------------|------------|
| M10                  | 10 <a href="#">61860.100.001</a> |                      |            |                      |            |

**61317 LINDAPTER Flange clamp type LC with set screw and nut** S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**

| For drop rod/typenr. | Art.number                        | For drop rod/typenr. | Art.number | For drop rod/typenr. | Art.number |
|----------------------|-----------------------------------|----------------------|------------|----------------------|------------|
| M6 LC06              | 100 <a href="#">61317.060.001</a> |                      |            |                      |            |

**61355 LINDAPTER Flange clamp type FL with set screw and nut** S05A

|                          |                |
|--------------------------|----------------|
| <b>Material</b>          | Malleable iron |
| <b>Surface treatment</b> | Zinc plated    |
| <b>Packaging</b>         | Standard       |

**lindapter**

| For drop rod/typenr. | Art.number                        | For drop rod/typenr. | Art.number                       | For drop rod/typenr. | Art.number |
|----------------------|-----------------------------------|----------------------|----------------------------------|----------------------|------------|
| M8 FL1               | 100 <a href="#">61355.080.001</a> | M12 FL3              | 50 <a href="#">61355.120.001</a> |                      |            |
| M10 FL2              | 50 <a href="#">61355.100.001</a>  | M12 FL4              | 25 <a href="#">61355.120.004</a> |                      |            |

- Approved by VdS and FM.

10

**61390 LINDAPTER Universal flange clamp type F3** S05A

|                          |                    |
|--------------------------|--------------------|
| <b>Material</b>          | Malleable iron     |
| <b>Surface treatment</b> | Hot dip galvanized |
| <b>Packaging</b>         | Standard           |

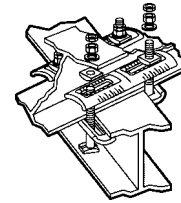
**lindapter**

| For drop rod/typenr. | Art.number                        | For drop rod/typenr. | Art.number | For drop rod/typenr. | Art.number |
|----------------------|-----------------------------------|----------------------|------------|----------------------|------------|
| M12                  | 100 <a href="#">61390.120.001</a> |                      |            |                      |            |
| M16                  | 25 <a href="#">61390.160.001</a>  |                      |            |                      |            |

- Approved by FM



## Flush clamp

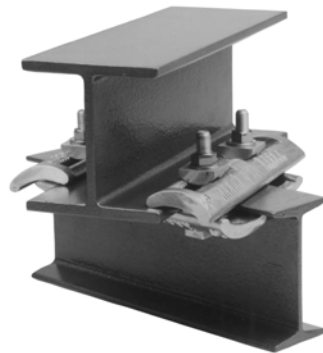


### Technical data

|                                |        |
|--------------------------------|--------|
| Nom.size                       | M16    |
| Flange width/adjustability     | 75-180 |
| Flange thickness/adjustability | 5-19   |
| <b>Assembly data</b>           |        |
| Max. load in kN (5:1)          | 30     |
| Tightening torque in Nm        | 147    |

- FLUSH CLAMP is an adjustable steelwork connection that clamps the flanges of two steel beams together without the use of a location plate. This assembly forms a clamp that is suitable for connecting beams of varying flange widths and thicknesses.
- Contents FLUSH CLAMP set: 4 each of six basic components: special body, special bolts, special washers, flat washers, hexagon nuts and half nuts.
- Technical brochure available on request.

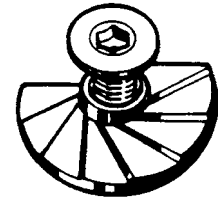
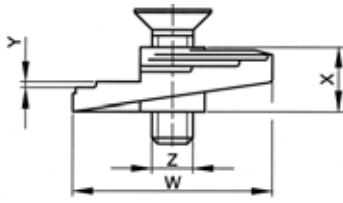
### Example of application



|                                    |               |  |
|------------------------------------|---------------|--|
| <b>61850 LINDAPTER Flush clamp</b> |               | <b>S05A</b>  |
| <b>Thread</b>                      | Metric thread |   |
| <b>Material</b>                    | Steel         |  |
| <b>Surface treatment</b>           | Zinc plated   |  |
| <b>Packaging</b>                   | Standard      |  |

| Nom. size | ✉ | Art.number                    | Nom. size | ✉ | Art.number | Nom. size | ✉ | Art.number |
|-----------|---|-------------------------------|-----------|---|------------|-----------|---|------------|
| M16       | 1 | <a href="#">61850.160.001</a> |           |   |            |           |   |            |

## Floorfast

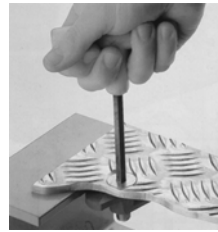
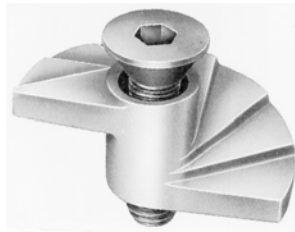


### Technical data

| Z | M8   | M10 | M12  |
|---|------|-----|------|
| P | 1,25 | 1,5 | 1,75 |
| Y | 2    | 2   | 2    |
| X | 20   | 20  | 20   |
| W | 60   | 60  | 60   |

- The FLOORFAST, fixing for chequerplate flooring, enables steel floorplates to be fixed from above, by one man only, using simply a tee-handled hexagon key. There is no need for access from below and no site drilling or welding is required.
- Technical brochure available on request.

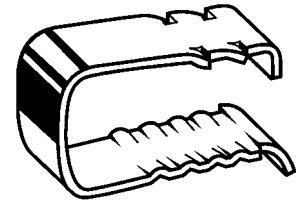
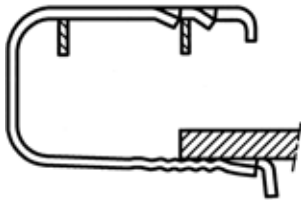
### Assembly sequence



| 61941 LINDAPTER Floorfast |                | S05A   |
|---------------------------|----------------|--|
| Thread                    | Metric thread  |   |
| Material                  | Malleable iron |  |
| Surface treatment         | Zinc plated    |  |
| Packaging                 | Standard       |  |

| Z  | ☒  | Art.number                    | Z   | ☒  | Art.number                    | Z   | ☒   | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|-----|-------------------------------|
| M8 | 50 | <a href="#">61941.080.001</a> | M10 | 50 | <a href="#">61941.100.001</a> | M12 | 100 | <a href="#">61941.120.001</a> |

## GF 3030 Clip

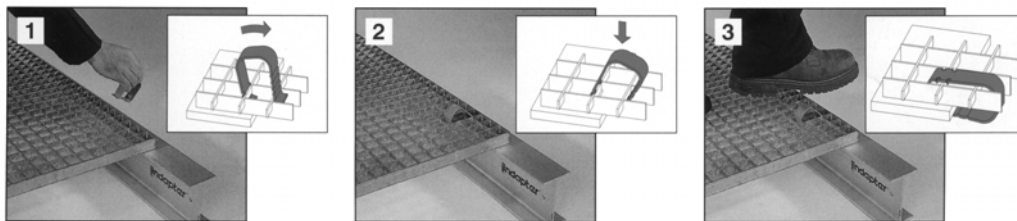


### Technical data

|                              |             |
|------------------------------|-------------|
| Type                         | GF3030      |
| <b>Assembly data</b>         |             |
| Total clamping thickness     | 38-43-48    |
| Clamping force par clip in N | 340-530-680 |

- The GF 3030 is a groundbreaking product that enables the connection of European style 30 x 30 floor grating to steel sections.
- The product's ingenuity lies in its place and stand installation method, which can be carried out by one person only, working from above, without the need to drill or weld.
- Not only does this significant cost savings, but maintains the integrity of existing steelwork.
- The GF 3030 is designed specifically for use with 30 mm depth floor grating. It is however possible to use the product on other grating depths, providing the total fixing thickness (grating depth + steelwork flange thickness) is between 38 mm (minimum) and 48 mm (maximum). The steelwork flange thickness range is 8-18 mm.
- Sheradized acc. to BS 4921 Class 1 (380°C max.) plus passivation and one coat of silver Delta Seal.
- Technical brochure available on request.

### Assembly data

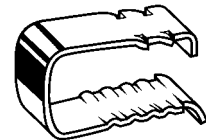


61942 LINDAPTER GF 3030 Clip

S05A

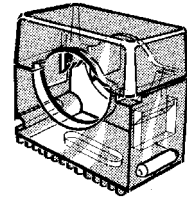
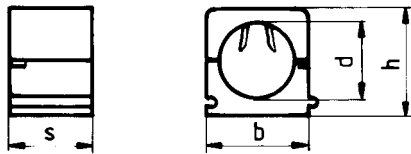
**Material** Spring steel  
**Surface treatment** Sheraplex  
**Packaging** Standard

**lindapter**



| Type    | ✉ | Art.number | Type                          | ✉ | Art.number | Type | ✉ | Art.number |
|---------|---|------------|-------------------------------|---|------------|------|---|------------|
| GF 3030 | ✉ | 100        | <a href="#">61942.001.770</a> |   |            |      |   |            |

## Saddle

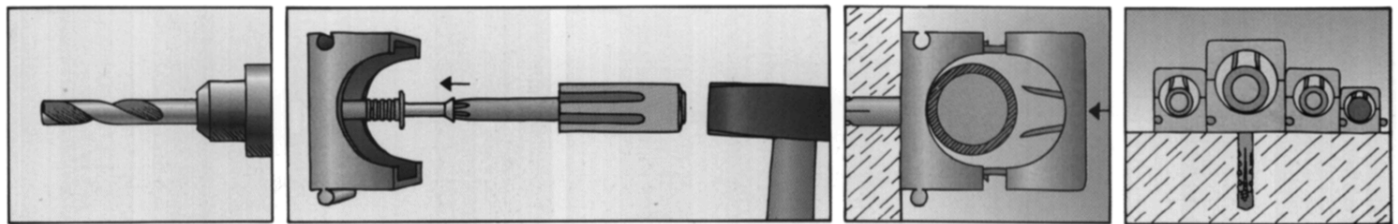


### Technical data

| Type     | h    | b    | s    | Cable/pipe diameter d | Pull-out force in N |
|----------|------|------|------|-----------------------|---------------------|
| SCH 812  | 23,1 | 21,5 | 16,5 | 8-12                  | 0,09                |
| SCH 1216 | 28,7 | 27,5 | 16,5 | 12-16                 | 0,2                 |
| SCH 1619 | 37,6 | 32,5 | 16,5 | 16-19                 | 0,2                 |
| SCH 1623 | 37,6 | 36   | 16,5 | 16-23                 | 0,2                 |
| SCH 2332 | 50   | 46,5 | 16,5 | 23-32                 | 0,3                 |
| SCH 3242 | 62   | 53,5 | 16,5 | 32-42                 | 0,4                 |

- Side coupling can be extended to 4 saddles in line.
- Pull-out force (breaking force) required to force off the saddle cap. It is advised to take a safetyfactor:  $\geq 7$ .

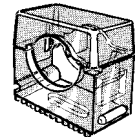
### Assembly sequence



### 63500 FISCHER Saddle type SCH

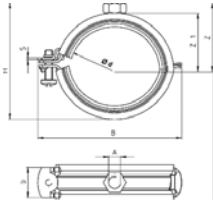
N03B

**Material** Plastic Polyamide (nylon)  
**Packaging** Standard



| Type        | ☒   | Art.number                    | Type        | ☒  | Art.number                    | Type    | ☒  | Art.number                    |
|-------------|-----|-------------------------------|-------------|----|-------------------------------|---------|----|-------------------------------|
| SCH 8-12MM  | 100 | <a href="#">63500.008.013</a> | SCH 16-19MM | 50 | <a href="#">63500.016.019</a> | 23-32MM | 25 | <a href="#">63500.023.032</a> |
| SCH 12-16MM | 50  | <a href="#">63500.012.016</a> | SCH 16-23MM | 50 | <a href="#">63500.016.023</a> | 32-42MM | 25 | <a href="#">63500.032.042</a> |

## Hinged pipe clamp

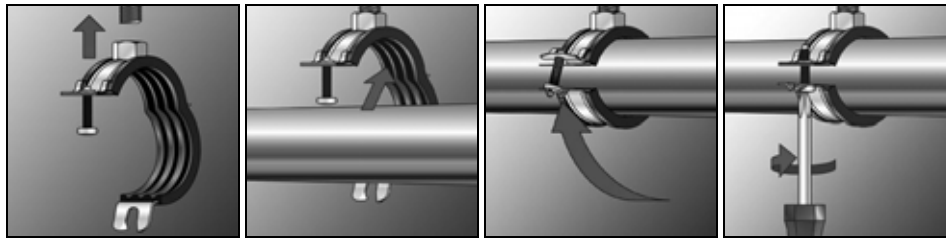


### Technical data

| ø d       | 15-19     | 20-24     | 25-30     | 32-37     | 40-45    | 48-53    | 59-63    |
|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| N         | 0.60      | 0.60      | 0.60      | 0.8       | 0.8      | 0.8      | 0.8      |
| Pipe size | 3/8"      | 1/2"      | 3/4"      | 1"        | 1.1/4"   | 1.1/2"   | 2"       |
| d x L     | M5 x 25   | M5 x 25   | M5 x 25   | M5 x 25   | M5 x 30  | M5 x 30  | M5 x 30  |
| A         | M8        | M8        | M8        | M8        | M8       | M8       | M8       |
| h         | 6.8       | 6.8       | 6.8       | 6.8       | 6.8      | 6.8      | 6.8      |
| b x s     | 20 x 1.25 | 20 x 1.25 | 20 x 1.25 | 20 x 1.25 | 20 x 1.5 | 20 x 1.5 | 20 x 1.5 |
| B         | 52        | 58        | 63        | 72        | 79       | 88       | 99       |
| H         | 40        | 45        | 49        | 57        | 66       | 76       | 85       |
| Z         | 24        | 26        | 28        | 32        | 36       | 41       | 46       |
| Z1        | 17        | 19        | 21        | 25        | 30       | 35       | 39       |

- N = Max. recom. static load (centr. tension) [kN].

### Assembly sequence



- Insert pipe, press together clamp parts, engage locking screw and tighten.

### 64100 FISCHER Hinged pipe clamp FGRS Plus

N02A

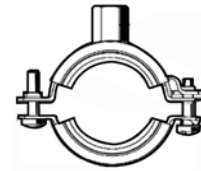
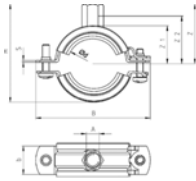
Packaging Standard



| Grip range | ☒   | Art.number                    | Grip range | ☒   | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|----|-------------------------------|
| 15-19      | 100 | <a href="#">64100.015.019</a> | 32-37      | 100 | <a href="#">64100.032.037</a> | 59-63      | 50 | <a href="#">64100.059.063</a> |
| 20-24      | 100 | <a href="#">64100.020.024</a> | 40-45      | 50  | <a href="#">64100.040.045</a> |            |    |                               |
| 25-30      | 100 | <a href="#">64100.025.030</a> | 48-53      | 50  | <a href="#">64100.048.053</a> |            |    |                               |

- One-piece hinged pipe clamp with patented rapid locking and readjusting mechanism.
- Sound insulation for DIN 4109.
- Advantages / Benefits.
- Quick-connect permits a simple and fast installation with one hand.
- Hinged pipe clamp can open wide for easy insertion of the pipe.
- Time and energy saving insertion of the pipe in overhead installation.
- For fastening:
- Pipe lines to walls, ceilings and floors in the sanitary and heating area.
- Properties:
- Material: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
- Zinc plating :Electro zinc plated, 5 - 9 µm.
- Connecting nut (FGRS Plus): Resistance welded, M 8, SW 13.
- Locking screw (FGRS Plus): Flat head screw with combination recessed head.
- Sound insulation insert: Material: SBR/EPDM; chlorine-free; silicone-free.
- Sound insulation for: DIN 4109.
- Temperature range: -50° to +110°C.
- Hardness: 45 +/- 5° Shore.
- Fire behavior: DIN 4102: class B2.

## Pipe clamp

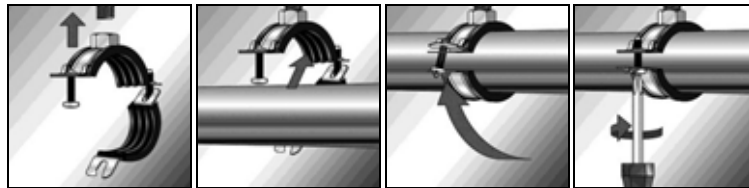


### Technical data

| ø d    | N    | Pipe size | d x L   | A      | h  | b x s     | B   | H   | Z  | Z1 | Z2 |
|--------|------|-----------|---------|--------|----|-----------|-----|-----|----|----|----|
| 15-19  | 0.8  | 3/8"      | M5 x 25 | M8/M10 | 17 | 20 x 1.25 | 61  | 51  | 34 | 17 | 27 |
| 20-24  | 0.8  | 1/2"      | M5 x 25 | M8/M10 | 17 | 20 x 1.25 | 66  | 56  | 36 | 19 | 29 |
| 25-30  | 0.8  | 3/4"      | M5 x 25 | M8/M10 | 17 | 20 x 1.25 | 72  | 62  | 39 | 22 | 32 |
| 32-37  | 0.8  | 1"        | M5 x 25 | M8/M10 | 17 | 20 x 1.25 | 79  | 67  | 42 | 25 | 35 |
| 40-45  | 1.00 | 1.1/4"    | M5 x 30 | M8/M10 | 17 | 20 x 1.25 | 86  | 78  | 48 | 31 | 41 |
| 48-53  | 1.00 | 1.1/2"    | M5 x 30 | M8/M10 | 17 | 20 x 1.5  | 94  | 83  | 50 | 33 | 43 |
| 59-63  | 1.40 | 2"        | M6 x 30 | M8/M10 | 17 | 20 x 1.5  | 114 | 96  | 57 | 40 | 50 |
| 62-64  | 1.40 | -         | M6 x 30 | M8/M10 | 17 | 25 x 2.0  | 114 | 96  | 57 | 40 | 50 |
| 68-73  | 1.40 | -         | M6 x 30 | M8/M10 | 17 | 25 x 2.0  | 124 | 108 | 63 | 46 | 56 |
| 74-78  | 1.80 | 2.1/2"    | M6 x 30 | M8/M10 | 17 | 25 x 2.0  | 129 | 113 | 65 | 48 | 58 |
| 80-86  | 1.80 | -         | M6 x 30 | M8/M10 | 17 | 25 x 2.0  | 133 | 115 | 66 | 49 | 59 |
| 89-92  | 1.80 | 3"        | M6 x 30 | M8/M10 | 17 | 25 x 2.0  | 142 | 125 | 71 | 54 | 64 |
| 95-103 | 1.80 | -         | M6 x 30 | M8/M10 | 17 | 25 x 2.0  | 156 | 140 | 79 | 62 | 72 |

- N = Max. recom. static load (centr. tension) [kN].

### Assembly sequence



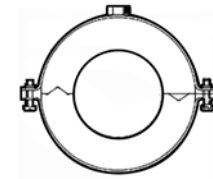
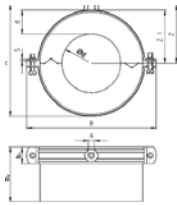
- Insert pipe, press together clamp parts, engage locking screw and tighten.

|   |             |
|---|-------------|
| <b>64108 FISCHER Pipe clamp FRS Plus</b>  | <b>N02A</b> |
| <b>Packaging</b>  | Standard    |
|   |             |

| Grip range | ☒   | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|-----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 15-19      | 100 | <a href="#">64108.015.019</a> | 48-53      | 50 | <a href="#">64108.048.053</a> | 80-86      | 25 | <a href="#">64108.080.086</a> |
| 20-24      | 100 | <a href="#">64108.020.024</a> | 59-63      | 50 | <a href="#">64108.059.063</a> | 89-92      | 25 | <a href="#">64108.089.092</a> |
| 25-30      | 100 | <a href="#">64108.025.030</a> | 62-64      | 25 | <a href="#">64108.062.064</a> | 95-103     | 25 | <a href="#">64108.095.103</a> |
| 32-37      | 100 | <a href="#">64108.032.037</a> | 68-73      | 25 | <a href="#">64108.068.073</a> |            |    |                               |
| 40-45      | 50  | <a href="#">64108.040.045</a> | 74-78      | 25 | <a href="#">64108.074.078</a> |            |    |                               |

- Two-piece pipe clamp with patented rapid locking and readjusting mechanism.
- Sound insulation for DIN 4109.
- Connecting nut with combination thread M8 / M10.
- Advantages / Benefits
- Quick-connect permits simple and fast installation.
- Large opening angle for easy insertion of the pipes.
- Because of reliable click mechanism, the pipe can be preinstalled and adjusted easily.
- Time and energy saving insertion of the pipes for overhead installation.
- For fastening pipe lines, such as heating, sanitary and waste water pipes, to walls, ceilings and floors.
- Properties:
- Material: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
- Zinc plating: Electro zinc plated, 5 - 9 µm.
- Connecting nut: Resistance welded, M 8/M 10, SW 13.
- Locking screw: Flat head screw with combination recessed head.
- Sound insulation insert: Material: SBR/EPDM; chlorine-free; silicone-free.
- Sound insulation for DIN 4109.
- Temperature range: -50° to +110°C.
- Hardness: 45 +- 5° Shore.
- Fire behavior: DIN 4102: class B2.

## Refrigeration pipe clamp



### Technical data

|                    |         |
|--------------------|---------|
| ø d                | 21      |
| N                  | 0.06    |
| M                  | 1.5     |
| Pipe size          | 1/2"    |
| b <sub>2</sub> x d | 40 x 30 |

|     |     |
|-----|-----|
| ø d | 21  |
| A   | M8  |
| B   | 126 |
| h   | 6.8 |
| H   | 92  |

|     |    |
|-----|----|
| ø d | 21 |
| Z   | 60 |
| Z1  | 53 |

- N = Max. recom. static load (centr. tension) [kN].
- M = Max. recom. span [m].

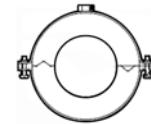
### Assembly data

- Apply corrosion protection to pipe line.
- Insert pipe, pull protective film from insulation and glue.
- Screw together clamp parts.
- On front side, glue sealing insulation to refrigeration clamp.

64122 FISCHER Refrigeration pipe clamp FRS F

N02A

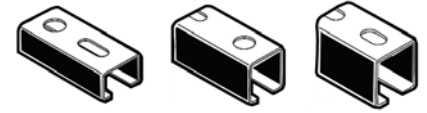
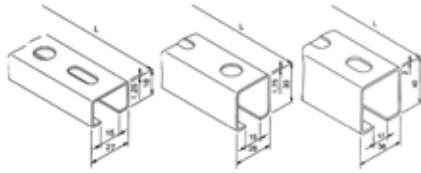
Packaging Standard



| ø x d | Art.number | ø x d         | Art.number | ø x d | Art.number |
|-------|------------|---------------|------------|-------|------------|
| 21/30 | 1          | 64122.021.030 |            |       |            |

- Two-piece pipe clamp with PU hard foam shell.
- Insulation with self-adhesive seal.
- Advantages / Benefits:
- PU insulation element for high insulating effect.
- Compression-resistant PU hard foam for load absorption.
- Steam diffusion-tight due to Alu outer shroud.
- High aging resistance.
- Step-shaped sealing joints on the insulation for better sealing.
- Simple installation due to large opening angle.
- Locking screw with large combination recessed head is secured against loss.
- For fastening:
- Pipes in refrigeration and air conditioning technology with PU insulation.
- Properties:
- Material closed-cell polyurethane foam.
- Diffusion resistance 2500 K.
- Density 80 kg/m<sup>3</sup>.
- Compressive strength 0.6 N/mm<sup>2</sup>.
- Heat conductivity (at 0°C) 0.030 W/(m\*K).
- Locking screw: Flat head screw with combination recessed head.
- Temperature range - 40 °C to + 80 °C.
- Fire behavior: DIN 4102: class B2.

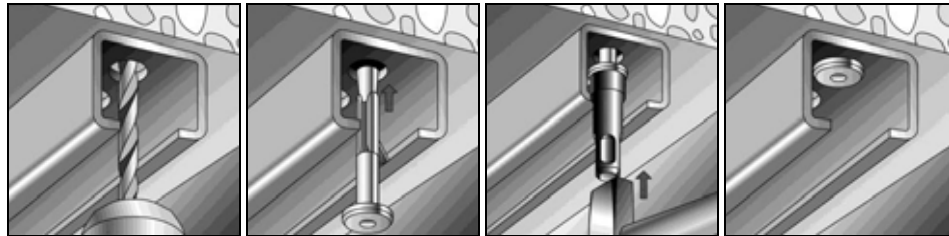
## Channel



### Technical data

| Profile        | 27/18         | 28/30         | 38/40         |
|----------------|---------------|---------------|---------------|
| B              | 27            | 28            | 38            |
| H              | 18            | 30            | 40            |
| L              | 2000          | 2000          | 2000          |
| Profile        | 27/18/1.25-2m | 28/30/1.75-2m | 38/40/2.00-2m |
| P <sub>1</sub> | 0.84          | 1.59          | 2.55          |
| P <sub>2</sub> | 1.25          | 1.75          | 2             |
| ly             | 0.36          | 1.77          | 5.39          |
| lz             | 0.96          | 2.09          | 6.18          |
| Wx             | 0.34          | 1.02          | 2.4           |
| Wy             | 0.71          | 1.49          | 3.25          |

### Assembly sequence



- Good fastening possibilities using suitable fixing.

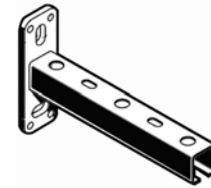
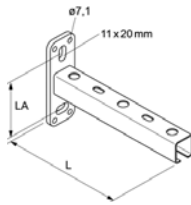
|  |                           |   |
|--|---------------------------|---|
| <b>64130</b>   | <b>FISCHER Channel MS</b> | <b>N02A</b>   |
| <b>Packaging</b>   | Standard                  |   |
|  |                           |  |

| B x H x L  | ✉ | Art.number                    | B x H x L  | ✉ | Art.number                    | B x H x L  | ✉ | Art.number                    |
|------------|---|-------------------------------|------------|---|-------------------------------|------------|---|-------------------------------|
| 27/18 2000 | 1 | <a href="#">64130.027.182</a> | 28/30 2000 | 1 | <a href="#">64130.028.302</a> | 38/40 2000 | 1 | <a href="#">64130.038.402</a> |

- Channel as C profile for the save installation of fastenings can be horizontally and vertically adjusted.
- Fast and streamlined fastening of pipe tracks and load-bearing constructions.
- Advantages / Benefits:
  - High bending and pull-out strength due to optimized profile cross section.
  - High flexibility due to different hole geometries.
  - Versatile options for wall, floor and ceiling installation.
  - Specially synchronised connection parts allow for assembly of simple, safe and versatile load bearing constructions.
  - Simple cutting and installation due to stamped grid dimensions on the rail side.
- For fastening:
  - Pipe tracks and pipe lines.
  - Ventilation ducts.
- Material: Steel DX51D+Z 275 NA-C (material no. 1.0226+Z) acc. to DIN EN 10327.
- Zinc plating: Sendzimir zinc plated, approx. 20 µm.



## Cantilever arm



### Technical data

| Profile x L | Profile | Base plate   | L   | LA |
|-------------|---------|--------------|-----|----|
| 27/18-200   | 27/18   | 120 x 40 x 4 | 200 | 79 |
| 27/18-300   | 27/18   | 120 x 40 x 4 | 300 | 79 |
| 28/30-320   | 28/30   | 120 x 40 x 4 | 320 | 79 |
| 28/30-440   | 28/30   | 120 x 40 x 4 | 440 | 79 |
| 38/40-360   | 38/40   | 120x 40 x 6  | 360 | 79 |
| 38/40-520   | 38/40   | 120 x 40 x 6 | 520 | 79 |
| 38/40-600   | 38/40   | 120 x 40 x 6 | 600 | 79 |

- LA = Hole spacing [mm].

### Assembly data

- Good fastening possibilities using suitable fixing.
- Slots in the base plate offer good height adjustment.

### 64134 FISCHER Cantilever arm ALK

N02A

Packaging Standard



| Profile x L   | ☒  | Art.number                    | Profile x L   | ☒  | Art.number                    | Profile x L   | ☒  | Art.number                    |
|---------------|----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| ALK 38/40-600 | 10 | <a href="#">64134.020.929</a> | ALK 28/30-320 | 10 | <a href="#">64134.079.578</a> | ALK 38/40-520 | 10 | <a href="#">64134.079.582</a> |
| ALK 27/18-200 | 20 | <a href="#">64134.079.575</a> | ALK 28/30-440 | 10 | <a href="#">64134.079.579</a> |               |    |                               |
| ALK 27/18-300 | 20 | <a href="#">64134.079.576</a> | ALK 38/40-360 | 10 | <a href="#">64134.079.581</a> |               |    |                               |

- Channels as C profile with a welded base plate.
- Mainly for pipe mounting directly on the wall but also for fastenings and structures on the ceiling and in the floor area.
- ALK Q with base plate welded on laterally.
- Advantages / Benefits:
- Fast and simple installation of pipe lines.
- Stable base plate for load-bearing constructions.
- Versatile usage possibilities for stepped lengths.
- Slots in the rail offer versatile installation possibilities.
- For fastening:
- Pipe tracks and pipe lines.
- Ventilation ducts.
- Cable trays.
- Fittings and equipment.
- Properties:
- Zinc plating: Electro zinc plated, min. 8  $\mu\text{m}$ .
- Material:
- Base plate: Steel DC01 (material no. 1.0330) acc. to DIN EN 10111.
- Channel: Steel S235JR (material no. 1.0037) acc. to DIN EN 1025.

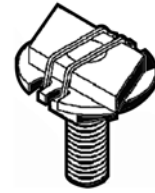
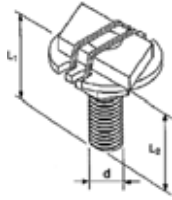
**Cover cap**



|                                   |  |   |
|-----------------------------------|--|---|
| <b>64132 FISCHER Cover cap AK</b> |  | <b>N02A</b>   |
| <b>Material</b>                   | Plastic Polyethylene   |   |
| <b>Packaging</b>                  | Standard   |   |
|                                   |  |  |

| Type     | ✉   | Art.number                    | Type     | ✉   | Art.number                    | Type     | ✉  | Art.number                    |
|----------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| AK 27/18 | 100 | <a href="#">64132.027.018</a> | AK 28/30 | 100 | <a href="#">64132.028.030</a> | AK 38/40 | 50 | <a href="#">64132.038.040</a> |

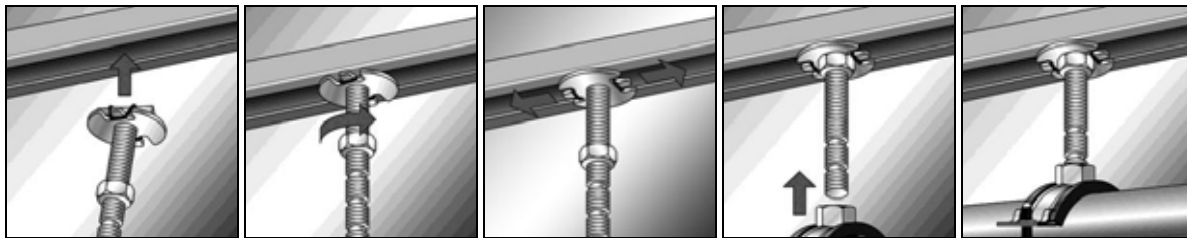
## T-head bolt clix



### Technical data

| d x L1         | M8x30             | M8x40             |
|----------------|-------------------|-------------------|
| Profile        | 27/18+28/30+30/15 | 27/18+28/30+30/15 |
| L <sub>1</sub> | 30                | 40                |
| L <sub>2</sub> | 25                | 35                |

### Assembly sequence



- Introduce T-head bolt into the rail or bracket and turn.
- After the alignment, the T-head bolt should be secured with the nut.

64162 FISCHER T-head bolt FHS clix

N02A

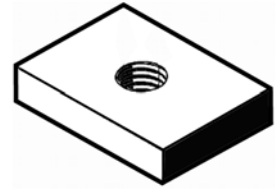
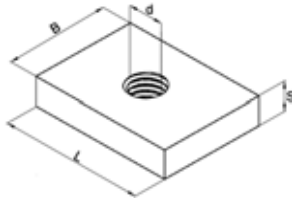
Packaging Standard



| d x L1 | ☒   | Art.number                    | d x L1 | ☒ | Art.number | d x L1 | ☒ | Art.number |
|--------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| 8X30   | 100 | <a href="#">64162.080.030</a> |        |   |            |        |   |            |
| 8X40   | 100 | <a href="#">64162.080.040</a> |        |   |            |        |   |            |

- FHS Clix N – patented T-head bolt with grooved pin.
- Grooved pin can be shortened using bolt cutter.
- FHS Clix – for small rail profiles (27/18, 28/30, 30/15)
- Advantages / Benefits:
- Patented safety mechanism.
- Simple, fast and effective installation.
- Fewer individual parts than with previous fastening.
- Retrofitting in rails possible.
- Simple alignment in the rail.
- Fits in all the usual rail profiles with 15 mm slot width.
- As a connection element between:
- Rail load-bearing constructions and pipe clamps.
- Cantilever brackets and pipe clamps.
- Properties:
- Material: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
- Zinc plating: Electro zinc plated, 8 µm.

## Sliding nut



### Technical data

| d       | M8                                   | M10                                  |
|---------|--------------------------------------|--------------------------------------|
| Profile | 27/18+28/30+30/15+38/40+40/60+40/120 | 27/18+28/30+30/15+38/40+40/60+40/120 |
| L       | 33                                   | 33                                   |
| B       | 23                                   | 23                                   |
| S       | 6                                    | 6                                    |

- Fastening elements for MS rails.
- Advantages / Benefits:
- Simple installation.
- Simple alignment in the rail.
- Fits in all the usual MS rail profiles with 15 mm and 17 mm slot width.
- As connecting element between:
- Rail load-bearing constructions and pipe clamps.
- Cantilever brackets and pipe clamps.

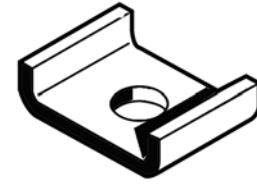
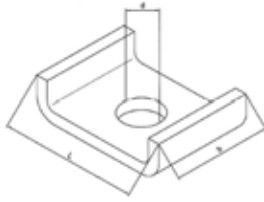
### Assembly data

- After alignment, the threaded plate should be secured with the nut.

| 64168 FISCHER Sliding nut SM   |          | N02A  |
|--|----------|---|
| Packaging  | Standard |   |
|  |          |  |

| Type   | ☒  | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|--------|----|-------------------------------|------|---|------------|------|---|------------|
| 38 M8  | 50 | <a href="#">64168.080.001</a> |      |   |            |      |   |            |
| 38 M10 | 50 | <a href="#">64168.100.001</a> |      |   |            |      |   |            |

## Channel washer



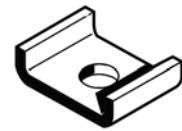
### Technical data

| Type    | HK27            | HK38  |
|---------|-----------------|-------|
| ø d     | 11.5            | 2.5   |
| Profile | 27/1828/3030/15 | 38/40 |
| L       | 25              | 40    |
| b       | 33              | 33    |

64158 FISCHER Channel washer HK

N02A

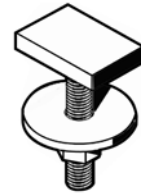
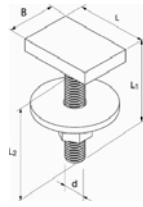
Packaging Standard



| Type | ✉  | Art.number                    | Type | ✉ | Art.number | Type | ✉ | Art.number |
|------|----|-------------------------------|------|---|------------|------|---|------------|
| 27   | 50 | <a href="#">64158.270.001</a> |      |   |            |      |   |            |
| 38   | 50 | <a href="#">64158.380.001</a> |      |   |            |      |   |            |

- The channel washer can be used for proper fastening with a fixing, e.g. fischer anchor bolt.
- Used to secure connections.
- Advantage / Benefit:
- Prevents the rail from bending.
- For fastening:
- Channels.
- Components on channels.

## T-head bolt



### Technical data

| d x L1               | M8x30                                    | M8x40                                    | M10x30                                   | M10x40                                   |
|----------------------|--|--|--|--|
| <b>Profile</b>       | 27/18+28/30+30/15+38/40+<br>40/60+40/120 | 27/18+28/30+30/15+38/40+<br>40/60+40/120 | 27/18+28/30+30/15+38/40+<br>40/60+40/120 | 27/18+28/30+30/15+38/40+<br>40/60+40/120 |
| <b>d</b>             | M8                                       | M8                                       | M10                                      | M10                                      |
| <b>L<sub>1</sub></b> | 30                                       | 40                                       | 30                                       | 40                                       |
| <b>L<sub>2</sub></b> | 24                                       | 34                                       | 24                                       | 34                                       |
| <b>L</b>             | 30                                       | 30                                       | 30                                       | 30                                       |
| <b>B</b>             | 24                                       | 24                                       | 24                                       | 24                                       |
| <b>S</b>             | 6  | 6  | 6  | 6  |

- T-head bolt for all standard rail profiles with 15 mm and 17 mm slot width.
- Advantages / Benefits:
  - Simple, fast and effective installation.
  - Fewer individual parts than with traditional fixings.
  - Simple alignment in the rail.
- As connection element between:
  - Rail load-bearing constructions and pipe clamps.
  - Cantilever brackets and pipe clamps.

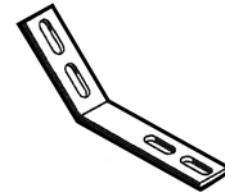
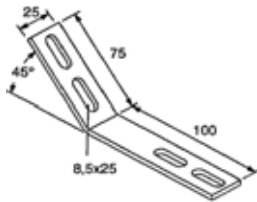
### Assembly data

- Introduce the T-head bolt into the rail or bracket from the side.
- After alignment, the T-head bolt should be secured with the nut.

|  |             |
|--|-------------|
| <b>64163 FISCHER T-head bolt HS 38</b>   | <b>N02A</b> |
| <b>Packaging</b>   | Standard    |
|   |             |

| Type     | ✉  | Art.number                    | Type      | ✉  | Art.number                    | Type | ✉ | Art.number |
|----------|----|-------------------------------|-----------|----|-------------------------------|------|---|------------|
| 38 M8X30 | 50 | <a href="#">64163.080.030</a> | 38 M10X30 | 50 | <a href="#">64163.100.030</a> |      |   |            |
| 38 M8X40 | 50 | <a href="#">64163.080.040</a> | 38 M10X40 | 50 | <a href="#">64163.100.040</a> |      |   |            |

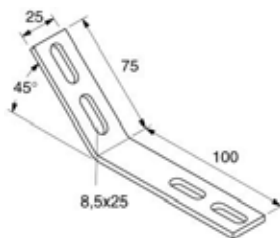
## Installation angle bracket



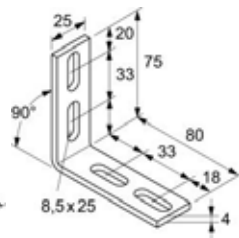
### Technical data

| Type    | MW27-45°          | MW27-90°          | MW38-45°                       | MW38-90°                       |
|---------|-------------------|-------------------|--------------------------------|--------------------------------|
| Profile | 27/18+28/30+30/15 | 27/18+28/30+30/15 | 38/40+41/21+41/41+40/60+40/120 | 38/40+41/21+41/41+40/60+40/120 |
| Angle   | 45°               | 90°               | 45°                            | 90°                            |
| L       | 100               | 80                | 105                            | 105                            |
| H       | 75                | 75                | 75                             | 85                             |
| B       | 25                | 25                | 40                             | 40                             |
| S       | 4                 | 4                 | 6                              | 6                              |

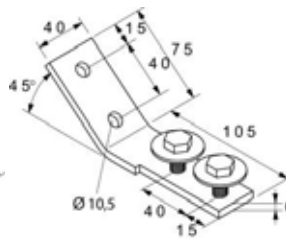
### Assembly data



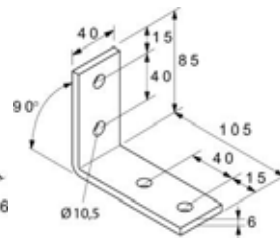
MW 27-45°



MW 27-90°



MW 38-45°



MW 38-90°

- Good fixing possibilities using suitable anchor.
- To simplify installation, the installation angle bracket MW 38-45° is supplied with pre-mounted clamping screw.

### 64144 FISCHER Installation angle bracket MW

N02A

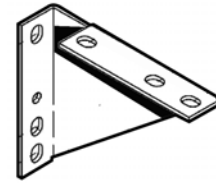
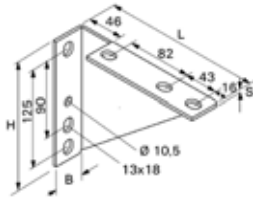
Packaging Standard



| Type  | ☒  | Art.number                    | Type  | ☒  | Art.number                    | Type | ☒ | Art.number |
|-------|----|-------------------------------|-------|----|-------------------------------|------|---|------------|
| 27-45 | 25 | <a href="#">64144.027.045</a> | 38-45 | 10 | <a href="#">64144.038.045</a> |      |   |            |
| 27-90 | 25 | <a href="#">64144.027.090</a> | 38-90 | 20 | <a href="#">64144.038.090</a> |      |   |            |

- Installation angle brackets are support elements for use with load-bearing constructions that should not be welded.
- Installation angle brackets are used to reinforce load-bearing constructions.
- Advantages / Benefits:
- Installation advantages in producing load-bearing constructions in connection with fischer mounting rails.
- No welding necessary.
- System component can be used in many ways.
- Variable installation possibilities.
- For producing:
- Rail load-bearing structures.
- Traverses.
- Projections.
- Supports.
- Properties:
- Material: Steel S235 JR (material no. 1.0037) acc. to DIN EN 10025.
- Zinc plating: Electro zinc plated, 8 µm.

## Angle bracket



### Technical data

|         |                                |
|---------|--------------------------------|
| Type    | 207/165                        |
| Profile | 38/40+41/21+41/41+40/60+40/120 |
| L       | 207                            |
| H       | 165                            |
| B       | 40                             |
| S       | 4                              |

### Assembly data

- Good fixing possibility using suitable anchor.
- Thanks to bolting two angle brackets, significantly higher load and bending values are achieved.

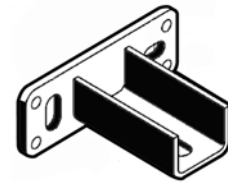
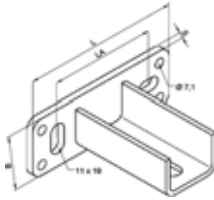
|   |                          |  |
|---|--------------------------|--|
| 64136   | FISCHER Angle bracket WK | N02A   |
| Packaging   | Standard                 |  |
|  |                          |  |

| Type    | Art.number | Type                          | Art.number |
|---------|------------|-------------------------------|------------|
| 207/165 | 6          | <a href="#">64136.207.165</a> |            |

- Stable angle bracket for fixing pipe lines and components.
- The angle bracket acts as a reinforcement for load-bearing constructions.
- Advantages/Benefits:
- Versatile possibilities for wall, floor and ceiling installation, can be used in shafts and also free-standing.
- In combination with fischer mounting rails, the universal bracket produces a load-bearing construction with very high stability and safety.
- For producing:
- Rail load-bearing structures, traverses, projections
- For fastening:
- Pipe tracks and pipe lines, pipe line components such as fittings, water meters.
- Properties:
- Material: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
- Zinc plating: Electro zinc plated, 8 µm.



## Saddle flange



### Technical data

| Type    | SF Q 27           | SF Q 38                        |
|---------|-------------------|--------------------------------|
| Profile | 27/18+28/30+30/15 | 38/40+41/21+41/41+40/60+40/120 |
| L       | 125               | 136                            |
| B       | 40                | 50                             |
| S       | 5                 | 6                              |
| LA      | 84                | 95                             |

### Assembly data

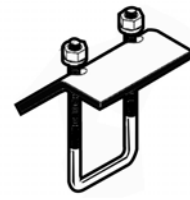
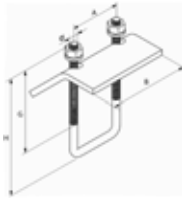
- Insert and screw the mounting rail in the saddle flange.
- Good fixing possibility using suitable anchor.
- Good height adjustment using slots in the base plate.

|           |  |   |
|-----------|--|---|
| 64140     | FISCHER Saddle flange SF Q   | N02A  |
| Packaging | Standard   |   |
|           |  |  |

| Type | ☒  | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------|----|-------------------------------|------|---|------------|------|---|------------|
| Q27  | 15 | <a href="#">64140.270.001</a> |      |   |            |      |   |            |
| Q38  | 10 | <a href="#">64140.380.001</a> |      |   |            |      |   |            |

- Connecting element for producing robust constructions in connection with the fischer mounting rails.
- Advantages / Benefits:
- Solid connecting element for load-bearing constructions.
- Simple installation by inserting the mounting rail in the saddle.
- For producing:
- Rail load-bearing structures.
- Traverses.
- Projections.
- Properties:
- Material:
- Base plate: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
- U-Profil: S235JR acc. to DIN EN 10025.
- Zinc plating: Electro zinc plated, 8 µm.

## Beam clamp



### Technical data

| Type       | TKR27/18    | TKR38/40 |
|------------|-------------|----------|
| N          | 2.8         | 5.40     |
| Profile    | 27/18+28/30 | 38/40    |
| d          | M66         | M8       |
| Grip range | 0-29        | 0-24.5   |
| A          | 37          | 47       |
| B          | 60          | 70       |
| H          | 81          | 86       |
| G          | 60          | 55       |

- N = Max. recom. static load (centr. tension) [kN].

### Assembly data

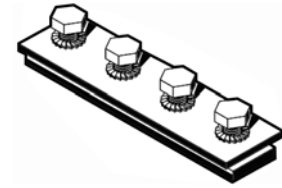
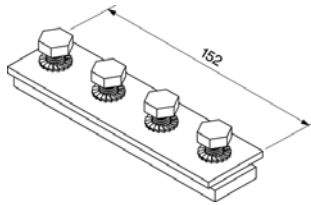
- Two clamp supports are necessary for fastening to the steel girder.

| 64154 FISCHER Beam clamp TKR |          | N02A   |
|------------------------------|----------|--|
| Packaging                    | Standard |   |

| Type  | ☒ | Art.number | Type                          | ☒ | Art.number | Type | ☒ | Art.number |
|-------|---|------------|-------------------------------|---|------------|------|---|------------|
| 27/18 | ☒ | 25         | <a href="#">64154.027.018</a> |   |            |      |   |            |

- Stirrup for fastening profile rails to steel girders.
- Advantages / Benefits:
- No drilling or welding necessary.
- Adjustment is possible at any time.
- Due to the different lengths of the claw sides, the fischer clamp supporter can be fastened to all standard T-beams.
- For fastening:
- Rails to steel girders

## Channel connector



### Technical data

| Type | Profile     |
|------|-------------|
| SV27 | 27/18+28/30 |
| SV38 | 38/40       |

### Assembly sequence



- The channel connectors are inserted into the rail ends and then screwed tight.

|  |                                     |   |
|--|-------------------------------------|---|
| <b>64152</b>   | <b>FISCHER Channel connector SV</b> | <b>N02A</b>   |
| <b>Packaging</b>   | Standard                            |   |
|  |                                     |  |

| Type | ☒  | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------|----|-------------------------------|------|---|------------|------|---|------------|
| 27   | 20 | <a href="#">64152.270.001</a> |      |   |            |      |   |            |
| 38   | 10 | <a href="#">64152.380.001</a> |      |   |            |      |   |            |

- Mounting rails can be connected and aligned precisely with the fischer channel connector.
- Advantages / Benefits.
- Robust and fast connection of mounting rails.
- Simple installation by sliding into the mounting rail.
- Screws enable secure connection.
- For producing:
- Channel connections.
- Properties:
- Material SV 27 / SV 38: Steel DC01 (material no. 1.0330) acc. to DIN EN 10130.
- Zinc plating: Electro zinc plated, 8 µm

## Parallel connector




### Technical data

|      |       |
|------|-------|
| Type | PV M8 |
| N    | 2.00  |
| d    | M8    |

- N = Max. recom. static load (centr. tension) [kN].

### Assembly data

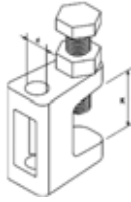
- Hold threaded parts together, slide parallel connector over.
- Secure using lock nut.
- Level adjustment is possible by turning the threaded pin.

|   |                               |   |
|---|-------------------------------|---|
| 64180   | FISCHER Parallel connector PV | N02A  |
| Packaging   | Standard                      |   |
|  |                               |  |

| Type | ✉ | Art.number | Type | ✉ | Art.number                    | Type | ✉ | Art.number |
|------|---|------------|------|---|-------------------------------|------|---|------------|
| M8   |   | 100        |      |   | <a href="#">64180.080.001</a> |      |   |            |

- Simply and quickly installed connector for extending and/or connecting threaded rods.
- Advantages / Benefits:
- Fast installation.
- Simple level adjustment possible.
- High load possible.
- Level adjustment even in installed position.
- For fastening:
- Fast level adjustment of threaded rods or threaded pins.
- Properties:
- Material diecasting.

## Clamp hanger



### Technical data

| Type    | N    | K    | d   |
|---------|------|------|-----|
| TKL M8  | 2.50 | 0-23 | M8  |
| TKL ø9  | 1.20 | 0-18 | ø9  |
| TKL M10 | 2.50 | 0-20 | M10 |
| TKL ø11 | 2.50 | 0-20 | ø11 |

- N = Max. recom. static load (centr. tension) [kN].

### Assembly data

- Safety brackets necessary for VdS systems starting from DN 65.

| 64275 FISCHER Clamp hanger TKL  |          | N02A   |
|---|----------|--|
| Packaging   | Standard |  |
|  |          |  |

| Type | ☒  | Art.number                    | Type | ☒  | Art.number                    | Type | ☒ | Art.number |
|------|----|-------------------------------|------|----|-------------------------------|------|---|------------|
| M8   | 50 | <a href="#">64275.080.001</a> | M10  | 50 | <a href="#">64275.100.001</a> |      |   |            |
| ø9   | 50 | <a href="#">64275.090.001</a> | ø11  | 50 | <a href="#">64275.110.001</a> |      |   |            |

- Clamp hanger makes simple fastening possible by clamping to steel girders.
- Advantages / Benefits:
  - High load-bearing capability.
  - Simple and fast level adjustment.
  - Level adjustment is also possible later with through-hole.
  - VdS approval.
  - Fastening on steel girder without welding and drilling.
  - No slipping of the clamp from the steel girder.
  - For fastening:
    - Pipe lines, ventilation lines and sprinkler lines on steel girders.
- Properties:
  - Material: Malleable cast iron EN-GJMB-350-10 acc. to DIN 1562.
  - Zinc plating: Electro zinc plated, 8 µm.
  - Bolt: Hexagonal bolt DIN 933.8.8, bolt end with cup point acc. to EN ISO 4753 and lock nut.

## Perforated steel banding

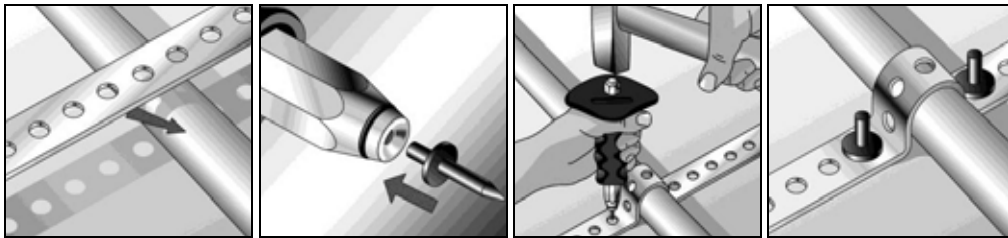


### Technical data

| Type | LBV 17 | LBV 26 |
|------|--------|--------|
| L    | 10     | 10     |
| B    | 17     | 25     |
| S    | 0.75   | 0.88   |
| d    | 6.5    | 8.5    |

- To be fastened with: ED 15; ED 18; ED 22.

### Assembly sequence



- Simple cutting to size possible with sheet metal shears.
- Floor fastening using the Fischer impact nail ED.
- For ceiling suspension in concrete, the Fischer nail anchor FNA II is recommended.

### 64272 FISCHER Perforated steel banding LBV

N02A

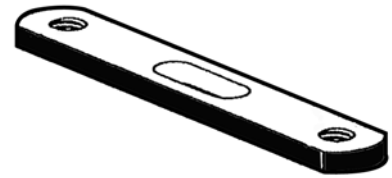
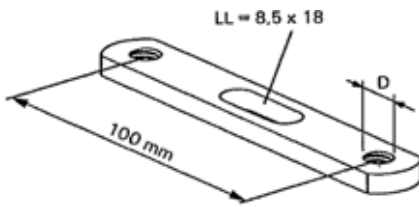
Packaging Standard



| Type              | ☒ | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|-------------------|---|-------------------------------|------|---|------------|------|---|------------|
| 17 (ROLE, 10 MTR) | 1 | <a href="#">64272.170.001</a> |      |   |            |      |   |            |
| 26 (ROLE, 10 MTR) | 1 | <a href="#">64272.260.001</a> |      |   |            |      |   |            |

- Steel band with stamped holes for simple installation in zinc plated or plastic coated version.
- Advantages/Benefits
- Advantageous, simple installation possible.
- Universal fastening possible.
- Flexible length selection.
- For fastening:
- Pipe lines on the floor or suspended from ceiling.
- Properties:
- Material: Steel DX51 D+Z (material no. 1.0226) acc. to DIN EN 10327.
- Zinc plating: sendzimir zinc plated, 5 - 27 µm.

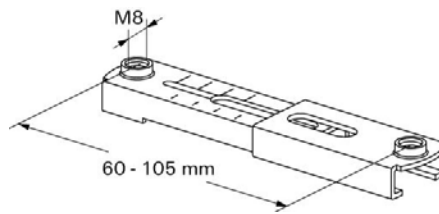
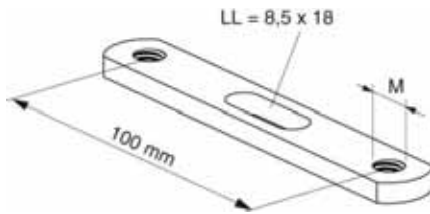
## Double connector plate



### Technical data

| Type       | L   | d  |
|------------|-----|----|
| DPP 65     | 65  | M8 |
| DPP 85     | 85  | M8 |
| DPF 60-105 | 105 | M8 |

### Assembly data



#### 64271 FISCHER Double connector plate DPP

N02A

Packaging Standard



Art.number



Art.number



Art.number

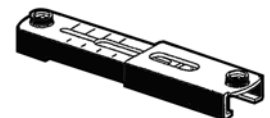
DPP 65 50 [64271.000.065](#) DPP 85 50 [64271.000.085](#)

- Fastening element for installation of two parallel pipe lines with only one fastening point.
- Advantages/Benefits:
  - Only one fastening point for two pipe lines.
  - Very good for visible installation.
  - Adjusting possibility due to slot.
- For fastening:
  - Parallel pipe lines on the wall.
- Properties:
  - Material: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
  - Zinc plating: Electro zinc plated, 5 - 9 µm.

#### 64270 FISCHER Double connector plate DPF

N02A

Packaging Standard



L Art.number

L



Art.number

L

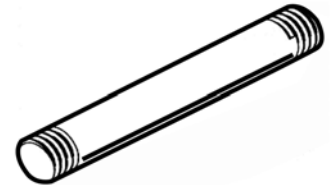
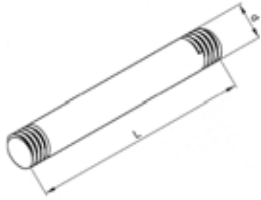


Art.number

DPF 60-105 50 [64270.060.105](#)

- Fastening element for installation of two parallel pipe lines with only one fastening point.
- Advantages/Benefits:
  - Only one fastening point for two pipe lines.
  - Very good for visible installation.
  - Adjusting possibility due to slot.
  - Variable pipe spacing with double connecting plate DPF.
- For fastening:
  - Parallel pipe lines on the wall.
- Properties:
  - Material: Steel DD11 (material no. 1.0332) acc. to DIN EN 10111.
  - Zinc plating: Electro zinc plated, 5 - 9 µm.

**Bolt connector**



**Technical data**

|      |        |        |
|------|--------|--------|
| Type | SBB 35 | SBB 55 |
| L    | 35     | 55     |
| d    | M8     | M8     |

|                  |  |   |
|------------------|--|---|
| <b>64273</b>     | <b>FISCHER Bolt connector SBB</b>  | <b>N02A</b>   |
| <b>Packaging</b> | Standard   |   |
|                  |  |  |

| d x L | ☒   | Art.number                    | d x L | ☒ | Art.number |
|-------|-----|-------------------------------|-------|---|------------|
| 35    | 100 | <a href="#">64273.080.035</a> |       |   |            |
| 55    | 100 | <a href="#">64273.080.055</a> |       |   |            |

- Ideal connecting element for double connector plates and multi-connectors.
- Properties:
- Material: Steel S235 JR (material no. 1.0037) acc. to DIN EN 10025.
- Zinc plating: Electro zinc plated, 8 µm.



## FABORY FASTCLIP Fixing system

### General

The FABORY FASTCLIP fixing system consists of a basic clip, which can be installed trouble-free on steel structures either as a single hanger or in combination with accessories, simply by hand or using handtools like a hammer, combination pliers, screwdriver. Considerable savings of costs and time can be achieved.

### Application

FABORY FASTCLIP fixing clips with their various combination possibilities are widely used in the general building industry, e.g. in the electrotechnical installation technics, ceiling-, sanitary-, air conditioning- and heating industry.

### Standardisation

The FABORY FASTCLIP fixing system has been tested in accordance to DIN 18168.

### Loads

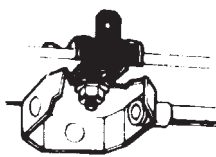
Load rating of these fasteners is expressed in Newton as static load limit. Values indicate maximum allowable installed loads for user applications. Static load limit is a rated stationary load limit for a fastener.

Ultimate static load limit is the rated stationary load limit which, if exceeded, may cause failure of fastener. These values are for loads applied vertically to the normal fastener installation. When load rating of the fasteners exceeds that of the structural member, the lowest rated item must set the load limit. FABORY FASTCLIP fixing clips are punched out of spring steel and hardened.

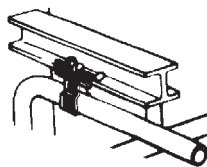
### Surface treatment

FABORY FASTCLIP fixing clips are treated with an anti-corrosion layer named DELTATONE, layer thickness 10-12 µm (corrosion resistance in saltspray test acc. to ASTM B117/DIN 50021 ca. 480 hours). DELTATONE eliminates the possibility of fracture due to hydrogen embrittlement!

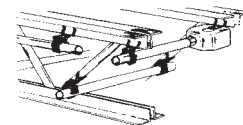
### Application example



Type H



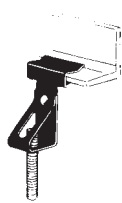
Type 50 H + 75 H



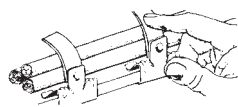
Type BCC



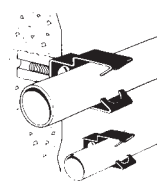
Type BC



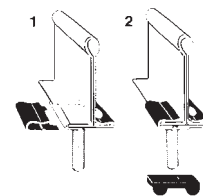
Type RH



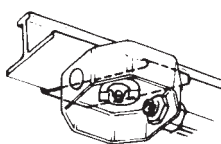
Type PF



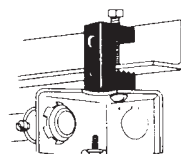
Type CC



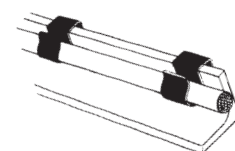
Type AC



Type HTC

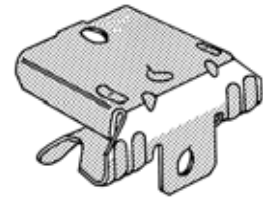


Type MC



Type CR

## Universal beam clamp



### Technical data

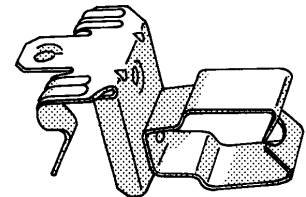
| Type                 | H2-4        | H5-8        |
|----------------------|-------------|-------------|
| Allowable staticload | 450 N (3:1) | 450 N (3:1) |
| Flange thickness     | 3-7         | 8-12,5      |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60319 FASTCLIP Universal beam clamp type H |              | S06A  |
|--|--------------|---|
| Material                                   | Spring steel |  |
| Surface treatment                          | Deltatone    |   |
| Packaging                                  | Standard     |   |

| Type  | ☒   | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|-------|-----|-------------------------------|------|---|------------|------|---|------------|
| H 2-4 | 100 | <a href="#">60319.002.004</a> |      |   |            |      |   |            |
| H 5-8 | 100 | <a href="#">60319.005.008</a> |      |   |            |      |   |            |

## Universal beam clip/conduit clip combination



### Technical data

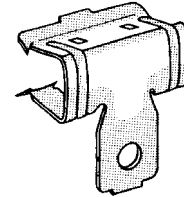
| Type   | Conduit size | Max. static load | Flange thickness |
|--------|--------------|------------------|------------------|
| 50H2-4 | 20           | 110 N (3:1)      | 3-7              |
| 50H5-8 | 20           | 110 N (3:1)      | 8-12,5           |
| 75H2-4 | 25           | 110 N (3:1)      | 3-7              |
| 75H5-8 | 25           | 110 N (3:1)      | 8-12,5           |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60321 FASTCLIP Universal beam clip/conduit clip combination |              | S06A  |
|---|--------------|---|
| Material  | Spring steel |  |
| Surface treatment   | Deltatone    |   |
| Packaging   | Standard     |   |

| Type    | ☒   | Art.number                    | Type    | ☒   | Art.number                    | Type | ☒ | Art.number |
|---------|-----|-------------------------------|---------|-----|-------------------------------|------|---|------------|
| 50H 2-4 | 100 | <a href="#">60321.502.004</a> | 75H 2-4 | 100 | <a href="#">60321.752.004</a> |      |   |            |
| 50H 5-8 | 50  | <a href="#">60321.505.008</a> | 75H 5-8 | 50  | <a href="#">60321.755.008</a> |      |   |            |

## Beam clip type BC



### Technical data

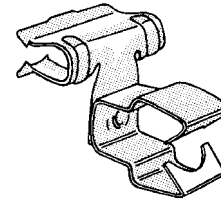
| Type   | Allowable staticload | Flange thickness |
|--------|----------------------|------------------|
| BC-250 | 900 N (3:1)          | 5-9              |
| BC-500 | 900 N (3:1)          | 10-16            |
| BC-750 | 900 N (3:1)          | 17-20            |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60311 FASTCLIP Beam clip type BC |              | S06A |
|----------------------------------|--------------|------|
| <b>Material</b>                  | Spring steel |      |
| <b>Surface treatment</b>         | Deltatone    |      |
| <b>Packaging</b>                 | Standard     |      |

| Type   | ☒   | Art.number                    | Type   | ☒   | Art.number                    | Type   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| BC-250 | 100 | <a href="#">60311.000.250</a> | BC-500 | 100 | <a href="#">60311.000.500</a> | BC-750 | 100 | <a href="#">60311.000.750</a> |

## Beam clip/conduit clip combination (snap-in) type BCC



### Technical data

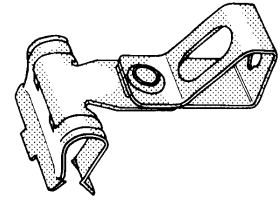
| Type       | Conduit size | Max. static load | Flange thickness |
|------------|--------------|------------------|------------------|
| BCC 25-50  | 20           | 110 N (3:1)      | 5-9              |
| BCC 50-50  | 20           | 110 N (3:1)      | 10-16            |
| BCC 25-75  | 25           | 110 N (3:1)      | 5-9              |
| BCC 50-75  | 25           | 110 N (3:1)      | 10-16            |
| BCC 25-100 | 25-100       | 110 N (3:1)      | 5-9              |
| BCC 50-100 | 50-100       | 110 N (3:1)      | 10-16            |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60313 FASTCLIP Beam clip/conduit clip combination (snap-in) type BCC |              | S06A |
|--|--------------|------|
| <b>Material</b>  | Spring steel |      |
| <b>Surface treatment</b>   | Deltatone    |      |
| <b>Packaging</b>   | Standard     |      |

| Type      | ☒   | Art.number                    | Type       | ☒  | Art.number                    | Type       | ☒  | Art.number                    |
|-----------|-----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| BCC 25-50 | 100 | <a href="#">60313.025.050</a> | BCC 25-100 | 50 | <a href="#">60313.025.100</a> | BCC 50-75  | 50 | <a href="#">60313.050.075</a> |
| BCC 25-75 | 100 | <a href="#">60313.025.075</a> | BCC 50-50  | 50 | <a href="#">60313.050.050</a> | BCC 50-100 | 50 | <a href="#">60313.050.100</a> |

## Beam clip/threaded rod hanger combination type RH



### Technical data

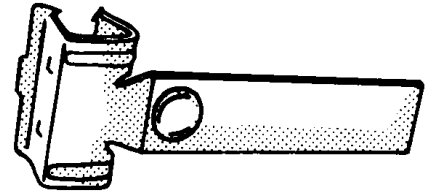
| Type       | Stud | Allowable static load | Flange thickness |
|------------|------|-----------------------|------------------|
| RH-6MT/25  | M6   | 680 N (3:1)           | 5-9              |
| RH-6MT/50  | M6   | 680 N (3:1)           | 10-16            |
| RH-6MT/75  | M6   | 680 N (3:1)           | 17-20            |
| RH-8MT/25  | M8   | 680 N (3:1)           | 5-9              |
| RH-8MT/50  | M8   | 680 N (3:1)           | 10-16            |
| RH-8MT/75  | M8   | 680 N (3:1)           | 17-20            |
| RH-10MT/25 | M10  | 680 N (3:1)           | 5-9              |
| RH-10MT/50 | M10  | 680 N (3:1)           | 10-16            |
| RH-10MT/75 | M10  | 680 N (3:1)           | 17-20            |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60315 FASTCLIP Beam clip/threaded rod hanger combination type RH |              | S06A |
|--|--------------|------|
| <b>Material</b>  | Spring steel |      |
| <b>Surface treatment</b>   | Deltatone    |      |
| <b>Packaging</b>   | Standard     |      |

| Type      | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type       | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|------------|-----|-------------------------------|
| RH-6MT/25 | 100 | <a href="#">60315.060.025</a> | RH-8MT/25 | 100 | <a href="#">60315.080.025</a> | RH-10MT/25 | 100 | <a href="#">60315.100.025</a> |
| RH-6MT/50 | 100 | <a href="#">60315.060.050</a> | RH-8MT/50 | 100 | <a href="#">60315.080.050</a> | RH-10MT/50 | 100 | <a href="#">60315.100.050</a> |
| RH-6MT/75 | 100 | <a href="#">60315.060.075</a> | RH-8MT/75 | 100 | <a href="#">60315.080.075</a> | RH-10MT/75 | 100 | <a href="#">60315.100.075</a> |

## Push fastener type PF



### Technical data

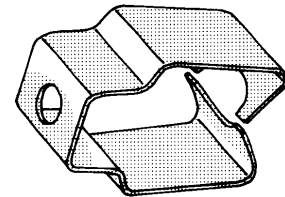
| Type   | Flange thickness |
|--------|------------------|
| PF-250 | 5-9              |
| PF-500 | 10-16            |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60317 FASTCLIP Push fastener type PF |              | S06A |
|--------------------------------------|--------------|------|
| <b>Material</b>                      | Spring steel |      |
| <b>Surface treatment</b>             | Deltatone    |      |
| <b>Packaging</b>                     | Standard     |      |

| Type   | ✉   | Art.number                    | Type | ✉ | Art.number | Type | ✉ | Art.number |
|--------|-----|-------------------------------|------|---|------------|------|---|------------|
| PF-250 | 100 | <a href="#">60317.000.250</a> |      |   |            |      |   |            |
| PF-500 | 100 | <a href="#">60317.000.500</a> |      |   |            |      |   |            |

## Snap-in conduit/pipe clip type CC



### Technical data

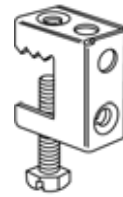
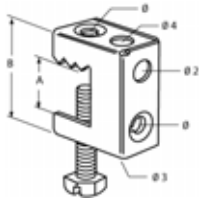
| Type                    | CC-500      | CC-750      | CC-1000     |
|-------------------------|-------------|-------------|-------------|
| <b>Conduit size</b>     | 20          | 25          | 32          |
| <b>Max. static load</b> | 110 N (3:1) | 110 N (3:1) | 110 N (3:1) |
| <b>Screw ø</b>          | 6           | 6           | 6           |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

| 60325 FASTCLIP Snap-in conduit/pipe clip type CC |              | S06A |
|--|--------------|------|
| <b>Material</b>                                  | Spring steel |      |
| <b>Surface treatment</b>                         | Deltatone    |      |
| <b>Packaging</b>                                 | Standard     |      |

| Type   | ✉   | Art.number                    | Type   | ✉   | Art.number                    | Type    | ✉   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| CC-500 | 100 | <a href="#">60325.000.500</a> | CC-750 | 100 | <a href="#">60325.000.750</a> | CC-1000 | 100 | <a href="#">60325.001.000</a> |

## Master clamp type MC



### Technical data

|                      |       |
|----------------------|-------|
| Type                 | MC    |
| A                    | 2-18  |
| B                    | 35    |
| ø                    | M6    |
| ø2                   | 6,5   |
| ø3                   | 11    |
| ø4                   | 6,5   |
| Allowable staticload | 450 N |

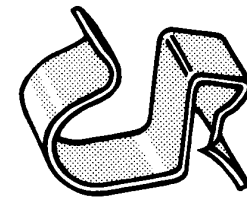
- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

|  |              |             |
|--|--------------|-------------|
| <b>60323 FASTCLIP Master clamp type MC</b> |              | <b>S06A</b> |
| <b>Material</b>                            | Spring steel |             |
| <b>Surface treatment</b>                   | Deltatone    |             |
| <b>Packaging</b>                           | Standard     |             |

| Type | ✉ | Art.number | Type | ✉ | Art.number                    | Type | ✉ | Art.number |
|------|---|------------|------|---|-------------------------------|------|---|------------|
| MC   |   | 100        |      |   | <a href="#">60323.001.770</a> |      |   |            |

- Incl. hexagon screw.

## Cable run clip type CR



### Technical data

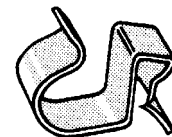
| Type   | For cable | Flange thickness |
|--------|-----------|------------------|
| CR-215 | 15-18     | 2-4              |
| CR-219 | 19-24     | 2-4              |
| CR-225 | 25-30     | 2-4              |
| CR-412 | 12-14     | 4-7              |
| CR-415 | 15-18     | 4-7              |
| CR-419 | 19-24     | 4-7              |
| CR-812 | 12-14     | 8-12             |
| CR-815 | 15-18     | 8-12             |
| CR-819 | 19-24     | 8-12             |
| CR-825 | 25-30     | 8-12             |

- For technical data, examples of application and technical data concerning DELTATONE, see INFO page.

### 60331 FASTCLIP Cable run clip type CR

S06A

**Material** Spring steel  
**Surface treatment** Deltatone  
**Packaging** Standard



| Type   | ☒   | Art.number                    | Type   | ☒   | Art.number                    | Type   | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| CR-215 | 100 | <a href="#">60331.000.215</a> | CR-415 | 100 | <a href="#">60331.000.415</a> | CR-819 | 100 | <a href="#">60331.000.819</a> |
| CR-219 | 100 | <a href="#">60331.000.219</a> | CR-419 | 100 | <a href="#">60331.000.419</a> | CR-825 | 50  | <a href="#">60331.000.825</a> |
| CR-225 | 100 | <a href="#">60331.000.225</a> | CR-812 | 100 | <a href="#">60331.000.812</a> |        |     |                               |
| CR-412 | 100 | <a href="#">60331.000.412</a> | CR-815 | 100 | <a href="#">60331.000.815</a> |        |     |                               |

# FABORY QUICK SYSTEM

## Toggle latches

### Application

FABORY toggle latches have a place of importance in the FABORY QUICK SYSTEM, their wide applicability varies from, for example the closing of the covers of simple wooden component cases to the efficient secural of the engine compartments of agricultural machinery.

### Assembly

The principle of operation of the FABORY QUICK SYSTEM toggle latches is identical, regardless of the size, the lockability and the adjustability. The toggle itself is fastened to one side of the component and the strike is fastened to the other part. For closing the construction, the toggle is pulled over the strike and is tensioned by lowering the latch. Off-centring of the pivot point and the gripping point of the toggle in the strike ensures that the latch cannot unclutch. The closure spring is generally slightly bent and absorbs a great deal of the closing force despite small tolerances in the mounting in or on the various parts.

### Presentation

Since experience has taught that the available mounting space generally determines the final choice of the FABORY QUICK SYSTEM toggle latch, the following presentation of the extensive toggle latch product range is given in order of physical size, therefore see details of the smallest models first and largest models are described last. A distinction is also made between the steel models and the stainlesssteel models. In each presentation is tried to give an overview of all the relevant information in such a way that it can be read at one glance.

### Special data

A number of specific data is given for each FABORY QUICK SYSTEM toggle latch such as the load data, the standard finish and, where relevant, the specific properties of the closure such as its adjustability and the possibility for locking if you require more protection against unwanted opening of the toggle latch.

### Strikes

The mounting preparation information assumes the use of the indicated toggle latch in combination with the recommended strike. The use of alternative strikes is of course possible, the right mounting preparation of the parts must then be determined by trial.

### Specials

Depending on the application, special toggle latches, other shapes of strikes, different finishes etc. are available on request.

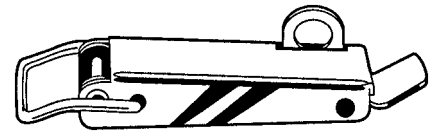
### Example of application



For further technical data on sizes, loads, examples of application and assembly sequences, an extensive FABORY QUICK SYSTEM brochure is available on request.



## Toggle latch



- Technical brochure available on request.

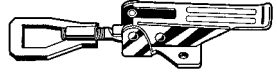


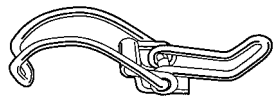




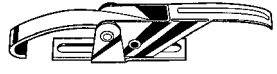

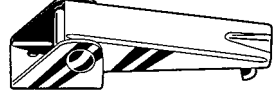
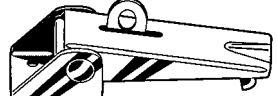
### Article groups

| Material  | Surface treatment | Packaging | Code  | Page  |
|-----------|-------------------|-----------|-------|-------|
| St        | Zipl              | Standard  | 62255 | 10-63 |
| St.St. A2 |                   | Standard  | 62257 | 10-65 |

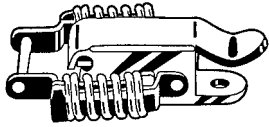


| 62255 QUICK SYSTEM Toggle latch |             | S04A |
|---------------------------------|-------------|------|
| <b>Material</b>                 | Steel       |      |
| <b>Surface treatment</b>        | Zinc plated |      |
| <b>Packaging</b>                | Standard    |      |

| No.          | ✉  | Art.number                    |  |  |
|--------------|----|-------------------------------|--|--|
| 2.00.00.04/6 | 5  | <a href="#">62255.200.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 2000 N</li> <li>• Min. breaking force 4000 N</li> <li>• Size length x width x height : 131 x 43 x 19 mm</li> </ul>                              |  |
| 2.00.01.04/6 | 5  | <a href="#">62255.200.104</a> | <ul style="list-style-type: none"> <li>• Padlockable.</li> <li>• Max. allowable load 2000 N.</li> <li>• Min. breaking force 4000 N.</li> <li>• Size length x width x height : 131 x 43 x 30,5 mm.</li> </ul> |  |
| 2.01.00.04/6 | 10 | <a href="#">62255.201.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 1500 N.</li> <li>• Min. breaking force 3000 N.</li> <li>• Size length x width x height : 101 x 34 x 12,5 mm.</li> </ul>                         |  |
| 2.02.00.04/6 | 10 | <a href="#">62255.202.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 400 N.</li> <li>• Min. breaking force 1000 N.</li> <li>• Size length x width x height : 52 x 21 x 10,7 mm.</li> </ul>                           |  |
| 2.03.00.04/6 | 10 | <a href="#">62255.203.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 550 N.</li> <li>• Min. breaking force 1500 N.</li> <li>• Size length x width x height : 75 x 23 x 11 mm.</li> </ul>                             |  |
| 2.03.02.04/6 | 10 | <a href="#">62255.203.204</a> | <ul style="list-style-type: none"> <li>• With secondary lock</li> <li>• Max. allowable load 550 N</li> <li>• Min. breaking force 1500 N</li> <li>• Size length x width x height : 75 x 23 x 11 mm</li> </ul> |  |
| 2.04.00.04/6 | 10 | <a href="#">62255.204.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 550 N</li> <li>• Min. breaking force 1500 N</li> <li>• Size length x width x height : 42,5 x 41 x 12 mm</li> </ul>                              |  |

**62255 QUICK SYSTEM Toggle latch**

| No.          | ✉  | Art.number                    | No.   | ✉ | Art.number | No. | ✉ | Art.number  |
|--------------|----|-------------------------------|---|---|------------|-----|---|---|
| 2.05.00.04/6 | 5  | <a href="#">62255.205.004</a> | <ul style="list-style-type: none"> <li>• 12 mm adjustable</li> <li>• Max. allowable load 1100 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 128 x 52 x 18 mm</li> </ul>   |   |            |     |   |    |
| 2.06.00.04/6 | 10 | <a href="#">62255.206.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 84 x 28 x 17 mm</li> </ul>  |   |            |     |   |    |
| 2.06.01.04/6 | 10 | <a href="#">62255.206.104</a> | <ul style="list-style-type: none"> <li>• Padlockable</li> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 84 x 28 x 17 mm</li> </ul>   |   |            |     |   |    |
| 2.07.00.04   | 10 | <a href="#">62255.207.004</a> | <ul style="list-style-type: none"> <li>• Closure spring grips the construction part directly</li> <li>• Fastening by welding or spot welding</li> <li>• Max. allowable load 300 N</li> <li>• Min. breaking force 600 N</li> <li>• Size length x width x height : 81 x 29 x 18 mm</li> </ul> |   |            |     |   |    |
| 2.08.00.04   | 10 | <a href="#">62255.208.004</a> | <ul style="list-style-type: none"> <li>• Closure spring grips the construction part directly</li> <li>• Max. allowable load 500N</li> <li>• Min. breaking force 900 N</li> <li>• Size length x width x height : 90 x 20 x 17 mm</li> </ul>  |   |            |     |   |   |
| 2.17.00.04/6 | 10 | <a href="#">62255.217.004</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 400 N</li> <li>• Min. breaking force 1000 N</li> <li>• Size length x width x height : 51 x 22 x 12,5 mm</li> </ul>   |   |            |     |   |  |
| 2.18.00.04/6 | 5  | <a href="#">62255.218.004</a> | <ul style="list-style-type: none"> <li>• 12 mm adjustable</li> <li>• Max. allowable load 1500 N</li> <li>• Min. breaking force 3000 N</li> <li>• Size length x width x height : 88 x 52 x 26 mm</li> </ul>  |   |            |     |   |  |
| 2.18.01.04/6 | 5  | <a href="#">62255.218.104</a> | <ul style="list-style-type: none"> <li>• 12 mm adjustable</li> <li>• Padlockable</li> <li>• Max. allowable load 1500 N</li> <li>• Min. breaking force 3000 N</li> <li>• Size length x width x height : 88 x 52 x 25 mm</li> </ul>   |   |            |     |   |  |
| 2.19.00.04   | 5  | <a href="#">62255.219.004</a> | <ul style="list-style-type: none"> <li>• Closure spring grips the construction part directly</li> <li>• Max. allowable load 750 N</li> <li>• Min. breaking force 1500 N</li> <li>• Size length x width x height : 128,5 x 28,5 x 27 mm</li> </ul>   |   |            |     |   |  |
| 2.40.00.04/6 | 5  | <a href="#">62255.240.086</a> | <ul style="list-style-type: none"> <li>• 15 mm adjustable</li> <li>• Max. allowable load 2000 N</li> <li>• Min. breaking force 4000 N</li> <li>• Size length x width x height : 131,5 x 45,5 x 23 mm</li> </ul>   |   |            |     |   |  |
| 2.41.00.04/6 | 10 | <a href="#">62255.241.086</a> | <ul style="list-style-type: none"> <li>• 10 mm adjustable</li> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2000 N</li> <li>• Size length x width x height : 70 x 25,5 x 18 mm</li> </ul>  |   |            |     |   |  |
| 2.41.01.04/6 | 10 | <a href="#">62255.241.186</a> | <ul style="list-style-type: none"> <li>• 10 mm adjustable</li> <li>• Padlockable</li> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2000 N</li> <li>• Size length x width x height : 70 x 25,5 x 18,5 mm</li> </ul>   |   |            |     |   |  |

**62255 QUICK SYSTEM Toggle latch**

| No.          | Art.number                       | No.   | Art.number  |
|--------------|----------------------------------|---|---|
| 2.42.00.04/6 | 10 <a href="#">62255.242.086</a> | • With tension springs.<br>• Max. allowable load 500 N.<br>• Min. breaking force 1500 N.<br>• Size length x width x height : 54 x 37 x 12,5 mm. |  |
| 2.43.00.04/6 | 10 <a href="#">62255.243.086</a> | • Max. allowable load 550 N<br>• Min. breaking force 1500 N<br>• Size length x width x height : 45 x 23 x 12 mm                                 |  |
| 2.45.00.04/6 | 10 <a href="#">62255.245.086</a> | • Max. allowable load 150 N<br>• Min. breaking force 300 N<br>• Size length x width x height : 32 x 16 x 6 mm                                   |  |







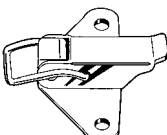
• Technical brochure available on request.

**62257 QUICK SYSTEM Toggle latch** S04A

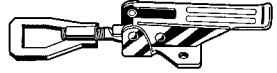




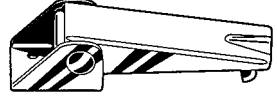
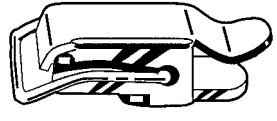
|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



**No. Art.number**

|              |                                  |  |   |
|--------------|----------------------------------|--|---|
| 2.00.00.30/6 | 5 <a href="#">62257.200.030</a>  | • Max. allowable load 2000 N<br>• Min. breaking force 4000 N<br>• Size length x width x height : 131 x 43 x 19 mm                          |  |
| 2.00.02.30/6 | 5 <a href="#">62257.200.230</a>  | • With secondary lock<br>• Max. allowable load 2000 N<br>• Min. breaking force 4000 N<br>• Size length x width x height : 131 x 43 x 19 mm |  |
| 2.01.00.30/6 | 10 <a href="#">62257.201.030</a> | • Max. allowable load 1500 N<br>• Min. breaking force 3000 N<br>• Size length x width x height : 101 x 34 x 12,5 mm                        |  |
| 2.02.00.30/6 | 10 <a href="#">62257.202.030</a> | • Max. allowable load 400 N<br>• Min. breaking force 1000 N<br>• Size length x width x height : 52 x 21 x 10,7 mm                          |  |
| 2.03.00.30/6 | 10 <a href="#">62257.203.030</a> | • Max. allowable load 550 N<br>• Min. breaking force 1500 N<br>• Size length x width x height : 75 x 23 x 11 mm                            |  |
| 2.03.02.30/6 | 10 <a href="#">62257.203.230</a> | • With secondary lock<br>• Max. allowable load 550 N<br>• Min. breaking force 1500 N<br>• Size length x width x height : 75 x 23 x 11 mm   |  |
| 2.04.00.30/6 | 10 <a href="#">62257.204.030</a> | • Max. allowable load 550 N<br>• Min. breaking force 1500 N<br>• Size length x width x height : 42,5 x 41 x 12 mm                          |  |

62257 QUICK SYSTEM Toggle latch

| No.          | ✉  | Art.number                    | No.  | ✉ | Art.number | No. | ✉ | Art.number  |
|--------------|----|-------------------------------|--|---|------------|-----|---|---|
| 2.05.00.30/6 | 5  | <a href="#">62257.205.030</a> | <ul style="list-style-type: none"> <li>• 12 mm adjustable</li> <li>• Max. allowable load 1100 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 128 x 52 x 18 mm</li> </ul>                                |   |            |     |   |    |
| 2.05.02.30/6 | 10 | <a href="#">62257.205.230</a> | <ul style="list-style-type: none"> <li>• 12 mm adjustable</li> <li>• With secondary lock</li> <li>• Max. allowable load 1100 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 128 x 52 x 18 mm</li> </ul> |   |            |     |   |    |
| 2.06.00.30/6 | 10 | <a href="#">62257.206.030</a> | <ul style="list-style-type: none"> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 84 x 28 x 17 mm</li> </ul>   |   |            |     |   |    |
| 2.06.01.30/6 | 10 | <a href="#">62257.206.130</a> | <ul style="list-style-type: none"> <li>• Padlockable</li> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2500 N</li> <li>• Size length x width x height : 84 x 28 x 17 mm</li> </ul>                                      |   |            |     |   |    |
| 2.18.00.30/6 | 5  | <a href="#">62257.218.030</a> | <ul style="list-style-type: none"> <li>• 12 mm adjustable</li> <li>• Max. allowable load 1500 N</li> <li>• Min. breaking force 3000 N</li> <li>• Size length x width x height : 88 x 52 x 25 mm</li> </ul>                                 |   |            |     |   |   |
| 2.41.00.30/6 | 10 | <a href="#">62257.241.030</a> | <ul style="list-style-type: none"> <li>• 10 mm adjustable</li> <li>• Max. allowable load 1000 N</li> <li>• Min. breaking force 2000 N</li> <li>• Size length x width x height : 70 x 25,5 x 18 mm</li> </ul>                               |   |            |     |   |  |
| 2.43.00.30/6 | 10 | <a href="#">62257.243.030</a> | <ul style="list-style-type: none"> <li>• Max. permitted load 550 N (120 lb). Min. breaking strength 1500 N (340 lb).</li> <li>• Dimensions length x width x height: 45 x 23 x 12 mm.</li> </ul>  |   |            |     |   |  |

## Strike for toggle latch



- Technical brochure available on request.

### Article groups

| Material | Surface treatment | Packaging | Code  | Page  |
|----------|-------------------|-----------|-------|-------|
| St       | Zipl              | Standard  | 62265 | 10-67 |
| St.St.   |                   | Standard  | 62267 | 10-68 |

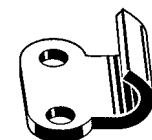
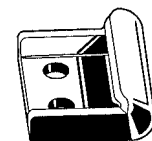
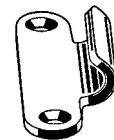
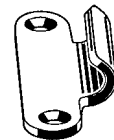
#### 62265 QUICK SYSTEM Strike for toggle latch

S04A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



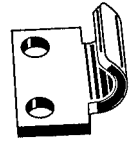
| No.          | ✉  | Art.number                    |  |
|--------------|----|-------------------------------|--|
| 2.00.00.04/5 | 5  | <a href="#">62265.200.004</a> | • Suitable for toggle latches type 2.00.00.04/6 and 2.00.01.04/6               |
| 2.01.00.04/5 | 5  | <a href="#">62265.201.004</a> | • Suitable for toggle latches type 2.01.00.04/6                                |
| 2.02.00.04/5 | 10 | <a href="#">62265.202.004</a> | • Suitable for toggle latches type 2.02.00.04/6                                |
| 2.03.00.04/5 | 10 | <a href="#">62265.203.004</a> | • Suitable for toggle latches type 2.03.00.04/6 and 2.03.02.04/6               |
| 2.04.00.04/5 | 10 | <a href="#">62265.204.004</a> | • Suitable for toggle latches type 2.04.00.04/6                                |
| 2.05.00.04/5 | 5  | <a href="#">62265.205.004</a> | • Suitable for toggle latches type 2.02.00.04/6, 2.06.00.04/6 and 2.06.01.04/6 |
| 2.18.00.04/5 | 5  | <a href="#">62265.218.004</a> | • Suitable for toggle latches type 2.18.00.04/6 and 2.18.01.04/6               |
| 2.40.00.08/5 | 5  | <a href="#">62265.240.008</a> | • Suitable for toggle latches type 2.40.00.08/6 and 2.40.01.08/6               |
| 2.41.00.08/5 | 10 | <a href="#">62265.241.008</a> | • Suitable for toggle latches type 2.41.00.08/6 and 2.41.01.08/6               |
| 2.42.00.08/5 | 10 | <a href="#">62265.242.008</a> | • Suitable for toggle latches type 2.42.00.08/6 and 2.43.00.08/6               |



**62265 QUICK SYSTEM Strike for toggle latch** ←

| No. | ✉ | Art.number | No. | ✉ | Art.number | No. | ✉ | Art.number |
|-----|---|------------|-----|---|------------|-----|---|------------|
|-----|---|------------|-----|---|------------|-----|---|------------|

|              |    |                               |   |  |  |  |  |  |
|--------------|----|-------------------------------|---|--|--|--|--|--|
| 2.44.00.08/5 | 10 | <a href="#">62265.244.030</a> | • | Suitable for toggle latches type 2.45.00.08/6 and 2.17.00.04/6 |  |  |  |  |
|--------------|----|-------------------------------|---|--|--|--|--|--|



• Technical brochure available on request.

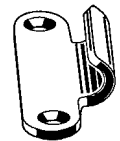
**62267 QUICK SYSTEM Strike for toggle latch** S04A

**Material** Stainless steel  
**Packaging** Standard



| No. | ✉ | Art.number |  |
|-----|---|------------|--|
|-----|---|------------|--|

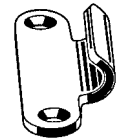
|              |    |                               |  |
|--------------|----|-------------------------------|--|
| 2.00.00.30/5 | 5  | <a href="#">62267.200.030</a> | • Suitable for toggle latches type 2.00.00.30/6 and 2.00.02.30/6 |
| 2.01.00.30/5 | 5  | <a href="#">62267.201.030</a> | • Suitable for toggle latches type 2.01.00.30/6                  |
| 2.02.00.30/5 | 10 | <a href="#">62267.202.030</a> | • Suitable for toggle latches type 2.02.00.30/6                  |
| 2.03.00.30/5 | 10 | <a href="#">62267.203.030</a> | • Suitable for toggle latches type 2.03.00.30/6 and 2.03.02.30/6 |
| 2.04.00.30/5 | 10 | <a href="#">62267.204.030</a> | • Suitable for toggle latches type 2.04.00.30/6                  |



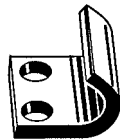
|              |   |                               |  |
|--------------|---|-------------------------------|--|
| 2.05.00.30/5 | 5 | <a href="#">62267.205.030</a> | • Suitable for toggle latches type 2.05.00.30/6, 2.05.02.30/6, 2.06.00.30/6 and 2.06.01.30/6 |
|--------------|---|-------------------------------|--|



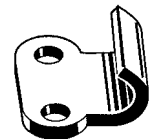
|              |   |                               |   |
|--------------|---|-------------------------------|---|
| 2.18.00.30/5 | 5 | <a href="#">62267.218.030</a> | • Suitable for toggle latches type 2.18.00.30/6 |
|--------------|---|-------------------------------|---|



|              |    |                               |   |
|--------------|----|-------------------------------|---|
| 2.41.00.30/5 | 10 | <a href="#">62267.241.030</a> | • Suitable for toggle latches type 2.41.00.30/6 |
|--------------|----|-------------------------------|---|



|              |    |                               |   |
|--------------|----|-------------------------------|---|
| 2.42.00.30/5 | 10 | <a href="#">62267.242.030</a> | • Suitable for toggle latches type 2.43.00.30/6 |
|--------------|----|-------------------------------|---|



## FABORY QUICK SYSTEM

### Pawl latches

#### Application

FABORY QUICK SYSTEM pawl latches are mainly used for locking installation boxes, cabinet doors, machinery cabinets etc.

#### Assembly

The FABORY QUICK SYSTEM pawl latch locking is mounted on the panel or door. On operation of the locking mechanism, the pawl mounted on the locking engages behind the frame part and thus makes a secure fastening.

#### Function

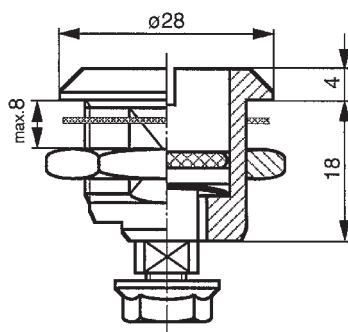
The pawl of the FABORY QUICK SYSTEM lockings are identical in function; for size, method of operation and manufacture, i.e. material (black polyamid with zinc inner parts, chrome plated zinc and stainless steel), there is a wide choice. With the standard models both an internal O-ring and a sealing ring for under the head are supplied with which the fastenings are splashproof in conformance with IP65.

#### Types

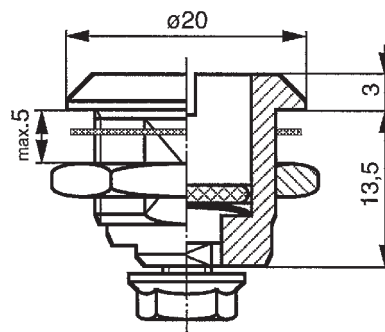
FABORY QUICK SYSTEM pawl latches are available in a large type and in a small type.



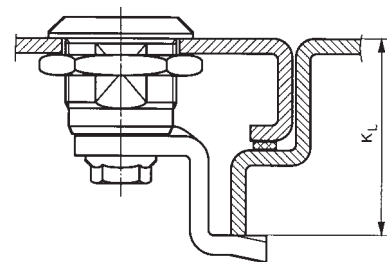
#### Technical and assembly data



Large type



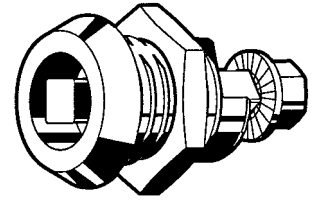
Small type



Grip range KL

For further technical data on sizes, loads, examples of application and assembly sequences, an extensive FABORY QUICK SYSTEM brochure is available on request.

## Locking



- Technical brochure available on request.

### Article groups

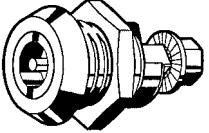
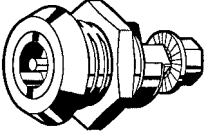
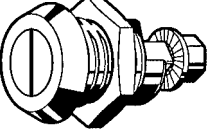
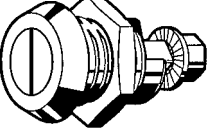
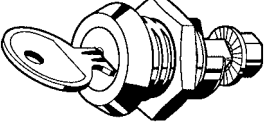
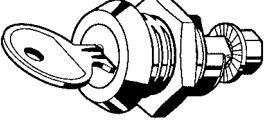
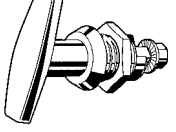
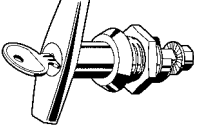
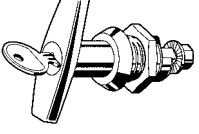
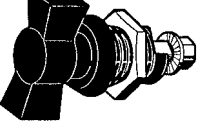
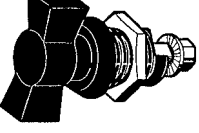
| Material | Surface treatment | Packaging | Code  | Page  |
|----------|-------------------|-----------|-------|-------|
|          | Chr.pl.           | Standard  | 62411 | 10-70 |
| St.St.   |                   | Standard  | 62413 | 10-72 |

| 62411 QUICK SYSTEM Locking |               | S04A |
|----------------------------|---------------|------|
| Surface treatment          | Chrome plated |      |
| Packaging                  | Standard      |      |

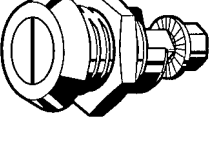
| No.     | ✉  | Art.number                    |  |  |
|---------|----|-------------------------------|--|--|
| 221178A | 10 | <a href="#">62411.221.178</a> | <ul style="list-style-type: none"> <li>• Locking with square 6 mm</li> <li>• Zinc chrome plated</li> <li>• Matching key, see article group 62415, type 291109</li> </ul>                       |  |
| 221179A | 10 | <a href="#">62411.221.179</a> | <ul style="list-style-type: none"> <li>• Locking with triangle 6,5 mm</li> <li>• Zinc chrome plated</li> <li>• Matching key, see article group 62415, type 291112</li> </ul>                   |  |
| 221180A | 10 | <a href="#">62411.221.180</a> | <ul style="list-style-type: none"> <li>• Locking with slotted head</li> <li>• Zinc chrome plated</li> </ul>  |  |
| 221308A | 10 | <a href="#">62411.221.308</a> | <ul style="list-style-type: none"> <li>• Locking with square 7 mm</li> <li>• Zinc chrome plated</li> <li>• Matching key, see article group 62415, type 291102</li> </ul>                       |  |
| 221308B | 10 | <a href="#">62411.221.309</a> | <ul style="list-style-type: none"> <li>• Locking with square 7 mm</li> <li>• Black polyamide with zinc inner parts</li> <li>• Matching key, see article group 62415, type 291102</li> </ul>    |  |
| 221313A | 10 | <a href="#">62411.221.313</a> | <ul style="list-style-type: none"> <li>• Locking with triangle 8 mm</li> <li>• Zinc chrome plated</li> <li>• Matching key, see article group 62415, type 291105.</li> </ul>                    |  |
| 221313B | 10 | <a href="#">62411.221.314</a> | <ul style="list-style-type: none"> <li>• Locking with triangle 8 mm</li> <li>• Black polyamide with zinc inner parts</li> <li>• Matching key, see article group 62415, type 291105.</li> </ul> |  |



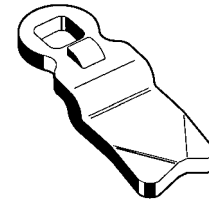
**62411 QUICK SYSTEM Locking**

| No.     | ✉  | Art.number                    | No.  | ✉ | Art.number | No. | ✉ | Art.number  |
|---------|----|-------------------------------|--|---|------------|-----|---|---|
| 221316A | 10 | <a href="#">62411.221.316</a> | • Locking with double bit 3 mm<br>• Zinc chrome plated<br>• Matching key, see article group 62415, type 291107.                    |   |            |     |   |    |
| 221316B | 10 | <a href="#">62411.221.317</a> | • Locking with double bit 3 mm<br>• Black polyamide with zinc inner parts<br>• Matching key, see article group 62415, type 291107. |   |            |     |   |    |
| 221320A | 10 | <a href="#">62411.221.320</a> | • Locking with slotted head<br>• Zinc chrome plated  |   |            |     |   |    |
| 221320B | 10 | <a href="#">62411.221.321</a> | • Locking with slotted head<br>• Black polyamide with zinc inner parts   |   |            |     |   |    |
| 241334  | 1  | <a href="#">62411.241.334</a> | • Locking with cylinder lock<br>• Identical locked<br>• 2 keys are supplied<br>• Zinc chrome plated                                |   |            |     |   |   |
| 241336  | 1  | <a href="#">62411.241.336</a> | • Locking with cylinder lock<br>• Not identical locked<br>• 2 keys are supplied<br>• Zinc chrome plated                            |   |            |     |   |  |
| 251350  | 1  | <a href="#">62411.251.350</a> | • Locking with T-handle<br>• Zinc chrome plated  |   |            |     |   |  |
| 251352  | 1  | <a href="#">62411.251.352</a> | • Locking with T-handle with cylinder lock<br>• Identical locked<br>• 2 keys are supplied<br>• Zinc chrome plated                  |   |            |     |   |  |
| 251354  | 1  | <a href="#">62411.251.354</a> | • Locking with T-handle with cylinder lock<br>• Not identical locked<br>• 2 keys are supplied<br>• Zinc chrome plated              |   |            |     |   |  |
| 295074A | 10 | <a href="#">62411.295.074</a> | • Locking with wing head<br>• Zinc chrome plated   |   |            |     |   |  |
| 295074B | 10 | <a href="#">62411.295.075</a> | • Locking with wing head<br>• Black polyamide with zinc inner parts  |   |            |     |   |  |

| 62413 QUICK SYSTEM Locking |                 | S04A  |
|----------------------------|-----------------|---|
| <b>Material</b>            | Stainless steel |  |
| <b>Packaging</b>           | Standard        |   |

| No.     | ✉ | Art.number                    |   |   |
|---------|---|-------------------------------|---|---|
| 223003A | 1 | <a href="#">62413.213.003</a> | • Matching key, see type 291107, article group 62415. |    |
| 223013A | 1 | <a href="#">62413.213.005</a> | • Matching key, see type 291102, article group 62415. |    |
| 223016A | 1 | <a href="#">62413.213.006</a> | • Matching key, see type 291105, article group 62415. |    |
| 223020A | 1 | <a href="#">62413.213.008</a> | • With slotted.                                       |  |

## Pawl latch



- Technical brochure available on request.

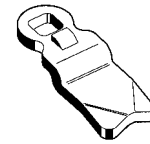
### Article groups

| Material | Surface treatment | Packaging | Code  | Page  |
|----------|-------------------|-----------|-------|-------|
| St       | Zipl              | Standard  | 62412 | 10-73 |
| St.St.   |                   | Standard  | 62414 | 10-74 |

#### 62412 QUICK SYSTEM Pawl latch

S04A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| No.    | ✉  | Art.number                    |   |
|--------|----|-------------------------------|---|
| 232101 | 10 | <a href="#">62412.232.101</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul>                             |
| 232102 | 10 | <a href="#">62412.232.102</a> | <ul style="list-style-type: none"> <li>• Grip range 4mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul>  |
| 232103 | 10 | <a href="#">62412.232.103</a> | <ul style="list-style-type: none"> <li>• Klembereik 6mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul>  |
| 232104 | 10 | <a href="#">62412.232.104</a> | <ul style="list-style-type: none"> <li>• Grip range 8mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul>  |
| 232105 | 10 | <a href="#">62412.232.105</a> | <ul style="list-style-type: none"> <li>• Grip range 10mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232106 | 10 | <a href="#">62412.232.106</a> | <ul style="list-style-type: none"> <li>• Grip range 12mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232107 | 10 | <a href="#">62412.232.107</a> | <ul style="list-style-type: none"> <li>• Grip range 13mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232108 | 10 | <a href="#">62412.232.108</a> | <ul style="list-style-type: none"> <li>• Grip range 14mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232109 | 10 | <a href="#">62412.232.109</a> | <ul style="list-style-type: none"> <li>• Grip range 16mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232110 | 10 | <a href="#">62412.232.110</a> | <ul style="list-style-type: none"> <li>• Grip range 18mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232111 | 10 | <a href="#">62412.232.111</a> | <ul style="list-style-type: none"> <li>• Grip range 20mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232112 | 10 | <a href="#">62412.232.112</a> | <ul style="list-style-type: none"> <li>• Grip range 22mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232113 | 10 | <a href="#">62412.232.113</a> | <ul style="list-style-type: none"> <li>• Grip range 24mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232114 | 10 | <a href="#">62412.232.114</a> | <ul style="list-style-type: none"> <li>• Grip range 25mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
| 232115 | 10 | <a href="#">62412.232.115</a> | <ul style="list-style-type: none"> <li>• Grip range 26mm.</li> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> </ul> |
|        |    |                               | <ul style="list-style-type: none"> <li>• Grip range 28mm.</li> </ul>  |

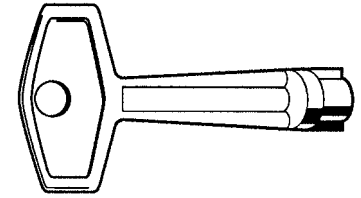
| 62412 QUICK SYSTEM Pawl latch |    |                               |   |
|-------------------------------|----|-------------------------------|---|
| No.                           | ✉  | Art.number                    | No.   |
| 232136                        | 10 | <a href="#">62412.232.136</a> | <ul style="list-style-type: none"> <li>• 3 points pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 18mm.</li> <li>• Applicable with locking bars.</li> </ul>   |
| 232137                        | 10 | <a href="#">62412.232.137</a> | <ul style="list-style-type: none"> <li>• 2 retaining washers (for assembly with locking bar) are supplied separately.</li> <li>• 3 points pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 20mm.</li> <li>• Applicable with locking bars.</li> </ul> |
| 232138                        | 10 | <a href="#">62412.232.138</a> | <ul style="list-style-type: none"> <li>• 2 retaining washers (for assembly with locking bar) are supplied separately.</li> <li>• 3 points pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 22mm.</li> <li>• Applicable with locking bars.</li> </ul> |
| 232139                        | 10 | <a href="#">62412.232.139</a> | <ul style="list-style-type: none"> <li>• 2 retaining washers (for assembly with locking bar) are supplied separately.</li> <li>• 3 points pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 24mm.</li> <li>• Applicable with locking bars.</li> </ul> |
| 232141                        | 10 | <a href="#">62412.232.141</a> | <ul style="list-style-type: none"> <li>• 2 retaining washers (for assembly with locking bar) are supplied separately.</li> <li>• 3 points pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 26mm.</li> <li>• Applicable with locking bars.</li> </ul> |
| 232142                        | 10 | <a href="#">62412.232.142</a> | <ul style="list-style-type: none"> <li>• 2 retaining washers (for assembly with locking bar) are supplied separately.</li> <li>• 3 points pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 28mm.</li> <li>• Applicable with locking bars.</li> </ul> |
| 232155                        | 10 | <a href="#">62412.232.155</a> | <ul style="list-style-type: none"> <li>• 2 retaining washers (for assembly with locking bar) are supplied separately.</li> <li>• 1 points pawl.</li> <li>• Suitable for lockings, small type.</li> <li>• Grip range 7,5mm.</li> </ul>   |
| 232160                        | 10 | <a href="#">62412.232.160</a> | <ul style="list-style-type: none"> <li>• 1 points pawl.</li> <li>• Suitable for lockings, small type.</li> <li>• Grip range 13,5mm.</li> </ul>  |
| 232164                        | 10 | <a href="#">62412.232.164</a> | <ul style="list-style-type: none"> <li>• 1 points pawl.</li> <li>• Suitable for lockings, small type.</li> <li>• Grip range 19,5mm.</li> </ul>  |

| 62414 QUICK SYSTEM Pawl latch |                 | S04A  |
|-------------------------------|-----------------|---|
| <b>Material</b>               | Stainless steel |  |
| <b>Packaging</b>              | Standard        |   |

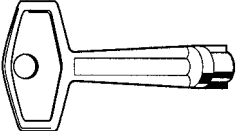
| No.    | ✉ | Art.number                    | No.   |
|--------|---|-------------------------------|---|
| 233004 | 1 | <a href="#">62414.233.004</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 10mm.</li> </ul> |
| 233005 | 1 | <a href="#">62414.233.005</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 12mm.</li> </ul> |
| 233006 | 1 | <a href="#">62414.233.006</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 13mm.</li> </ul> |
| 233007 | 1 | <a href="#">62414.233.007</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 14mm.</li> </ul> |
| 233008 | 1 | <a href="#">62414.233.008</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 16mm.</li> </ul> |
| 233009 | 1 | <a href="#">62414.233.009</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 18mm.</li> </ul> |
| 233010 | 1 | <a href="#">62414.233.010</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 20mm.</li> </ul> |
| 233011 | 1 | <a href="#">62414.233.011</a> | <ul style="list-style-type: none"> <li>• 1 point pawl.</li> <li>• Suitable for lockings, large type.</li> <li>• Grip range 22mm.</li> </ul> |

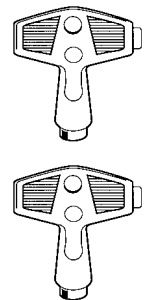
| 62414 QUICK SYSTEM Pawl latch <span style="float: right;">←</span> |   |                               |                                      |   |            |     |   |            |
|--|---|-------------------------------|--------------------------------------|---|------------|-----|---|------------|
| No.  | ✉ | Art.number                    | No.                                  | ✉ | Art.number | No. | ✉ | Art.number |
| 233012   | 1 | <a href="#">62414.233.012</a> |                                      |   |            |     |   |            |
|  |   |                               | • 1 point pawl.                      |   |            |     |   |            |
|  |   |                               | • Suitable for lockings, large type. |   |            |     |   |            |
| 233013   | 1 | <a href="#">62414.233.013</a> |                                      |   |            |     |   |            |
|  |   |                               | • Grip range 24mm.                   |   |            |     |   |            |
|  |   |                               | • 1 point pawl.                      |   |            |     |   |            |
|  |   |                               | • Suitable for lockings, large type. |   |            |     |   |            |
| 233014   | 1 | <a href="#">62414.233.014</a> |                                      |   |            |     |   |            |
|  |   |                               | • Grip range 25mm.                   |   |            |     |   |            |
|  |   |                               | • 1 point pawl.                      |   |            |     |   |            |
|  |   |                               | • Suitable for lockings, large type. |   |            |     |   |            |
| 233015   | 1 | <a href="#">62414.233.015</a> |                                      |   |            |     |   |            |
|  |   |                               | • Grip range 26mm.                   |   |            |     |   |            |
|  |   |                               | • 1 point pawl.                      |   |            |     |   |            |
|  |   |                               | • Suitable for lockings, large type. |   |            |     |   |            |
|  |   |                               | • Grip range 28mm.                   |   |            |     |   |            |

## Matching key

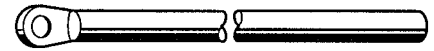


- Technical brochure available on request.

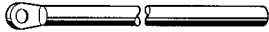
| 62415 QUICK SYSTEM Matching key |          |                               | S04A  |
|---------------------------------|----------|-------------------------------|---|
| <b>Packaging</b>                | Standard |                               |    |
| No.                             | ✉        | Art.number                    |   |
| 291102                          | 1        | <a href="#">62415.291.102</a> | <ul style="list-style-type: none"> <li>• Suitable for lockings, large type</li> <li>• Zinc</li> </ul>   |
| 291103                          | 1        | <a href="#">62415.291.103</a> | <ul style="list-style-type: none"> <li>• Square 7 mm</li> <li>• Suitable for lockings, large type</li> <li>• Zinc</li> </ul>                            |
| 291104                          | 1        | <a href="#">62415.291.104</a> | <ul style="list-style-type: none"> <li>• Square 8 mm</li> <li>• Suitable for lockings, large type</li> <li>• Zinc</li> </ul>                            |
| 291105                          | 1        | <a href="#">62415.291.105</a> | <ul style="list-style-type: none"> <li>• Triangle 7 mm</li> <li>• Suitable for lockings, large type</li> <li>• Zinc</li> </ul>                          |
| 291107                          | 1        | <a href="#">62415.291.107</a> | <ul style="list-style-type: none"> <li>• Triangle 8 mm</li> <li>• Suitable for lockings, large type</li> <li>• Zinc</li> </ul>                          |
| 291108                          | 1        | <a href="#">62415.291.108</a> | <ul style="list-style-type: none"> <li>• Double bit 3 mm</li> <li>• Suitable for lockings, large type</li> <li>• Zinc</li> </ul>                        |
| 291109                          | 1        | <a href="#">62415.291.109</a> | <ul style="list-style-type: none"> <li>• Double bit 5 mm</li> <li>• Suitable for lockings, small type</li> <li>• Zinc</li> <li>• Square 6 mm</li> </ul> |
| 291112                          | 1        | <a href="#">62415.291.112</a> | <ul style="list-style-type: none"> <li>• Suitable for lockings, small type</li> <li>• Zinc</li> <li>• Triangle 6,5 mm</li> </ul>                        |



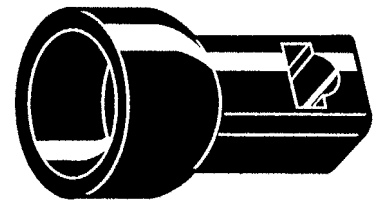
## Pawl latch accessories



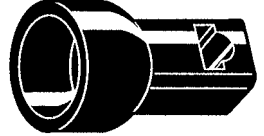
- Technical brochure available on request.

| 62416 QUICK SYSTEM Pawl latch accessories |          | S04A  |
|---|----------|---|
| <b>Packaging</b>                          | Standard |    |
| No.                                       | ☒        | <a href="#">Art.number</a>  |
| 282103                                    | 4        | <a href="#">62416.282.103</a> <ul style="list-style-type: none"> <li>• Locking bar without runners</li> <li>• Length 600 mm</li> </ul>  |
| 282107                                    | 4        | <a href="#">62416.282.107</a> <ul style="list-style-type: none"> <li>• Locking bar without runners</li> <li>• Length 1000 mm</li> </ul>   |
| 282113                                    | 4        | <a href="#">62416.282.113</a> <ul style="list-style-type: none"> <li>• Locking bar with runners</li> <li>• Mounting adaptor has to be ordered separately</li> <li>• Length 600 mm</li> </ul>  |
| 282116                                    | 4        | <a href="#">62416.282.116</a> <ul style="list-style-type: none"> <li>• Locking bar with runners</li> <li>• Mounting adaptor has to be ordered separately</li> <li>• Length 1000 mm</li> </ul> |
| 282119                                    | 4        | <a href="#">62416.282.119</a> <ul style="list-style-type: none"> <li>• Mounting adaptor</li> <li>• Zinc</li> <li>• Suitable for locking bar with runners</li> </ul>                           |

## Locking bar guide



- Technical brochure available on request.

| 62417 QUICK SYSTEM Locking bar guide |                           | S04A   |
|--------------------------------------|---------------------------|--|
| <b>Material</b>                      | Plastic Polyamide (nylon) |   |
| <b>Packaging</b>                     | Standard                  |  |
| No.                                  | ☒                         | <a href="#">Art.number</a>   |
| 200-3601                             | 4                         | <a href="#">62417.203.601</a> <ul style="list-style-type: none"> <li>• Type 258 024</li> <li>• Sheet reversal 20 mm</li> </ul> |
| 200-3602                             | 4                         | <a href="#">62417.203.602</a> <ul style="list-style-type: none"> <li>• Type 258 023</li> <li>• Sheet reversal 26 mm</li> </ul> |

# FABORY QUICK SYSTEM

## Quarter turn fasteners

### General

A *FABORY QUICK SYSTEM* quarter turn fastener is a simple, fast and reliable fastener meant for connecting panels to a frame or components to one another.

### Application

*FABORY QUICK SYSTEM* quarter turn fasteners are used for mounting panels or components in a fast and servicefriendly manner that must be removed or replaced for maintenance. It does not matter whether this operation must be done once a month or many times per hour.

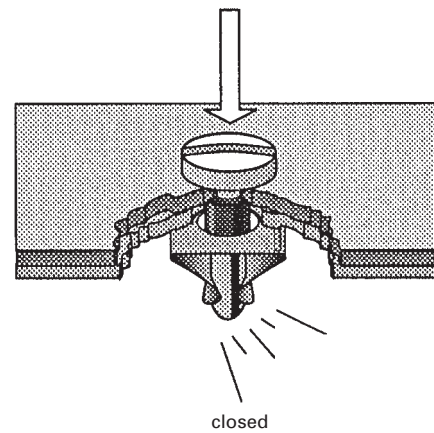
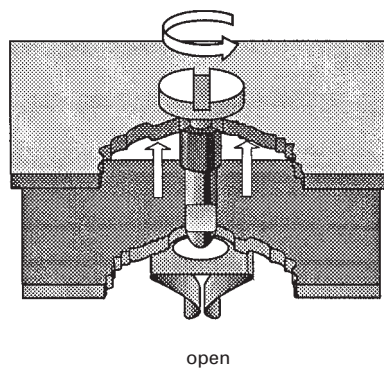
### Principle

In its simplest form a *FABORY QUICK SYSTEM* quarter turn fastener consists of a stud mounted on the panel by means of a retainer and a receptacle mounted on the frame.

### Assembly

A *FABORY QUICK SYSTEM* quarter turn fastener is fastened by pressing, while a quarter turn breaks the bond, see assembly data below.

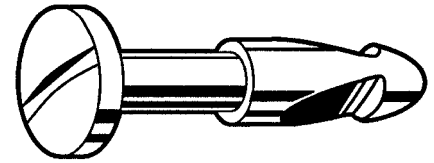
### Assembly data



For further technical data on sizes, loads, examples of application and assembly sequences, an extensive *FABORY QUICK SYSTEM* brochure is available on request.



## Stud with slotted head

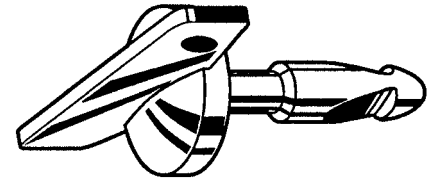


- Technical brochure available on request.

| 62272 QUICK SYSTEM Stud with slotted head type D |               | S04A  |
|--|---------------|---|
| <b>Material</b>                                  | Brass         |  |
| <b>Surface treatment</b>                         | Nickel plated |   |
| <b>Packaging</b>                                 | Standard      |   |

| No.    | ☒  | Art.number                    | No.    | ☒  | Art.number                    | No.    | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| D 0802 | 25 | <a href="#">62272.000.802</a> | D 1107 | 25 | <a href="#">62272.001.107</a> | D 1604 | 25 | <a href="#">62272.001.604</a> |
| D 0803 | 25 | <a href="#">62272.000.803</a> | D 1108 | 25 | <a href="#">62272.001.108</a> | D 1606 | 25 | <a href="#">62272.001.606</a> |
| D 0804 | 25 | <a href="#">62272.000.804</a> | D 1109 | 25 | <a href="#">62272.001.109</a> | D 1608 | 25 | <a href="#">62272.001.608</a> |
| D 0805 | 25 | <a href="#">62272.000.805</a> | D 1110 | 25 | <a href="#">62272.001.110</a> | D 1610 | 25 | <a href="#">62272.001.610</a> |
| D 0806 | 25 | <a href="#">62272.000.806</a> | D 1111 | 25 | <a href="#">62272.001.111</a> | D 1612 | 25 | <a href="#">62272.001.612</a> |
| D 0807 | 25 | <a href="#">62272.000.807</a> | D 1112 | 25 | <a href="#">62272.001.112</a> | D 1614 | 25 | <a href="#">62272.001.614</a> |
| D 0808 | 25 | <a href="#">62272.000.808</a> | D 1114 | 25 | <a href="#">62272.001.114</a> | D 1616 | 25 | <a href="#">62272.001.616</a> |
| D 1103 | 25 | <a href="#">62272.001.103</a> | D 1116 | 25 | <a href="#">62272.001.116</a> | D 1618 | 25 | <a href="#">62272.001.618</a> |
| D 1104 | 25 | <a href="#">62272.001.104</a> | D 1118 | 25 | <a href="#">62272.001.118</a> | D 1620 | 25 | <a href="#">62272.001.620</a> |
| D 1105 | 25 | <a href="#">62272.001.105</a> | D 1120 | 25 | <a href="#">62272.001.120</a> |        |    |                               |
| D 1106 | 25 | <a href="#">62272.001.106</a> | D 1122 | 25 | <a href="#">62272.001.122</a> |        |    |                               |

## Stud with wing head

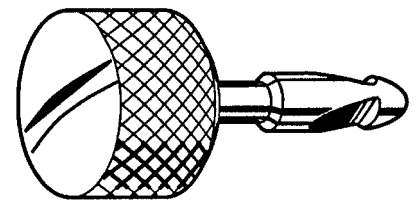


- Technical brochure available on request.

| 62273 QUICK SYSTEM Stud with wing head type W |               | S04A |
|---|---------------|------|
| <b>Material</b>                               | Brass         |      |
| <b>Surface treatment</b>                      | Nickel plated |      |
| <b>Packaging</b>                              | Standard      |      |

| No.    | ☒  | Art.number                    | No.    | ☒  | Art.number                    | No.    | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| W 0802 | 25 | <a href="#">62273.000.802</a> | W 1107 | 25 | <a href="#">62273.001.107</a> | W 1604 | 25 | <a href="#">62273.001.604</a> |
| W 0803 | 25 | <a href="#">62273.000.803</a> | W 1108 | 25 | <a href="#">62273.001.108</a> | W 1606 | 25 | <a href="#">62273.001.606</a> |
| W 0804 | 25 | <a href="#">62273.000.804</a> | W 1109 | 25 | <a href="#">62273.001.109</a> | W 1608 | 25 | <a href="#">62273.001.608</a> |
| W 0805 | 25 | <a href="#">62273.000.805</a> | W 1110 | 25 | <a href="#">62273.001.110</a> | W 1610 | 25 | <a href="#">62273.001.610</a> |
| W 0806 | 25 | <a href="#">62273.000.806</a> | W 1111 | 25 | <a href="#">62273.001.111</a> | W 1612 | 25 | <a href="#">62273.001.612</a> |
| W 0807 | 25 | <a href="#">62273.000.807</a> | W 1112 | 25 | <a href="#">62273.001.112</a> | W 1614 | 25 | <a href="#">62273.001.614</a> |
| W 0808 | 25 | <a href="#">62273.000.808</a> | W 1114 | 25 | <a href="#">62273.001.114</a> | W 1616 | 25 | <a href="#">62273.001.616</a> |
| W 1103 | 25 | <a href="#">62273.001.103</a> | W 1116 | 25 | <a href="#">62273.001.116</a> | W 1618 | 25 | <a href="#">62273.001.618</a> |
| W 1104 | 25 | <a href="#">62273.001.104</a> | W 1118 | 25 | <a href="#">62273.001.118</a> | W 1620 | 25 | <a href="#">62273.001.620</a> |
| W 1105 | 25 | <a href="#">62273.001.105</a> | W 1120 | 25 | <a href="#">62273.001.120</a> |        |    |                               |
| W 1106 | 25 | <a href="#">62273.001.106</a> | W 1122 | 25 | <a href="#">62273.001.122</a> |        |    |                               |

## Stud with knurled slotted knob

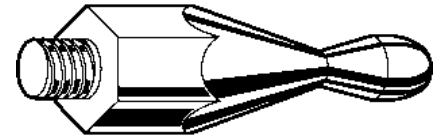


- Technical brochure available on request.


| 62274 QUICK SYSTEM Stud with knurled slotted knob type K |               | S04A |
|--|---------------|------|
| <b>Material</b>  | Brass         |      |
| <b>Surface treatment</b>                                 | Nickel plated |      |
| <b>Packaging</b>   | Standard      |      |

| No.    | ☒  | Art.number                    | No.    | ☒  | Art.number                    | No.    | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| K 0803 | 25 | <a href="#">62274.000.803</a> | K 1107 | 25 | <a href="#">62274.001.107</a> | K 1606 | 25 | <a href="#">62274.001.606</a> |
| K 0804 | 25 | <a href="#">62274.000.804</a> | K 1108 | 25 | <a href="#">62274.001.108</a> | K 1608 | 25 | <a href="#">62274.001.608</a> |
| K 0805 | 25 | <a href="#">62274.000.805</a> | K 1110 | 25 | <a href="#">62274.001.110</a> | K 1610 | 25 | <a href="#">62274.001.610</a> |
| K 0806 | 25 | <a href="#">62274.000.806</a> | K 1112 | 25 | <a href="#">62274.001.112</a> | K 1612 | 25 | <a href="#">62274.001.612</a> |
| K 0808 | 25 | <a href="#">62274.000.808</a> | K 1114 | 25 | <a href="#">62274.001.114</a> | K 1614 | 25 | <a href="#">62274.001.614</a> |
| K 1103 | 25 | <a href="#">62274.001.103</a> | K 1116 | 25 | <a href="#">62274.001.116</a> | K 1616 | 25 | <a href="#">62274.001.616</a> |
| K 1104 | 25 | <a href="#">62274.001.104</a> | K 1118 | 25 | <a href="#">62274.001.118</a> | K 1618 | 25 | <a href="#">62274.001.618</a> |
| K 1105 | 25 | <a href="#">62274.001.105</a> | K 1120 | 25 | <a href="#">62274.001.120</a> | K 1620 | 25 | <a href="#">62274.001.620</a> |
| K 1106 | 25 | <a href="#">62274.001.106</a> | K 1122 | 25 | <a href="#">62274.001.122</a> |        |    |                               |

## Ball stud

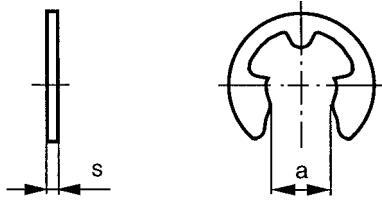


- Technical brochure available on request.

| 62276 QUICK SYSTEM Ball stud type KB |          | S04A  |
|--------------------------------------|----------|---|
| <b>Packaging</b>                     | Standard |  |
| Type                                 | ☒        | Art.number  |
| KB 08 M4 S=7                         | 25       | <a href="#">62276.408.010</a>   |
| KB 08 M5 S=11                        | 25       | <a href="#">62276.508.020</a>   |
| KB 08 M5 S=115                       | 25       | <a href="#">62276.508.040</a>   |
| KB 1615 M6X7 S=8                     | 25       | <a href="#">62276.616.150</a>   |
| KB 1615 M6X15 S=8                    | 25       | <a href="#">62276.616.151</a>   |

- Brass nickel plated.
- Brass nickel plated.
- Brass nickel plated.
- Steel zinc plated, yellow passivated.
- Steel zinc plated, yellow passivated.

## Retaining washer Quick System

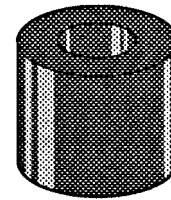


- Technical brochure available on request.

| 62282 QUICK SYSTEM Retaining washer |              | S04A  |
|-------------------------------------|--------------|---|
| <b>Material</b>                     | Spring steel |   |
| <b>Packaging</b>                    | Standard     |   |
| Nom. size                           | ☒            | Art.number  |
| 2,3MM                               | 25           | <a href="#">62282.023.001</a> <ul style="list-style-type: none"> <li>• Retaining washer (stud retainer)</li> <li>• Spring steel, phosphated</li> </ul>                |
| 4MM                                 | 25           | <a href="#">62282.040.001</a> <ul style="list-style-type: none"> <li>• Retaining washer (stud retainer)</li> <li>• Spring steel, phosphated</li> </ul>                |
| 4MM                                 | 25           | <a href="#">62282.040.002</a> <ul style="list-style-type: none"> <li>• Fixing washer (quick retainer)</li> <li>• Spring steel, bronze plated and varnished</li> </ul> |
| 6MM                                 | 25           | <a href="#">62282.060.002</a> <ul style="list-style-type: none"> <li>• Fixing washer (quick retainer)</li> <li>• Spring steel, bronze plated and varnished</li> </ul> |
| 8MM                                 | 25           | <a href="#">62282.080.001</a> <ul style="list-style-type: none"> <li>• Retaining washer (stud retainer)</li> <li>• Spring steel, phosphated</li> </ul>                |
| 10MM                                | 25           | <a href="#">62282.100.002</a> <ul style="list-style-type: none"> <li>• Fixing washer (quick retainer)</li> <li>• Spring steel, bronze plated and varnished</li> </ul> |



## Grommet (retaining ring) Quick System



- Technical brochure available on request.

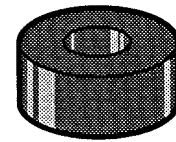
### Article groups

| Material |    | Packaging | Code  | Page  |
|----------|----|-----------|-------|-------|
| Neoprene | R  | Standard  | 62283 | 10-83 |
| Neoprene | RC | Standard  | 62284 | 10-83 |

#### 62283 QUICK SYSTEM Grommet (retaining ring) type R

S04A

**Material** Neoprene  
**Packaging** Standard

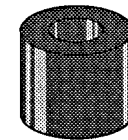


| No.    | ✉  | Art.number                    | No.    | ✉  | Art.number                    | No.    | ✉  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| R 1208 | 25 | <a href="#">62283.001.208</a> | R 2511 | 25 | <a href="#">62283.002.511</a> | R 4808 | 25 | <a href="#">62283.004.808</a> |
| R 1708 | 25 | <a href="#">62283.001.708</a> | R 2516 | 25 | <a href="#">62283.002.516</a> | R 5011 | 25 | <a href="#">62283.005.011</a> |
| R 1711 | 25 | <a href="#">62283.001.711</a> | R 3208 | 25 | <a href="#">62283.003.208</a> | R 5616 | 25 | <a href="#">62283.005.616</a> |
| R 1716 | 25 | <a href="#">62283.001.716</a> | R 4011 | 25 | <a href="#">62283.004.011</a> | R 6011 | 25 | <a href="#">62283.006.011</a> |
| R 2508 | 25 | <a href="#">62283.002.508</a> | R 4016 | 25 | <a href="#">62283.004.016</a> |        |    |                               |

#### 62284 QUICK SYSTEM Grommet (retaining ring) type RC

S04A

**Material** Neoprene  
**Packaging** Standard




| No.     | ✉  | Art.number                    | No.       | ✉  | Art.number                    | No.       | ✉  | Art.number                    |
|---------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| RC 4008 | 25 | <a href="#">62284.004.008</a> | RC 6011/3 | 25 | <a href="#">62284.060.113</a> | RC 6011/6 | 25 | <a href="#">62284.060.116</a> |

- Only suitable with three-part clip type CR, see group code 62325

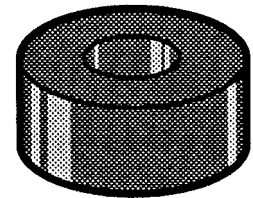
## Protecting washer



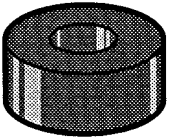
- Technical brochure available on request.

| 62285 QUICK SYSTEM Protecting washer type RT |                           | S04A  |         |    |                               |         |    |                               |
|--|---------------------------|---|---------|----|-------------------------------|---------|----|-------------------------------|
| <b>Material</b>                              | Plastic Polyamide (nylon) |   |         |    |                               |         |    |                               |
| <b>Class</b>                                 | 6                         |   |         |    |                               |         |    |                               |
| <b>Packaging</b>                             | Standard                  |   |         |    |                               |         |    |                               |
|  |                           |  |         |    |                               |         |    |                               |
| No.  | ✉                         | Art.number  | No.     | ✉  | Art.number                    | No.     | ✉  | Art.number                    |
| RT 0208                                      | 25                        | <a href="#">62285.000.208</a>   | RT 0211 | 25 | <a href="#">62285.000.211</a> | RT 0216 | 25 | <a href="#">62285.000.216</a> |

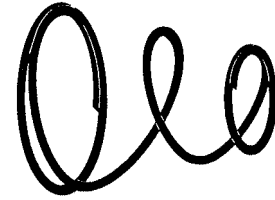
## Sealing ring Quick System




- Technical brochure available on request.

| 62286 QUICK SYSTEM Sealing ring type RW |          | S04A  |         |    |                               |         |    |                               |
|---|----------|---|---------|----|-------------------------------|---------|----|-------------------------------|
| <b>Material</b>                         | Neoprene |   |         |    |                               |         |    |                               |
| <b>Packaging</b>                        | Standard |   |         |    |                               |         |    |                               |
|   |          |  |         |    |                               |         |    |                               |
| No.                                     | ✉        | Art.number  | No.     | ✉  | Art.number                    | No.     | ✉  | Art.number                    |
| RW 0511                                 | 25       | <a href="#">62286.000.511</a>   | RW 1508 | 25 | <a href="#">62286.001.508</a> | RW 2011 | 25 | <a href="#">62286.002.011</a> |
| RW 1011                                 | 25       | <a href="#">62286.001.011</a>   | RW 1511 | 25 | <a href="#">62286.001.511</a> | RW 2016 | 25 | <a href="#">62286.002.016</a> |

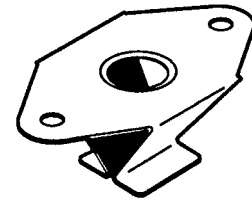
## Conical retaining spring Quick System



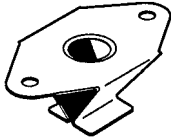
- Technical brochure available on request.

| 62302 QUICK SYSTEM Conical retaining springs type KF |                 | S04A  |       |    |                               |       |    |                               |
|--|-----------------|---|-------|----|-------------------------------|-------|----|-------------------------------|
| <b>Material</b>                                      | Stainless steel |   |       |    |                               |       |    |                               |
| <b>Packaging</b>                                     | Standard        |   |       |    |                               |       |    |                               |
|  |                 |  |       |    |                               |       |    |                               |
| No.  | ✉               | Art.number  | No.   | ✉  | Art.number                    | No.   | ✉  | Art.number                    |
| KF 08  | 25              | <a href="#">62302.000.008</a>   | KF 11 | 25 | <a href="#">62302.000.011</a> | KF 16 | 25 | <a href="#">62302.000.016</a> |

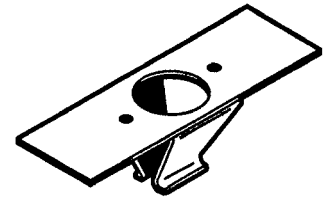
## Rivet spring plate



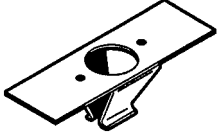
- Technical brochure available on request.

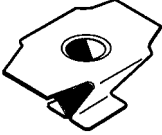
| 62303 QUICK SYSTEM Rivet spring plate |          | S04A  |                      |
|---------------------------------------|----------|---|----------------------|
| <b>Packaging</b>                      | Standard |   |                      |
|                                       |          |  |                      |
| No.                                   | ✉        | Art.number  |                      |
| C 08/2,6                              | 25       | <a href="#">62303.080.001</a>   | • Steel zinc plated. |
| C 08/19                               | 25       | <a href="#">62303.080.002</a>   | • Steel zinc plated. |
| C 08/2,6                              | 25       | <a href="#">62303.080.003</a>   | • Stainless steel.   |
| C 11                                  | 25       | <a href="#">62303.110.001</a>   | • Steel zinc plated. |
| C 11                                  | 25       | <a href="#">62303.110.002</a>   | • Stainless steel.   |
| C 16                                  | 25       | <a href="#">62303.160.001</a>   | • Steel zinc plated. |
| C 16                                  | 25       | <a href="#">62303.160.002</a>   | • Stainless steel.   |

## Weld spring plate

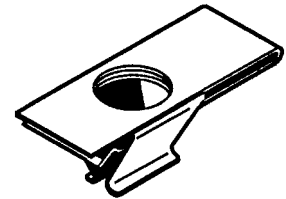


- Technical brochure available on request.

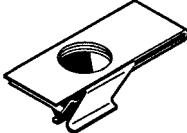
| 62304 QUICK SYSTEM Weld spring plate |          |                               | S04A  |
|--------------------------------------|----------|-------------------------------|---|
| <b>Packaging</b>                     | Standard |                               |  |
| <b>No.</b>                           | ✉        | <b>Art.number</b>             |   |
| CP 08                                | 25       | <a href="#">62304.000.008</a> | • Steel zinc plated.  |
| CP 11                                | 25       | <a href="#">62304.000.011</a> | • Steel zinc plated.  |
| CP 16                                | 25       | <a href="#">62304.000.016</a> | • Steel zinc plated.  |
| C 08/MSN                             | 25       | <a href="#">62304.080.004</a> | • Stainless steel.  |



## Slip-on spring receptacle

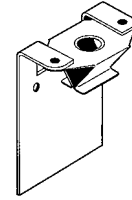


- Technical brochure available on request.

| 62305 QUICK SYSTEM Slip-on spring receptacles |             |                               | S04A  |
|---|-------------|-------------------------------|---|
| <b>Material</b>                               | Steel       |                               |  |
| <b>Surface treatment</b>                      | Zinc plated |                               |   |
| <b>Packaging</b>                              | Standard    |                               |   |
| <b>No.</b>                                    | ✉           | <b>Art.number</b>             |   |
| CS 08/1,4                                     | 25          | <a href="#">62305.080.001</a> | • For frame thickness: 0,5 - 1,4 mm.  |
| CS 08/3,0                                     | 25          | <a href="#">62305.080.003</a> | • For frame thickness: 1,5 - 3,0 mm.  |



## Spring brackets

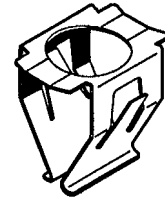


- Technical brochure available on request.

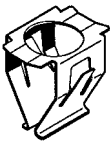
| 62306 QUICK SYSTEM Spring brackets |             | S04A |
|------------------------------------|-------------|------|
| <b>Material</b>                    | Steel       |      |
| <b>Surface treatment</b>           | Zinc plated |      |
| <b>Packaging</b>                   | Standard    |      |

| Type     | ☒  | Art.number                    |  |  |
|----------|----|-------------------------------|--|--|
| MSC 08/1 | 25 | <a href="#">62306.080.001</a> | • Zinc plated.   |  |
| MSCR 08  | 25 | <a href="#">62306.080.002</a> | • Zinc plated, yellow passivated with an steel zinc plated spring plate. |  |
| MSC 11/1 | 25 | <a href="#">62306.110.001</a> | • Zinc plated.   |  |
| MSCR 11  | 25 | <a href="#">62306.110.002</a> | • Zinc plated, yellow passivated with an steel zinc plated spring plate. |  |
| MSC 16/1 | 25 | <a href="#">62306.160.001</a> | • Zinc plated.   |  |
| MSCR 16  | 25 | <a href="#">62306.160.002</a> | • Zinc plated, yellow passivated with an steel zinc plated spring plate. |  |

## Front load receptacles




- Technical brochure available on request.

| 62323 QUICK SYSTEM Front load receptacles |          |                               |                     | S04A  |
|---|----------|-------------------------------|---------------------|---|
| <b>Material</b>                           | Steel    |                               |                     |  |
| <b>Packaging</b>                          | Standard |                               |                     |   |
| No.                                       | ✉        | Art.number                    |                     |   |
| CC 08/1                                   | 25       | <a href="#">62323.080.001</a> | • Steel zinc plated |   |
| CC 08/2                                   | 25       | <a href="#">62323.080.002</a> | • Steel zinc plated |   |
| CC 08/3                                   | 25       | <a href="#">62323.080.003</a> | • Steel zinc plated |   |
| CC 08/4                                   | 25       | <a href="#">62323.080.004</a> | • Steel zinc plated |   |
| CC 11/1                                   | 25       | <a href="#">62323.110.001</a> | • Steel zinc plated |   |
| CC 11/2                                   | 25       | <a href="#">62323.110.002</a> | • Steel zinc plated |   |
| CC 11/3                                   | 25       | <a href="#">62323.110.003</a> | • Steel zinc plated |   |
| CC 11/4                                   | 25       | <a href="#">62323.110.004</a> | • Steel zinc plated |   |
| CX11/15                                   | 25       | <a href="#">62323.110.015</a> | • Stainless steel   |   |
| CX11/20                                   | 25       | <a href="#">62323.110.020</a> | • Stainless steel   |   |
| CX11/25                                   | 25       | <a href="#">62323.110.025</a> | • Stainless steel   |   |
| CC 16/1                                   | 25       | <a href="#">62323.160.001</a> | • Steel zinc plated |   |
| CC 16/2                                   | 25       | <a href="#">62323.160.002</a> | • Steel zinc plated |   |
| CC 16/3                                   | 25       | <a href="#">62323.160.003</a> | • Steel zinc plated |   |
| CC 16/4                                   | 25       | <a href="#">62323.160.004</a> | • Steel zinc plated |   |

## Three-part clip

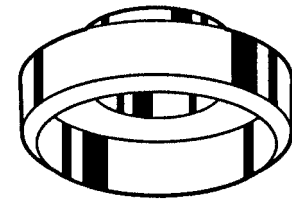


- Technical brochure available on request.

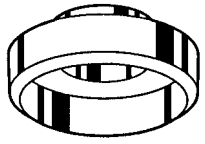
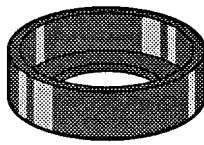
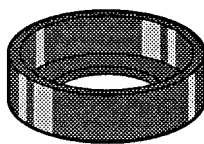
| 62325 QUICK SYSTEM Three-part clip |          |                               |                | S04A  |                               |     |   |            |
|------------------------------------|----------|-------------------------------|----------------|---|-------------------------------|-----|---|------------|
| <b>Packaging</b>                   | Standard |                               |                |  |                               |     |   |            |
|                                    |          |                               |                |   |                               |     |   |            |
| No.                                | ✉        | Art.number                    | No.            | ✉   | Art.number                    | No. | ✉ | Art.number |
| CR08C/H RC1008                     | 25       | <a href="#">62325.001.008</a> | CR08C/H RC2008 | 25  | <a href="#">62325.002.008</a> |     |   |            |
| CR08C/H RC1508                     | 25       | <a href="#">62325.001.508</a> | CR11C/H RC2011 | 25  | <a href="#">62325.002.011</a> |     |   |            |

- Stainless steel/steel with neoprene ring.
- For retaining ring type RC, see article group 62284.

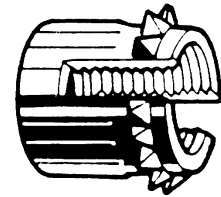
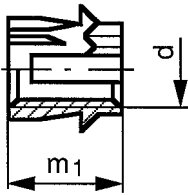
**Tolerance offset**



• Technical brochure available on request.

| 62332 QUICK SYSTEM Tolerance offset type TA/TAR |          |                               | S04A   |
|---|----------|-------------------------------|--|
| <b>Packaging</b>                                | Standard |                               |   |
| <b>Type</b>                                     | ☒        | <b>Art.number</b>             |  |
| TA 08   | 25       | <a href="#">62332.080.001</a> | <ul style="list-style-type: none"> <li>• Brass nickel plated.</li> <li>• Black plastic.</li> </ul>                                    |
| TAR 08  | 25       | <a href="#">62332.080.002</a> |  |
| TA 11   | 25       | <a href="#">62332.110.001</a> | <ul style="list-style-type: none"> <li>• Brass nickel plated.</li> <li>• Brass nickel plated.</li> <li>• Black plastic.</li> </ul>  |
| TA 16   | 25       | <a href="#">62332.160.001</a> |  |
| TAR 16  | 25       | <a href="#">62332.160.002</a> |  |

## Insert type C



### Technical data

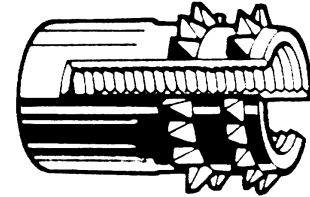
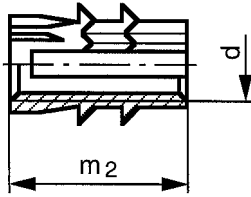
| d  | P   | $m_1$ | Drill $\phi$ |
|----|-----|-------|--------------|
| M3 | 0,5 | 5     | 4,7          |
| M4 | 0,7 | 5     | 5,6          |
| M5 | 0,8 | 6     | 6,8          |
| M6 | 1   | 7     | 7,7          |

- Special features of inserts:
- Are highly suitable to provide soft materials like plastic, wood, chipboard and aluminium with strong ISO-metric thread in a fast and efficient way.
- During assembly the teeth are anchoring into the wall of the hole.
- The connection is selflocking against vibrations and shocks.
- Type C with one row of teeth is recommended for low forces and less frequent disassembly.

| 64010 Insert type C |               | N07A |
|---------------------|---------------|------|
| <b>Thread</b>       | Metric thread |      |
| <b>Material</b>     | Brass         |      |
| <b>Packaging</b>    | Standard      |      |

| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d | ☒ | Art.number |
|----|-----|-------------------------------|----|-----|-------------------------------|---|---|------------|
| M3 | 200 | <a href="#">64010.030.001</a> | M5 | 100 | <a href="#">64010.050.001</a> |   |   |            |
| M4 | 200 | <a href="#">64010.040.001</a> | M6 | 100 | <a href="#">64010.060.001</a> |   |   |            |

## Insert type D



### Technical data

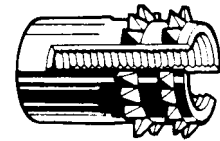
| d  | P    | $m_2$ | Drill $\varnothing$ |
|----|------|-------|---------------------|
| M3 | 0,5  | 9,5   | 4,7                 |
| M4 | 0,7  | 9,5   | 5,6                 |
| M5 | 0,8  | 9,5   | 6,8                 |
| M6 | 1    | 9     | 7,7                 |
| M8 | 1,25 | 10    | 9,6                 |

- Special features of inserts:
- Are highly suitable to provide soft materials like plastic, wood, chipboard and aluminium with strong ISO-metric thread in a fast and efficient way.
- During assembly the teeth are anchoring into the wall of the hole.
- The connection is selflocking against vibrations and shocks.
- Type D with two rows of teeth may be used for wood, larger forces and frequent disassembly.

### 64050 Insert type D

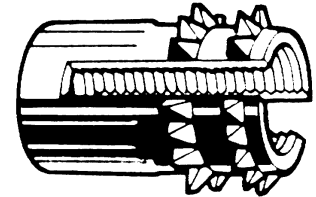
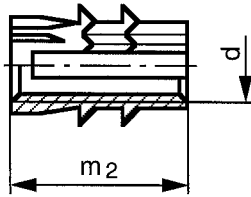
N07A

**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d  | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|-----|-------------------------------|
| M3 | 200 | <a href="#">64050.030.001</a> | M5 | 100 | <a href="#">64050.050.001</a> | M8 | 100 | <a href="#">64050.080.001</a> |
| M4 | 200 | <a href="#">64050.040.001</a> | M6 | 100 | <a href="#">64050.060.001</a> |    |     |                               |

## Insert type E

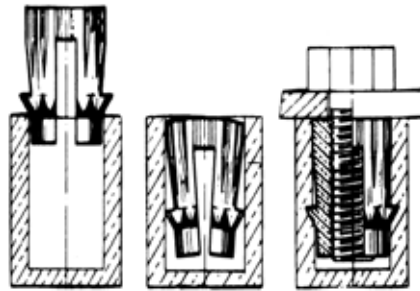


### Technical data

|                |     |     |
|----------------|-----|-----|
| d              | M3  | M4  |
| P              | 0,5 | 0,7 |
| m <sub>2</sub> | 8   | 8   |
| Drill ø        | 4,7 | 5,6 |

#### Special features of inserts:

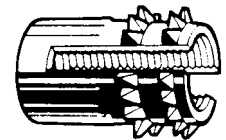
- are highly suitable to provide soft materials like plastic, wood, chipboard and aluminium with strong ISO-metric thread in a fast and efficient way.
- during assembly the teeth are anchoring into the wall of the hole.
- the connection is self-locking against vibrations and shocks.
- Type E (shorter version of type D) with two rows of teeth may be used for wood, larger forces and frequent disassembly.



#### 64030 Insert type E

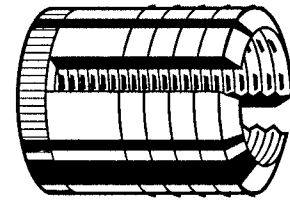
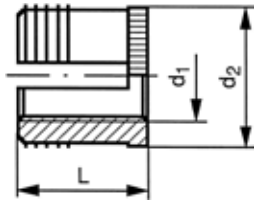
N07A

**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| d  | ☒   | Art.number                    | d | ☒ | Art.number | d | ☒ | Art.number |
|----|-----|-------------------------------|---|---|------------|---|---|------------|
| M3 | 200 | <a href="#">64030.030.001</a> |   |   |            |   |   |            |
| M4 | 200 | <a href="#">64030.040.001</a> |   |   |            |   |   |            |

## Screw insert type 530



### Technical data

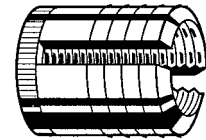
| d1 | P    | d <sub>2</sub> | L    | Drill ø |
|----|------|----------------|------|---------|
| M3 | 0,5  | 4,3            | 4,8  | 4       |
| M4 | 0,7  | 5,9            | 8    | 5,6     |
| M5 | 0,8  | 6,7            | 9,5  | 6,4     |
| M6 | 1    | 8,3            | 12,7 | 8       |
| M8 | 1,25 | 9,9            | 12,7 | 9,5     |

- It is recommended that the exact diameter selection is made on basis of tests.

### 71570 Screw insert type 530

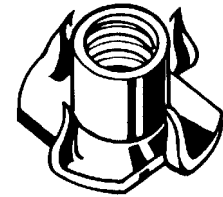
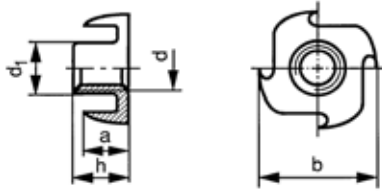
N07A

**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| d1 | ☒   | Art.number                    | d1 | ☒   | Art.number                    | d1 | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|----|-----|-------------------------------|
| M3 | 200 | <a href="#">71570.030.001</a> | M5 | 100 | <a href="#">71570.050.001</a> | M8 | 100 | <a href="#">71570.080.001</a> |
| M4 | 200 | <a href="#">71570.040.001</a> | M6 | 100 | <a href="#">71570.060.001</a> |    |     |                               |

## Drive-in nut for wood



### Technical data

| d   | P    | d <sub>1</sub> | h  | a   | b  |
|-----|------|----------------|----|-----|----|
| M3  | 0,5  | 4,3            | 5  | 3,5 | 13 |
| M4  | 0,7  | 5              | 8  | 4,5 | 15 |
| M5  | 0,8  | 6,3            | 8  | 5,5 | 17 |
| M6  | 1    | 7,3            | 9  | 7   | 19 |
| M8  | 1,25 | 9,7            | 11 | 7,5 | 22 |
| M10 | 1,5  | 11,9           | 12 | 9   | 25 |

### Article groups

| Thread | Material | Surface treatment | Packaging | Code  | Page  |
|--------|----------|-------------------|-----------|-------|-------|
| M      | St       |                   | Standard  | 14100 | 10-94 |
| M      | St       | Zipl              | Standard  | 14110 | 10-94 |

#### 14100 Drive-in nut for wood F01F

|                  |               |
|------------------|---------------|
| <b>Thread</b>    | Metric thread |
| <b>Material</b>  | Steel         |
| <b>Packaging</b> | Standard      |



| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M4 | 500 | <a href="#">14100.040.001</a> | M6 | 500 | <a href="#">14100.060.001</a> | M10 | 250 | <a href="#">14100.100.001</a> |
| M5 | 500 | <a href="#">14100.050.001</a> | M8 | 500 | <a href="#">14100.080.001</a> |     |     |                               |

#### 14110 Drive-in nut for wood F01F

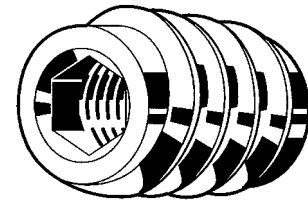
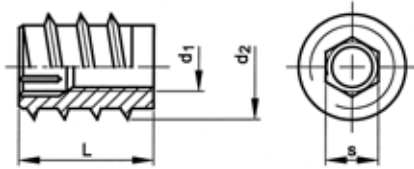
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d  | ☒   | Art.number                    | d  | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M4 | 500 | <a href="#">14110.040.001</a> | M6 | 500 | <a href="#">14110.060.001</a> | M10 | 250 | <a href="#">14110.100.001</a> |
| M5 | 500 | <a href="#">14110.050.001</a> | M8 | 500 | <a href="#">14110.080.001</a> |     |     |                               |



## Hexagon socket screwed insert



### Technical data

| d1    | P    | d2   | s  | Hole ø soft wood | Hole ø hard wood |
|-------|------|------|----|------------------|------------------|
| M4    | 0,7  | 8    | 4  | 6,6-6,9          | 6,9-7,2          |
| M5    | 0,8  | 10   | 5  | 8,4-8,9          | 8,7-9,2          |
| M6    | 1    | 12   | 6  | 10,0-10,4        | 10,2-10,8        |
| M8    | 1,25 | 14   | 8  | 12,0-12,4        | 12,2-12,8        |
| M8x23 | 1,25 | 16   | 8  | 14,0-14,5        | 14,2-14,8        |
| M10   | 1,5  | 18,5 | 10 | 16,2-16,7        | 16,7-17,2        |

- It is recommended that the exact diameter selection is made on basis of tests.

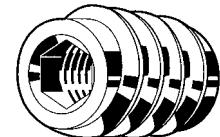
### Article groups

| Thread | Material | Surface treatment | Packaging   | Code  | Page  |
|--------|----------|-------------------|-------------|-------|-------|
| M      | St       | Zipl              | Standard    | 14439 | 10-95 |
| M      | St       | Zipl              | with collar | 14440 | 10-95 |

#### 14439 Hexagon socket screwed insert type SK

F01F

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

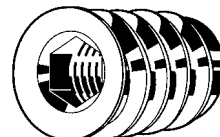


| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X10  | 100 | <a href="#">14439.040.010</a> | M6X20  | 100 | <a href="#">14439.060.020</a> | M10X25 | 100 | <a href="#">14439.100.025</a> |
| M5X12  | 100 | <a href="#">14439.050.012</a> | M8X15  | 100 | <a href="#">14439.080.015</a> |        |     |                               |
| M6X12  | 100 | <a href="#">14439.060.012</a> | M8X23  | 100 | <a href="#">14439.080.023</a> |        |     |                               |
| M6X15  | 100 | <a href="#">14439.060.015</a> |        |     |                               |        |     |                               |

#### 14440 Hexagon socket screwed insert with collar type SKD

F01F

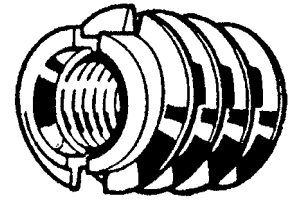
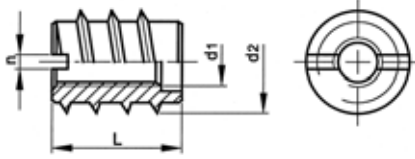
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M5X12  | 100 | <a href="#">14440.050.012</a> | M6X18  | 100 | <a href="#">14440.060.018</a> | M8X18  | 100 | <a href="#">14440.080.018</a> |
| M6X15  | 100 | <a href="#">14440.060.015</a> |        |     |                               | M10X20 | 100 | <a href="#">14440.100.020</a> |

## Slotted screwed insert

DIN 7965



### Technical data

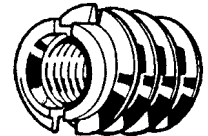
| d1           | P    | d <sub>2</sub> | n   | Hole ø soft wood | Hole ø hard wood |
|--------------|------|----------------|-----|------------------|------------------|
| M3           | 0,5  | 6              | 1   | 4,6-4,9          | 4,9-5,2          |
| M4           | 0,7  | 8              | 1,2 | 5,7-6,1          | 6,1-6,6          |
| M5           | 0,8  | 10             | 1,6 | 7,6-8,0          | 8,0-8,5          |
| M6           | 1    | 12             | 2   | 9,4-9,9          | 9,9-10,4         |
| M8x15 (#DIN) | 1,25 | 14             | 2,5 | 11,4-11,9        | 11,9-12,4        |
| M8x18        | 1,25 | 16             | 2,5 | 12,6-13,3        | 13,3-14,0        |
| M10          | 1,5  | 18,5           | 3   | 15,1-15,8        | 15,8-16,5        |
| M12          | 1,75 | 22             | 3   | 18,3-19,0        | 19,0-19,8        |

- It is recommended that the exact diameter selection is made on basis of tests.

### 14410 Slotted screwed insert type A

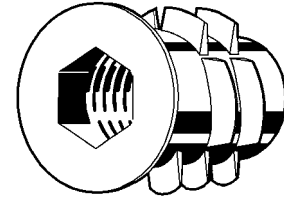
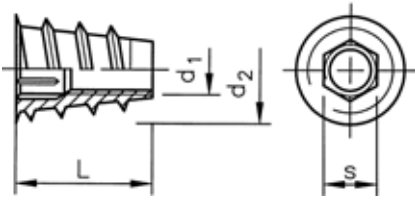
F01F

**Thread** Metric thread  
**Material** Steel  
**Packaging** Standard



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M3X8   | 100 | <a href="#">14410.030.008</a> | M6X12  | 100 | <a href="#">14410.060.012</a> | M10X20 | 100 | <a href="#">14410.100.020</a> |
| M4X8   | 100 | <a href="#">14410.040.008</a> | M6X15  | 100 | <a href="#">14410.060.015</a> | M10X25 | 100 | <a href="#">14410.100.025</a> |
| M4X10  | 100 | <a href="#">14410.040.010</a> | M8X15  | 100 | <a href="#">14410.080.014</a> | M12X30 | 100 | <a href="#">14410.120.030</a> |
| M4X12  | 100 | <a href="#">14410.040.012</a> | M8X18  | 100 | <a href="#">14410.080.018</a> |        |     |                               |
| M5X12  | 100 | <a href="#">14410.050.012</a> |        |     |                               |        |     |                               |

## Hexagon socket screwed insert with collar



### Technical data

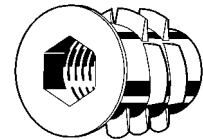
| d1             | M4  | M5   | M6   | M8   | M10  |
|----------------|-----|------|------|------|------|
| P              | 0,7 | 0,8  | 1    | 1,25 | 1,5  |
| d <sub>2</sub> | 8,5 | 11,5 | 12,5 | 14,5 | 16   |
| s              | 4   | 5    | 6    | 8    | 10   |
| Hole ø (min.)  | 5,7 | 7,7  | 8,7  | 10,7 | 12,2 |
| Hole ø (max.)  | 6   | 8    | 9    | 11   | 12,5 |

- It is recommended that the exact diameter selection is made on basis of tests.

### 14446 Hexagon socket screwed insert with collar type SKDZ

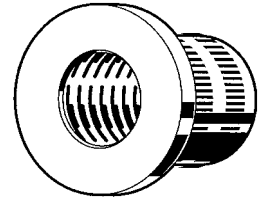
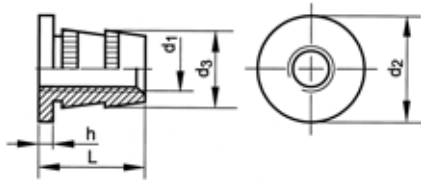
**F01F**

|                          |                               |
|--------------------------|-------------------------------|
| <b>Thread</b>            | Metric thread                 |
| <b>Material</b>          | Zinkdruckguß                  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |
| <b>Packaging</b>         | Standard                      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M4X10  | 100 | <a href="#">14446.040.010</a> | M6X13  | 100 | <a href="#">14446.060.013</a> | M10X13 | 100 | <a href="#">14446.100.013</a> |
| M5X10  | 100 | <a href="#">14446.050.010</a> | M8X13  | 100 | <a href="#">14446.080.013</a> | M10X25 | 100 | <a href="#">14446.100.025</a> |
| M5X13  | 100 | <a href="#">14446.050.013</a> | M8X25  | 100 | <a href="#">14446.080.025</a> |        |     |                               |
| M6X10  | 100 | <a href="#">14446.060.010</a> |        |     |                               |        |     |                               |

## Knock-in insert with collar



### Technical data

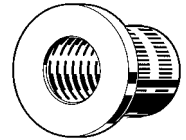
|                | M4  | M5  | M6  | M8   | M10  |
|----------------|-----|-----|-----|------|------|
| d1             | M4  | M5  | M6  | M8   | M10  |
| P              | 0,7 | 0,8 | 1   | 1,25 | 1,5  |
| d <sub>2</sub> | 8   | 10  | 12  | 15   | 18,5 |
| d <sub>3</sub> | 5,5 | 6,5 | 8,5 | 10,5 | 12,5 |
| h              | 1   | 1,3 | 1,5 | 2    | 2    |
| L              | 8   | 10  | 12  | 12   | 12   |

- It is recommended that the exact diameter selection is made on basis of tests.

#### 14444 Knock-in insert with collar type TS

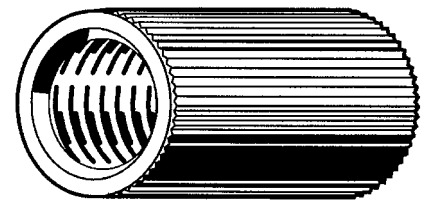
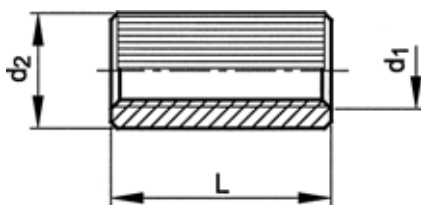
**F01F**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d1 | ☒   | Art.number                    | d1 | ☒   | Art.number                    | d1  | ☒   | Art.number                    |
|----|-----|-------------------------------|----|-----|-------------------------------|-----|-----|-------------------------------|
| M4 | 100 | <a href="#">14444.040.001</a> | M6 | 100 | <a href="#">14444.060.001</a> | M10 | 100 | <a href="#">14444.100.001</a> |
| M5 | 100 | <a href="#">14444.050.001</a> | M8 | 100 | <a href="#">14444.080.001</a> |     |     |                               |

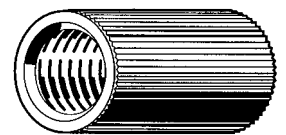
## Knurled nut



#### 14443 Knurled nut type RM

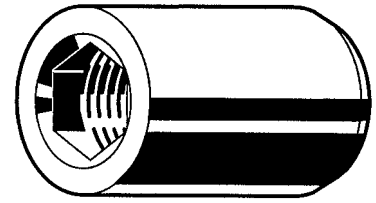
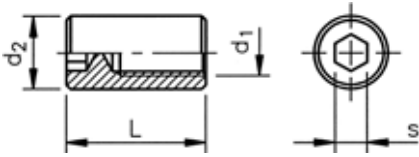
**F01F**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d1 x d2 x L | ☒   | Art.number                    | d1 x d2 x L | ☒ | Art.number | d1 x d2 x L | ☒ | Art.number |
|-------------|-----|-------------------------------|-------------|---|------------|-------------|---|------------|
| M6x10x15    | 100 | <a href="#">14443.060.015</a> |             |   |            |             |   |            |
| M6x10x18    | 100 | <a href="#">14443.060.018</a> |             |   |            |             |   |            |

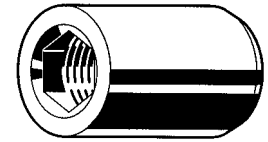
## Hexagon socket dowel nut



### 14445 Hexagon socket dowel nut type RSK

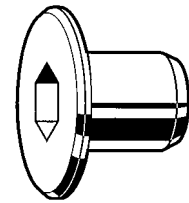
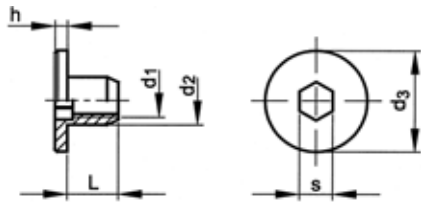
F01F

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| $d_1 \times d_2 \times L$ | ☒   | Art.number                    | $d_1 \times d_2 \times L$ | ☒ | Art.number | $d_1 \times d_2 \times L$ | ☒ | Art.number |
|---------------------------|-----|-------------------------------|---------------------------|---|------------|---------------------------|---|------------|
| M6x10x16 (s=5)            | 100 | <a href="#">14445.060.016</a> |                           |   |            |                           |   |            |
| M6x10x20 (s=5)            | 100 | <a href="#">14445.060.020</a> |                           |   |            |                           |   |            |

## Hexagon socket flat head cap nut



### Technical data

|                |    |      |
|----------------|----|------|
| d1             | M6 | M8   |
| P              | 1  | 1,25 |
| d <sub>2</sub> | 9  | 10   |
| d <sub>3</sub> | 15 | 20   |
| h              | 2  | 2    |
| s              | 5  | 5    |

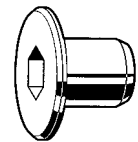
### Article groups

| Thread | Driving features | Material | Surface treatment | Packaging | Code  | Page   |
|--------|------------------|----------|-------------------|-----------|-------|--------|
| M      | hexagon socket   | St       | Ni.pl.            | Standard  | 14456 | 10-100 |
| M      | hexagon socket   | Br       | Ni.pl.            | Standard  | 14483 | 10-100 |

#### 14456 Hexagon socket flat head cap nut type RF

**F01F**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |

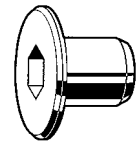


| d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| M6x12  | 100 | <a href="#">14456.060.001</a> |        |   |            |        |   |            |

#### 14483 Hexagon socket flat head cap nut type RF

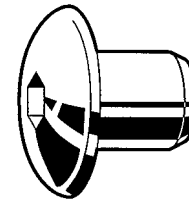
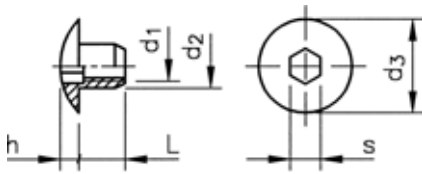
**F01F**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Brass         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| M6x10  | 100 | <a href="#">14483.060.001</a> |        |   |            |        |   |            |
| M8x10  | 100 | <a href="#">14483.080.001</a> |        |   |            |        |   |            |

## Hexagon socket mushroom head cap nut



### Technical data

|    |     |      |
|----|-----|------|
| d1 | M6  | M8   |
| P  | 1   | 1,25 |
| d2 | 9   | 10   |
| d3 | 15  | 20   |
| h  | 3,5 | 3    |
| s  | 5   | 5    |

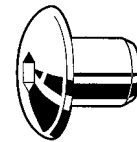
### Article groups

| Thread | Driving features | Material | Surface treatment | Packaging | Code  | Page   |
|--------|------------------|----------|-------------------|-----------|-------|--------|
| M      | hexagon socket   | St       | Ni.pl.            | Standard  | 14457 | 10-101 |
| M      | hexagon socket   | Br       | Ni.pl.            | Standard  | 14484 | 10-101 |

#### 14457 Hexagon socket mushroom head cap nut type RT

**F01F**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |

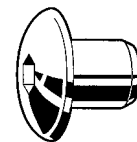


| d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| M6x12  | 100 | <a href="#">14457.060.001</a> |        |   |            |        |   |            |

#### 14484 Hexagon socket mushroom head cap nut type RT

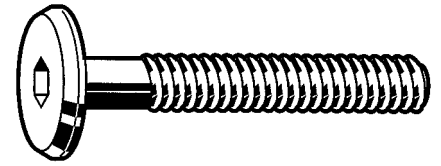
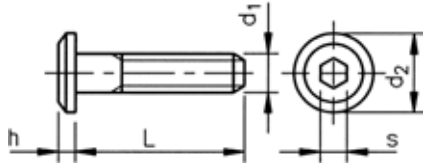
**F01F**

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Brass         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| M6x10  | 100 | <a href="#">14484.060.001</a> |        |   |            |        |   |            |
| M8x10  | 100 | <a href="#">14484.080.001</a> |        |   |            |        |   |            |

## Hexagon socket flat head cap screw



### Technical data

|                |     |
|----------------|-----|
| d1             | M6  |
| P              | 1   |
| d <sub>2</sub> | 15  |
| h              | 2,5 |
| s              | 4   |

#### 14441 Hexagon socket flat head cap screw type KF

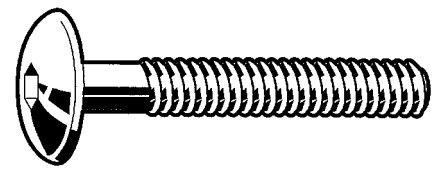
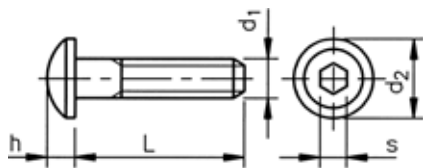
H09A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X12  | 100 | <a href="#">14441.060.012</a> | M6X35  | 100 | <a href="#">14441.060.035</a> | M6X70  | 100 | <a href="#">14441.060.070</a> |
| M6X16  | 100 | <a href="#">14441.060.016</a> | M6X40  | 100 | <a href="#">14441.060.040</a> | M6X80  | 100 | <a href="#">14441.060.080</a> |
| M6X20  | 100 | <a href="#">14441.060.020</a> | M6X45  | 100 | <a href="#">14441.060.045</a> | M6X90  | 100 | <a href="#">14441.060.090</a> |
| M6X25  | 100 | <a href="#">14441.060.025</a> | M6X50  | 100 | <a href="#">14441.060.050</a> | M6X100 | 100 | <a href="#">14441.060.100</a> |
| M6X30  | 100 | <a href="#">14441.060.030</a> | M6X60  | 100 | <a href="#">14441.060.060</a> |        |     |                               |

## Hexagon socket mushroom head cap screw



### Technical data

|                |     |
|----------------|-----|
| d1             | M6  |
| P              | 1   |
| d <sub>2</sub> | 15  |
| h              | 3,3 |
| s              | 4   |

#### 14442 Hexagon socket mushroom head cap screw type KT

H09A

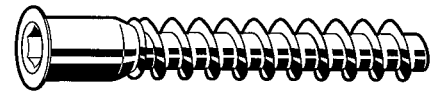
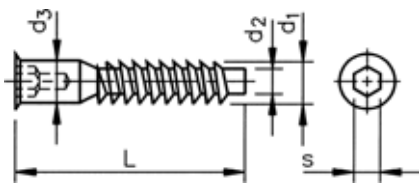
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    | d1 x L | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|--------|-----|-------------------------------|
| M6X12  | 100 | <a href="#">14442.060.012</a> | M6X35  | 100 | <a href="#">14442.060.035</a> | M6X70  | 100 | <a href="#">14442.060.070</a> |
| M6X16  | 100 | <a href="#">14442.060.016</a> | M6X40  | 100 | <a href="#">14442.060.040</a> | M6X80  | 100 | <a href="#">14442.060.080</a> |
| M6X20  | 100 | <a href="#">14442.060.020</a> | M6X45  | 100 | <a href="#">14442.060.045</a> | M6X90  | 100 | <a href="#">14442.060.090</a> |
| M6X25  | 100 | <a href="#">14442.060.025</a> | M6X50  | 100 | <a href="#">14442.060.050</a> | M6X100 | 100 | <a href="#">14442.060.100</a> |
| M6X30  | 100 | <a href="#">14442.060.030</a> | M6X60  | 100 | <a href="#">14442.060.060</a> |        |     |                               |



## Hexagon socket corner connector



### Technical data

|         |     |
|---------|-----|
| d1      | 7   |
| d2      | 4,5 |
| d3      | 7   |
| s       | 4   |
| Drill ø | 4,5 |

#### 14451 Hexagon socket corner connector type KOK

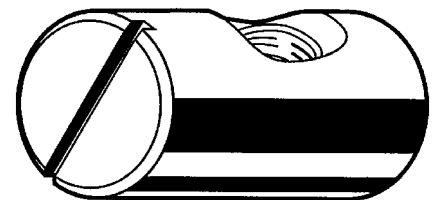
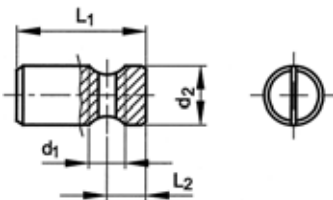
H09A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L | ☒   | Art.number                    | d1 x L | ☒ | Art.number | d1 x L | ☒ | Art.number |
|--------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| 7X50MM | 200 | <a href="#">14451.070.050</a> |        |   |            |        |   |            |

## Slotted cross dowel



### Technical data

| d1 x L1 | P | d2 | L2   |
|---------|---|----|------|
| M6x12   | 1 | 10 | 6    |
| M6x14   | 1 | 10 | 6    |
| M6x15   | 1 | 10 | 6    |
| M6x17   | 1 | 10 | 6    |
| M6x20   | 1 | 10 | 10   |
| M6x25   | 1 | 10 | 12,5 |

#### 14450 Slotted cross dowel type Q

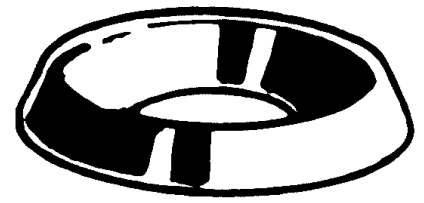
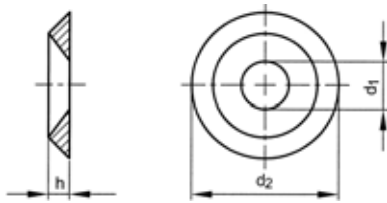
F01F

**Thread** Metric thread  
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d1 x L1 | ☒   | Art.number                    | d1 x L1 | ☒   | Art.number                    | d1 x L1 | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| M6X12   | 100 | <a href="#">14450.060.012</a> | M6X17   | 100 | <a href="#">14450.060.017</a> | M6X25   | 100 | <a href="#">14450.060.025</a> |
| M6X14   | 100 | <a href="#">14450.060.014</a> | M6X20   | 100 | <a href="#">14450.060.020</a> |         |     |                               |
| M6X15   | 100 | <a href="#">14450.060.015</a> |         |     |                               |         |     |                               |

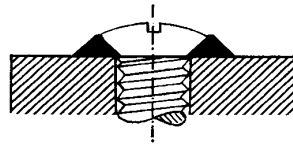
## Rosette open model



### Technical data

| Nom.size d1 | d <sub>2</sub> | h   | For screw ø |
|-------------|----------------|-----|-------------|
| 3,2         | 9              | 1,9 | 2,5-3       |
| 4           | 11             | 2,3 | 3,5-4       |
| 4,8         | 13             | 2,7 | 4-4,5       |
| 5,5         | 15             | 3,2 | 5           |
| 6,6         | 17             | 3,2 | 5,5-6       |
| 7,4         | 20             | 4   | 7           |

### Example of application



### Article groups

| Material  | Surface treatment | Packaging | Code  | Page   |
|-----------|-------------------|-----------|-------|--------|
| St.St. A2 |                   | Standard  | 51350 | 10-104 |
| Br        |                   | Standard  | 50230 | 10-104 |
| Br        | Ni.pl.            | Standard  | 50260 | 10-104 |

#### 51350 Rosette open model

**R09A**

**Material** Stainless steel A2  
**Packaging** Standard



| Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3,2MM        | 250 | <a href="#">51350.032.001</a> | 4,8MM        | 250 | <a href="#">51350.048.001</a> | 6,6MM        | 200 | <a href="#">51350.066.001</a> |
| 4,0MM        | 250 | <a href="#">51350.040.001</a> | 5,5MM        | 200 | <a href="#">51350.055.001</a> | 7,4MM        | 200 | <a href="#">51350.074.001</a> |

#### 50230 Rosette open model

**M11F**

**Material** Brass  
**Packaging** Standard



| Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3,2MM        | 250 | <a href="#">50230.032.001</a> | 4,8MM        | 250 | <a href="#">50230.048.001</a> | 6,6MM        | 200 | <a href="#">50230.066.001</a> |
| 4,0MM        | 250 | <a href="#">50230.040.001</a> | 5,5MM        | 200 | <a href="#">50230.055.001</a> | 7,4MM        | 200 | <a href="#">50230.074.001</a> |

#### 50260 Rosette open model

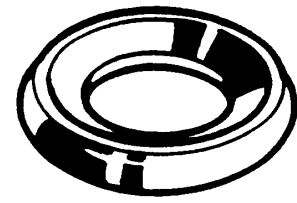
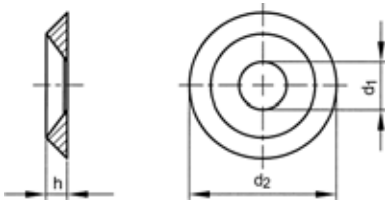
**M11F**

**Material** Brass  
**Surface treatment** Nickel plated  
**Packaging** Standard



| Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 3,2MM        | 250 | <a href="#">50260.032.001</a> | 4,8MM        | 250 | <a href="#">50260.048.001</a> | 6,6MM        | 200 | <a href="#">50260.066.001</a> |
| 4,0MM        | 250 | <a href="#">50260.040.001</a> | 5,5MM        | 200 | <a href="#">50260.055.001</a> | 7,4MM        | 200 | <a href="#">50260.074.001</a> |

**Rosette closed model**



**Technical data**

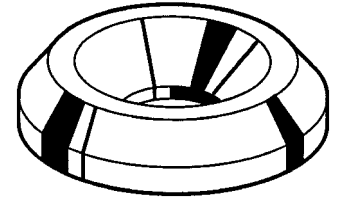
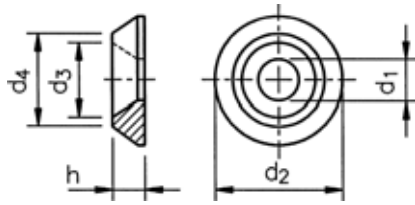
|                   |       |       |       |
|-------------------|-------|-------|-------|
| Nom.size d1       | 4     | 5     | 6     |
| d <sub>2</sub>    | 9     | 11    | 13    |
| h                 | 2     | 2,3   | 2,5   |
| For screw         | M3    | M4    | M5    |
| For tapping screw | ST2,9 | ST4,2 | ST4,8 |

|                          |                             |             |
|--------------------------|-----------------------------|-------------|
| <b>50280</b>             | <b>Rosette closed model</b> | <b>M11F</b> |
| <b>Material</b>          | Brass                       |             |
| <b>Surface treatment</b> | Nickel plated               |             |
| <b>Packaging</b>         | Standard                    |             |



| Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    | Nom. size d1 | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 4,0MM        | 250 | <a href="#">50280.040.001</a> | 5,0MM        | 250 | <a href="#">50280.050.001</a> | 6,0MM        | 150 | <a href="#">50280.060.001</a> |

## Washer for 90° countersunk head screw



### Technical data

| For nom.size d1       | M3  | M4  | M5   | M6   | M8   |
|-----------------------|-----|-----|------|------|------|
| d <sub>1</sub> (min.) | 3,2 | 4,3 | 5,3  | 6,4  | 8,4  |
| d <sub>2</sub> (max.) | 10  | 14  | 16   | 18   | 25   |
| d <sub>3</sub> (min.) | 6,5 | 8,6 | 10,4 | 12,4 | 16,4 |
| d <sub>4</sub>        | 7,3 | 9,5 | 11,5 | 13,5 | 17,5 |
| h (min.)              | 1,8 | 2,3 | 2,8  | 3,3  | 4,8  |

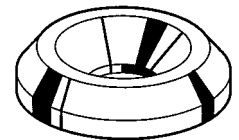
### Article groups

| Material  | Packaging | Code  | Page   |
|-----------|-----------|-------|--------|
| St.St. A1 | Standard  | 51546 | 10-106 |
| Al        | Standard  | 45140 | 10-106 |

#### 51546 Washer for 90° countersunk head screw

**R09A**

**Material** Stainless steel A1  
**Packaging** Standard

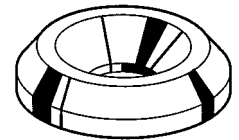


| For nom. size d1 | ☒   | Art.number                    | For nom. size d1 | ☒   | Art.number                    | For nom. size d1 | ☒   | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|-----|-------------------------------|
| M3               | 100 | <a href="#">51546.030.001</a> | M5               | 100 | <a href="#">51546.050.001</a> | M8               | 100 | <a href="#">51546.080.001</a> |
| M4               | 100 | <a href="#">51546.040.001</a> | M6               | 100 | <a href="#">51546.060.001</a> |                  |     |                               |

#### 45140 Washer for 90° countersunk head screw

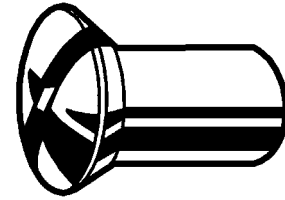
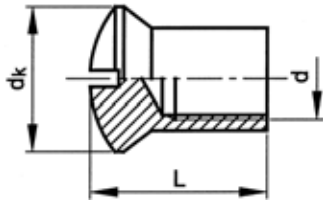
**W01A**

**Material** Aluminium  
**Packaging** Standard



| For nom. size d1 | ☒   | Art.number                    | For nom. size d1 | ☒   | Art.number                    | For nom. size d1 | ☒ | Art.number |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|---|------------|
| M4               | 100 | <a href="#">45140.040.001</a> | M6               | 100 | <a href="#">45140.060.001</a> |                  |   |            |
| M5               | 100 | <a href="#">45140.050.001</a> | M8               | 100 | <a href="#">45140.080.001</a> |                  |   |            |

## Sleeve nut



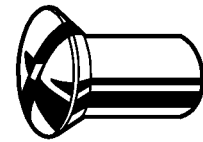
### Technical data

| d  | P    |
|----|------|
| M4 | 0,7  |
| M5 | 0,8  |
| M6 | 1    |
| M8 | 1,25 |

### 47796 Sleeve nut

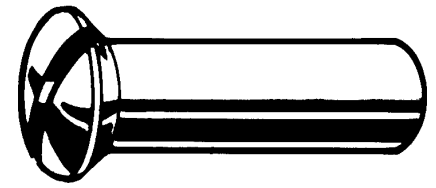
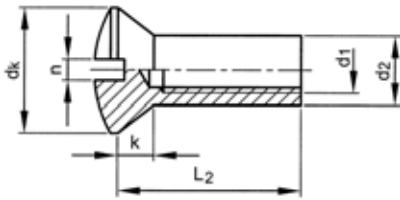
M01D

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Brass         |
| <b>Surface treatment</b> | Nickel plated |
| <b>Packaging</b>         | Standard      |



| d x dk x L | ☒   | Art.number                    | d x dk x L | ☒   | Art.number                    | d x dk x L | ☒   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| M4X7X12    | 100 | <a href="#">47796.040.012</a> | M5X9X20    | 100 | <a href="#">47796.050.020</a> | M8X15X15   | 100 | <a href="#">47796.080.015</a> |
| M4X7X14    | 100 | <a href="#">47796.040.014</a> | M6X12X14   | 100 | <a href="#">47796.060.014</a> | M8X15X20   | 100 | <a href="#">47796.080.020</a> |
| M4X7X20    | 100 | <a href="#">47796.040.020</a> | M6X10X15   | 100 | <a href="#">47796.060.015</a> | M8X15X25   | 100 | <a href="#">47796.080.025</a> |
| M5X9X10    | 100 | <a href="#">47796.050.010</a> | M6X10X20   | 100 | <a href="#">47796.060.020</a> |            |     |                               |
| M5X9X15    | 100 | <a href="#">47796.050.015</a> |            |     |                               |            |     |                               |

## Booknut

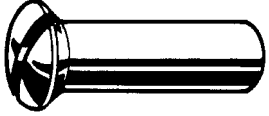


### Technical data

|                |     |
|----------------|-----|
| d1             | M4  |
| P              | 0,7 |
| d <sub>2</sub> | 5   |
| d <sub>k</sub> | 7,5 |
| k (max.)       | 2,2 |
| n              | 1   |

### Article groups

| Thread | Material | Surface treatment | Packaging | Code  | Page   |
|--------|----------|-------------------|-----------|-------|--------|
| M      | Br       |                   | Standard  | 47780 | 10-108 |
| M      | Br       | Ni.pl.            | Standard  | 47790 | 10-108 |

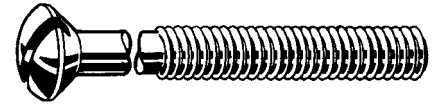
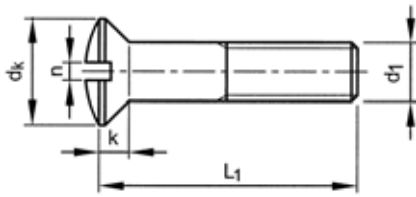
| 47780  | Booknut       | M11D |
|--|---------------|------|
| <b>Thread</b>  | Metric thread |      |
| <b>Material</b>  | Brass         |      |
| <b>Packaging</b>   | Standard      |      |
|  |               |      |

| d1 x L2 | ☒ | Art.number | d1 x L2                       | ☒ | Art.number | d1 x L2 | ☒ | Art.number |
|---------|---|------------|-------------------------------|---|------------|---------|---|------------|
| M4X22   |   | 250        | <a href="#">47780.040.022</a> |   |            |         |   |            |

| 47790   | Booknut       | M11D |
|---|---------------|------|
| <b>Thread</b>   | Metric thread |      |
| <b>Material</b>   | Brass         |      |
| <b>Surface treatment</b>  | Nickel plated |      |
| <b>Packaging</b>  | Standard      |      |
|  |               |      |

| d1 x L2 | ☒ | Art.number | d1 x L2                       | ☒ | Art.number | d1 x L2 | ☒ | Art.number |
|---------|---|------------|-------------------------------|---|------------|---------|---|------------|
| M4X22   |   | 250        | <a href="#">47790.040.022</a> |   |            |         |   |            |

## Bookscrew



### Technical data

|          |     |
|----------|-----|
| d1       | M4  |
| P        | 0,7 |
| dk       | 7,5 |
| k (max.) | 2,2 |
| n        | 1   |

### Article groups

| Thread | Material | Surface treatment | Packaging | Code  | Page   |
|--------|----------|-------------------|-----------|-------|--------|
| M      | St       | Ni.pl.            | Standard  | 47720 | 10-109 |
| M      | Br       | Ni.pl.            | Standard  | 47750 | 10-109 |

| 47720                    | Bookscrew     | M11D |
|--------------------------|---------------|------|
| <b>Thread</b>            | Metric thread |      |
| <b>Material</b>          | Steel         |      |
| <b>Surface treatment</b> | Nickel plated |      |
| <b>Packaging</b>         | Standard      |      |



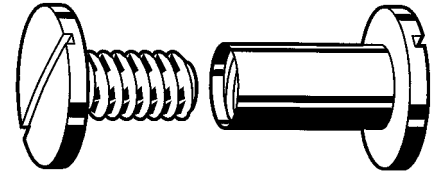
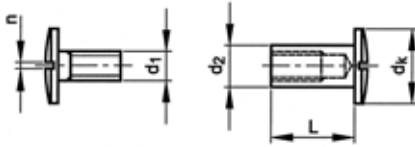
| d1 x L1 | ☒   | Art.number                    | d1 x L1 | ☒ | Art.number | d1 x L1 | ☒ | Art.number |
|---------|-----|-------------------------------|---------|---|------------|---------|---|------------|
| M4X38   | 250 | <a href="#">47720.040.038</a> |         |   |            |         |   |            |
| M4X45   | 250 | <a href="#">47720.040.045</a> |         |   |            |         |   |            |
| M4X55   | 250 | <a href="#">47720.040.055</a> |         |   |            |         |   |            |

| 47750                    | Bookscrew     | M11D |
|--------------------------|---------------|------|
| <b>Thread</b>            | Metric thread |      |
| <b>Material</b>          | Brass         |      |
| <b>Surface treatment</b> | Nickel plated |      |
| <b>Packaging</b>         | Standard      |      |



| d1 x L1 | ☒   | Art.number                    | d1 x L1 | ☒ | Art.number | d1 x L1 | ☒ | Art.number |
|---------|-----|-------------------------------|---------|---|------------|---------|---|------------|
| M4X38   | 250 | <a href="#">47750.040.038</a> |         |   |            |         |   |            |
| M4X45   | 250 | <a href="#">47750.040.045</a> |         |   |            |         |   |            |

## Bookscrew



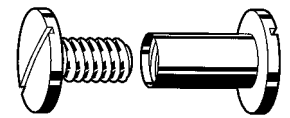
### Technical data

|    |      |
|----|------|
| d1 | M3,5 |
| P  | 0,6  |
| d2 | 5    |
| dk | 9    |
| n  | 0,8  |

#### 47710 Bookscrew

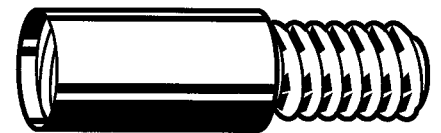
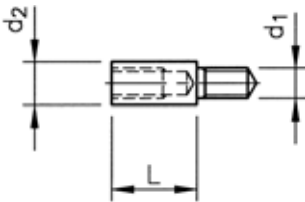
M11D

**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| d1 x L  | ☒   | Art.number                    | d1 x L  | ☒  | Art.number                    | d1 x L  | ☒  | Art.number                    |
|---------|-----|-------------------------------|---------|----|-------------------------------|---------|----|-------------------------------|
| M3,5X10 | 100 | <a href="#">47710.035.010</a> | M3,5X25 | 50 | <a href="#">47710.035.025</a> | M3,5X50 | 25 | <a href="#">47710.035.050</a> |
| M3,5X15 | 100 | <a href="#">47710.035.015</a> | M3,5X30 | 50 | <a href="#">47710.035.030</a> | M3,5X60 | 25 | <a href="#">47710.035.060</a> |
| M3,5X20 | 100 | <a href="#">47710.035.020</a> | M3,5X40 | 25 | <a href="#">47710.035.040</a> |         |    |                               |

## Elongation piece for bookscrews



### Technical data

|    |      |      |
|----|------|------|
| L  | 10   | 15   |
| d1 | M3,5 | M3,5 |
| P  | 0,6  | 0,6  |
| d2 | 5    | 5    |

#### 47715 Elongation piece for bookscrews

M11D

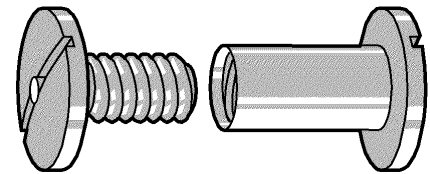
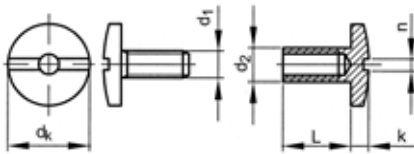
**Thread** Metric thread  
**Material** Brass  
**Packaging** Standard



| L    | ☒   | Art.number                    | L | ☒ | Art.number | L | ☒ | Art.number |
|------|-----|-------------------------------|---|---|------------|---|---|------------|
| 10MM | 100 | <a href="#">47715.000.010</a> |   |   |            |   |   |            |
| 15MM | 100 | <a href="#">47715.000.015</a> |   |   |            |   |   |            |



## Binder screw



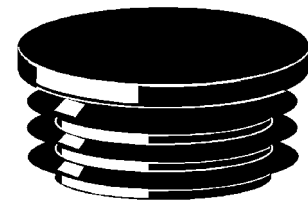
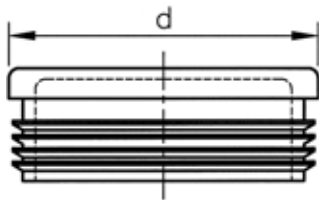
### Technical data

|    |     |
|----|-----|
| d1 | M4  |
| P  | 0,7 |
| d2 | 5   |
| dk | 12  |
| k  | 2,6 |
| n  | 1,8 |

|                  |                      |             |
|------------------|----------------------|-------------|
| <b>56480</b>     | <b>Binder screw</b>  | <b>W02A</b> |
| <b>Thread</b>    | Metric thread        |             |
| <b>Material</b>  | Plastic Polyethylene |             |
| <b>Colour</b>    | White                |             |
| <b>Packaging</b> | Standard             |             |

| L    | ☒   | Art.number                    | L    | ☒  | Art.number                    | L    | ☒  | Art.number                    |
|------|-----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| 6MM  | 100 | <a href="#">56480.060.001</a> | 25MM | 50 | <a href="#">56480.250.001</a> | 60MM | 50 | <a href="#">56480.600.001</a> |
| 8MM  | 100 | <a href="#">56480.080.001</a> | 30MM | 50 | <a href="#">56480.300.001</a> | 70MM | 25 | <a href="#">56480.700.001</a> |
| 10MM | 100 | <a href="#">56480.100.001</a> | 35MM | 50 | <a href="#">56480.350.001</a> | 80MM | 25 | <a href="#">56480.800.001</a> |
| 15MM | 50  | <a href="#">56480.160.001</a> | 40MM | 50 | <a href="#">56480.400.001</a> | 90MM | 25 | <a href="#">56480.900.001</a> |
| 20MM | 50  | <a href="#">56480.200.001</a> | 50MM | 50 | <a href="#">56480.500.001</a> |      |    |                               |

## Tube cap round

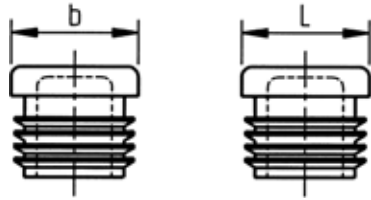


|                  |                       |             |
|------------------|-----------------------|-------------|
| <b>56792</b>     | <b>Tube cap round</b> | <b>W05F</b> |
| <b>Material</b>  | Plastic Polyethylene  |             |
| <b>Colour</b>    | Black                 |             |
| <b>Packaging</b> | Standard              |             |

| d (t)            | ☒  | Art.number                    | d (t)            | ☒  | Art.number                    | d (t)            | ☒  | Art.number                    |
|------------------|----|-------------------------------|------------------|----|-------------------------------|------------------|----|-------------------------------|
| 12MM (1-2mm)     | 25 | <a href="#">56792.120.001</a> | 23MM (0,8-2,5mm) | 25 | <a href="#">56792.230.001</a> | 36MM (1-3mm)     | 25 | <a href="#">56792.360.001</a> |
| 13MM (1-2mm)     | 25 | <a href="#">56792.130.001</a> | 24MM (1-2,5mm)   | 25 | <a href="#">56792.240.001</a> | 37MM (1-3mm)     | 25 | <a href="#">56792.370.001</a> |
| 14MM (1-2mm)     | 25 | <a href="#">56792.140.001</a> | 25MM (1-2mm)     | 25 | <a href="#">56792.250.001</a> | 38MM (1-2mm)     | 25 | <a href="#">56792.380.001</a> |
| 15MM (0,8-2mm)   | 25 | <a href="#">56792.150.001</a> | 26MM (1-3mm)     | 25 | <a href="#">56792.260.001</a> | 40MM (1-2mm)     | 25 | <a href="#">56792.400.001</a> |
| 16MM (1-2mm)     | 25 | <a href="#">56792.160.001</a> | 27MM (1-3mm)     | 25 | <a href="#">56792.270.001</a> | 42MM (1-2mm)     | 25 | <a href="#">56792.420.001</a> |
| 18MM (1-2mm)     | 25 | <a href="#">56792.180.001</a> | 28MM (0,8-2,5mm) | 25 | <a href="#">56792.280.001</a> | 45MM (1-3,5mm)   | 25 | <a href="#">56792.450.001</a> |
| 19MM (1-2mm)     | 25 | <a href="#">56792.190.001</a> | 30MM (0,8-2,5mm) | 25 | <a href="#">56792.300.001</a> | 48MM (1-2mm)     | 25 | <a href="#">56792.480.001</a> |
| 20MM (0,8-2,5mm) | 25 | <a href="#">56792.200.001</a> | 32MM (0,8-2mm)   | 25 | <a href="#">56792.320.001</a> | 50MM (1-2,5mm)   | 25 | <a href="#">56792.500.001</a> |
| 21MM (0,8-2mm)   | 25 | <a href="#">56792.210.001</a> | 34MM (1-3mm)     | 25 | <a href="#">56792.340.001</a> | 55MM (1-3mm)     | 25 | <a href="#">56792.550.001</a> |
| 22MM (1-2mm)     | 25 | <a href="#">56792.220.001</a> | 35MM (1-3mm)     | 25 | <a href="#">56792.350.001</a> | 60MM (1,5-2,5mm) | 25 | <a href="#">56792.600.001</a> |

• (t) = Suitable for thickness of base material.

## Tube cap square



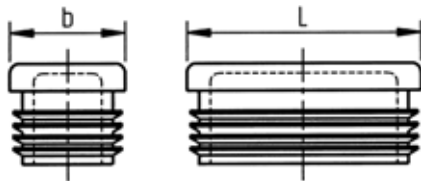
|                  |                        |             |
|------------------|------------------------|-------------|
| <b>56795</b>     | <b>Tube cap square</b> | <b>W05F</b> |
| <b>Material</b>  | Plastic Polyethylene   |             |
| <b>Colour</b>    | Black                  |             |
| <b>Packaging</b> | Standard               |             |



| L x b (t)       | ☒   | Art.number                    | L x b (t)       | ☒   | Art.number                    | L x b (t)           | ☒  | Art.number                    |
|-----------------|-----|-------------------------------|-----------------|-----|-------------------------------|---------------------|----|-------------------------------|
| 12-12MM (1-2mm) | 100 | <a href="#">56795.120.120</a> | 30-30MM (1-2mm) | 100 | <a href="#">56795.300.300</a> | 60-60MM (1,5-2,5mm) | 25 | <a href="#">56795.600.600</a> |
| 15-15MM (1-2mm) | 100 | <a href="#">56795.150.150</a> | 35-35MM (1-2mm) | 50  | <a href="#">56795.350.350</a> | 70-70MM (2-4mm)     | 10 | <a href="#">56795.700.700</a> |
| 20-20MM (1-2mm) | 100 | <a href="#">56795.200.200</a> | 40-40MM (1-2mm) | 25  | <a href="#">56795.400.400</a> | 80-80MM (2-4mm)     | 10 | <a href="#">56795.800.800</a> |
| 22-22MM (1-2mm) | 100 | <a href="#">56795.220.220</a> | 45-45MM (1-3mm) | 25  | <a href="#">56795.450.450</a> | 100-100MM (3-6mm)   | 10 | <a href="#">56795.982.982</a> |
| 25-25MM (1-2mm) | 100 | <a href="#">56795.250.250</a> | 50-50MM (1-3mm) | 25  | <a href="#">56795.500.500</a> |                     |    |                               |

- (t) = Suitable for thickness of base material.
- 15-15MM; with smooth shank.

## Tube cap rectangular



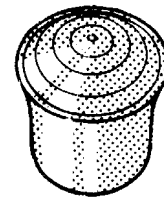
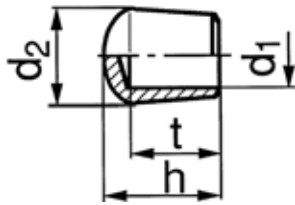
|                  |                             |             |
|------------------|-----------------------------|-------------|
| <b>56797</b>     | <b>Tube cap rectangular</b> | <b>W05F</b> |
| <b>Material</b>  | Plastic Polyethylene        |             |
| <b>Colour</b>    | Black                       |             |
| <b>Packaging</b> | Standard                    |             |



| L x b (t)           | ☒   | Art.number                    | L x b (t)       | ☒  | Art.number                    | L x b (t)              | ☒  | Art.number                    |
|---------------------|-----|-------------------------------|-----------------|----|-------------------------------|------------------------|----|-------------------------------|
| 20-10MM (0,75-2mm)  | 100 | <a href="#">56797.200.100</a> | 40-25MM (1-2mm) | 50 | <a href="#">56797.400.250</a> | 70-40MM (1-2mm)        | 25 | <a href="#">56797.700.400</a> |
| 20-15MM (1-2mm)     | 100 | <a href="#">56797.200.150</a> | 40-30MM (1-2mm) | 50 | <a href="#">56797.400.300</a> | 80-40MM (2-4mm)        | 25 | <a href="#">56797.800.400</a> |
| 25-10MM (1-2mm)     | 100 | <a href="#">56797.250.100</a> | 45-25MM (1-2mm) | 50 | <a href="#">56797.450.250</a> | 80-40x4MM (2-4mm)      | 25 | <a href="#">56797.800.404</a> |
| 25-15MM (1-2mm)     | 100 | <a href="#">56797.250.150</a> | 50-20MM (1-2mm) | 50 | <a href="#">56797.500.200</a> | 80-50MM (2-4mm)        | 25 | <a href="#">56797.800.500</a> |
| 30-10MM (1-2mm)     | 100 | <a href="#">56797.300.100</a> | 50-25MM (1-3mm) | 50 | <a href="#">56797.500.250</a> | 100-40x4MM (1,5-4mm)   | 25 | <a href="#">56797.960.400</a> |
| 30-15MM (1,2-2,5mm) | 100 | <a href="#">56797.300.150</a> | 50-30MM (1-3mm) | 50 | <a href="#">56797.500.300</a> | 100-60x4MM (2,5-4,5mm) | 25 | <a href="#">56797.960.600</a> |
| 30-20MM (1-2mm)     | 100 | <a href="#">56797.300.200</a> | 60-20MM (1-3mm) | 50 | <a href="#">56797.600.200</a> | 120-30MM (1-2mm)       | 25 | <a href="#">56797.980.300</a> |
| 35-20MM (1-2mm)     | 100 | <a href="#">56797.350.200</a> | 60-30MM (2-4mm) | 50 | <a href="#">56797.600.300</a> | 120-60MM (2-3mm)       | 25 | <a href="#">56797.980.600</a> |
| 35-25MM (1-3mm)     | 50  | <a href="#">56797.350.250</a> | 60-40MM (2-4mm) | 50 | <a href="#">56797.600.400</a> | 120-80MM (2-3mm)       | 25 | <a href="#">56797.980.800</a> |
| 40-20MM (1-2mm)     | 50  | <a href="#">56797.400.200</a> | 70-20MM (1-2mm) | 25 | <a href="#">56797.700.200</a> |                        |    |                               |

- (t) = Suitable for thickness of base material.

**Tube cap conical**



**Technical data**

| d1 | d2 | h   | t    |
|----|----|-----|------|
| 3  | 5  | 10  | 8    |
| 4  | 6  | 11  | 9    |
| 5  | 7  | 7,5 | 7    |
| 6  | 8  | 13  | 10,5 |
| 8  | 11 | 15  | 13   |
| 10 | 15 | 18  | 14   |
| 12 | 17 | 21  | 17   |
| 13 | 17 | 20  | 16   |
| 14 | 19 | 22  | 18   |
| 16 | 21 | 24  | 20   |
| 18 | 25 | 27  | 22   |
| 19 | 24 | 24  | 19   |
| 20 | 27 | 30  | 24   |

| d1 | d2 | h  | t  |
|----|----|----|----|
| 22 | 29 | 33 | 26 |
| 24 | 32 | 36 | 30 |
| 25 | 30 | 31 | 24 |
| 26 | 33 | 36 | 31 |
| 28 | 32 | 30 | 24 |
| 30 | 34 | 31 | 24 |
| 32 | 36 | 33 | 25 |
| 34 | 38 | 33 | 25 |
| 35 | 39 | 33 | 25 |
| 38 | 42 | 33 | 27 |
| 40 | 44 | 33 | 24 |
| 42 | 46 | 33 | 27 |
| 43 | 47 | 33 | 26 |

| d1  | d2  | h  | t  |
|-----|-----|----|----|
| 45  | 49  | 33 | 26 |
| 47  | 51  | 33 | 24 |
| 48  | 53  | 33 | 28 |
| 49  | 53  | 33 | 28 |
| 50  | 53  | 33 | 24 |
| 54  | 57  | 35 | 26 |
| 59  | 63  | 38 | 27 |
| 63  | 67  | 38 | 28 |
| 69  | 73  | 38 | 28 |
| 75  | 78  | 40 | 28 |
| 90  | 95  | 45 | 31 |
| 103 | 106 | 40 | 35 |

**56790 Tube cap**

W02A

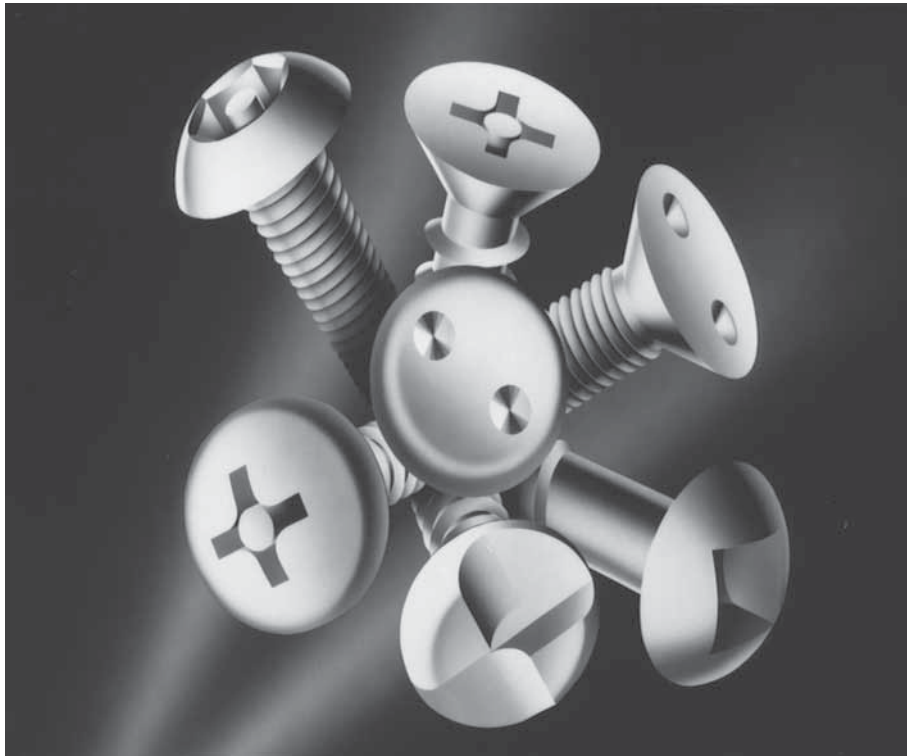
**Material** Plastic Polyvinylchloride  
**Colour** Black  
**Packaging** Standard



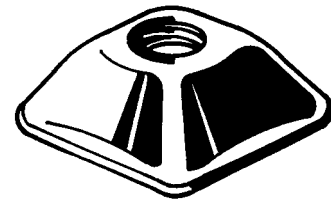
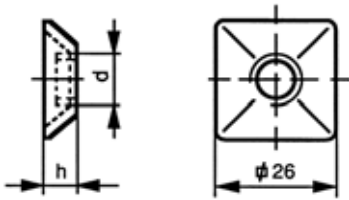
| d1   | ☒   | Art.number                    | d1   | ☒  | Art.number                    | d1    | ☒  | Art.number                    |
|------|-----|-------------------------------|------|----|-------------------------------|-------|----|-------------------------------|
| 3MM  | 100 | <a href="#">56790.030.001</a> | 20MM | 50 | <a href="#">56790.200.001</a> | 45MM  | 25 | <a href="#">56790.450.001</a> |
| 4MM  | 100 | <a href="#">56790.040.001</a> | 22MM | 50 | <a href="#">56790.220.001</a> | 47MM  | 25 | <a href="#">56790.470.001</a> |
| 5MM  | 100 | <a href="#">56790.050.001</a> | 25MM | 25 | <a href="#">56790.250.001</a> | 48MM  | 25 | <a href="#">56790.480.001</a> |
| 6MM  | 100 | <a href="#">56790.060.001</a> | 28MM | 25 | <a href="#">56790.280.001</a> | 50MM  | 25 | <a href="#">56790.500.001</a> |
| 8MM  | 100 | <a href="#">56790.080.001</a> | 30MM | 25 | <a href="#">56790.300.001</a> | 54MM  | 25 | <a href="#">56790.540.001</a> |
| 10MM | 100 | <a href="#">56790.100.001</a> | 32MM | 25 | <a href="#">56790.320.001</a> | 59MM  | 25 | <a href="#">56790.590.001</a> |
| 12MM | 100 | <a href="#">56790.120.001</a> | 34MM | 25 | <a href="#">56790.340.001</a> | 63MM  | 25 | <a href="#">56790.630.001</a> |
| 13MM | 100 | <a href="#">56790.130.001</a> | 35MM | 25 | <a href="#">56790.350.001</a> | 69MM  | 10 | <a href="#">56790.690.001</a> |
| 14MM | 100 | <a href="#">56790.140.001</a> | 38MM | 25 | <a href="#">56790.380.001</a> | 75MM  | 10 | <a href="#">56790.750.001</a> |
| 16MM | 100 | <a href="#">56790.160.001</a> | 40MM | 25 | <a href="#">56790.400.001</a> | 90MM  | 10 | <a href="#">56790.900.001</a> |
| 18MM | 50  | <a href="#">56790.180.001</a> | 42MM | 25 | <a href="#">56790.420.001</a> | 103MM | 10 | <a href="#">56790.960.001</a> |
| 19MM | 50  | <a href="#">56790.190.001</a> | 43MM | 25 | <a href="#">56790.430.001</a> |       |    |                               |

## ***FABORY SECURITY Fasteners***

*FABORY SECURITY* fasteners are suitable for fixing all products which you want to protect for hands of thieves. You can fasten everything what needs to be fixed. From outdoor lights up to advertising billboards. By using the *FABORY SECURITY* fasteners the so-called "opportunity theft" will be reduced to a minimum, as the potential thief will not have the appropriate tools to loosen the product to be taken. Only you as engineer will have the correct wrenches, so unfastening will be done only by you. As you see using the *FABORY SECURITY* fasteners will be a good fastening system together with an investment in safety. When you want to be on top of things use *FABORY SECURITY* fasteners. They only can be unfastened if you want them to!



## Security nut



### Technical data

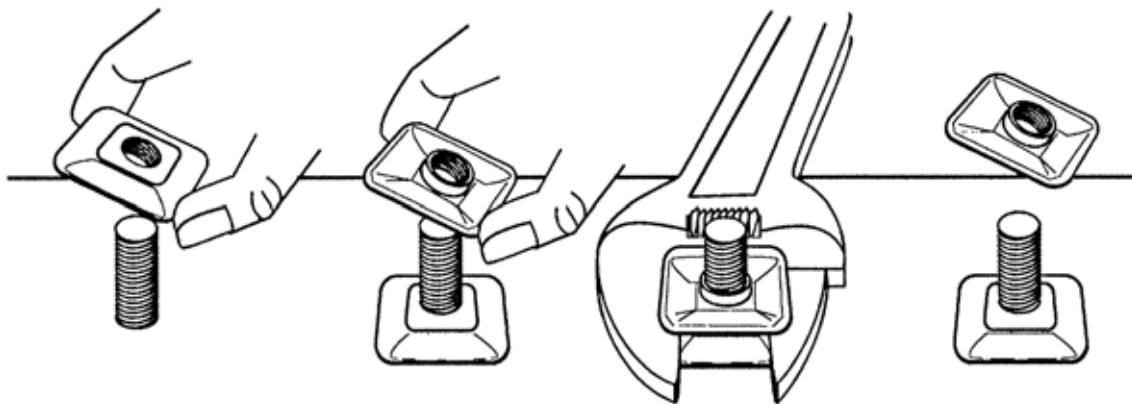
| d      | P    | h ≈ |
|--------|------|-----|
| M6-4k  | 1    | 6,2 |
| M8-4k  | 1,25 | 7   |
| M10-4k | 1,5  | 6,8 |
| M12-6k | 1,75 | 7,3 |

- SECURITY nuts are up to and including M10 square formed, M12 is hexagonal formed with the size 31 mm.

### Assembly sequence

Special features FABORY SECURITY nuts:

- assembly has always to be done with two identical nuts
- screw the first nut onto the bolt by hand. Install the second nut upside down to a half-turn distance from the first nut resulting in a diabolicshaped unity. Both nuts can now be torqued simultaneously with an adjustable wrench. After this the upper nut can be removed by hand.
- disassembly: screw a second nut upside down onto the bolt by hand to a half-turn distance of the already assembled nut. Loosen both nuts simultaneously with an adjustable wrench.

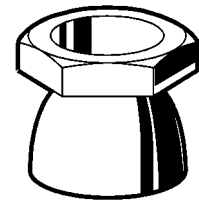
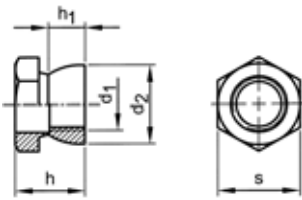


| 11430 SECURITY Nut       |                               | K91A |  |
|--------------------------|-------------------------------|------|--|
| <b>Thread</b>            | Metric thread                 |      |  |
| <b>Material</b>          | Steel Min.55HRC               |      |  |
| <b>Surface treatment</b> | Zinc plated yellow passivated |      |  |
| <b>Packaging</b>         | Standard                      |      |  |



| d     | ✉  | Art.number                    | d      | ✉  | Art.number                    | d | ✉ | Art.number |
|-------|----|-------------------------------|--------|----|-------------------------------|---|---|------------|
| M6-4k | 10 | <a href="#">11430.060.001</a> | M10-4k | 10 | <a href="#">11430.100.001</a> |   |   |            |
| M8-4k | 10 | <a href="#">11430.080.001</a> | M12-6k | 10 | <a href="#">11430.120.001</a> |   |   |            |

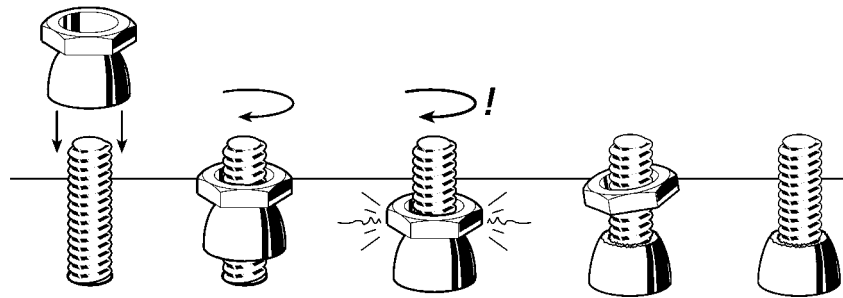
**Inviolable nut**



**Technical data**

|                       | M6    | M8    | M10   | M12   | M16   |
|-----------------------|-------|-------|-------|-------|-------|
| d1                    | M6    | M8    | M10   | M12   | M16   |
| P                     | 1     | 1,25  | 1,5   | 1,75  | 2     |
| d2                    | 9,8   | 12,8  | 16,8  | 18,8  | 23,8  |
| h                     | 9,5   | 12    | 15    | 16    | 22    |
| h1                    | 4,5   | 7     | 8,5   | 9     | 13    |
| s                     | 10    | 13    | 17    | 19    | 24    |
| Ultimate moment in Nm | 10-18 | 13-21 | 31-38 | 35-45 | 50-60 |

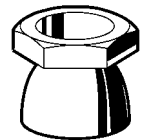
**Assembly data**



**51097 SECURITY Inviolable nut**

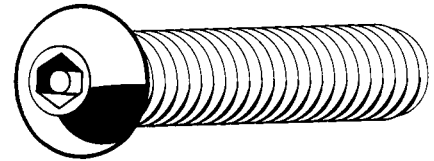
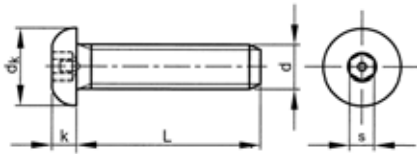
K91A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d1      | ☒   | Art.number                    | d1       | ☒  | Art.number                    | d1       | ☒  | Art.number                    |
|---------|-----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| M6 S=10 | 100 | <a href="#">51097.060.001</a> | M10 S=17 | 50 | <a href="#">51097.100.001</a> | M16 S=24 | 25 | <a href="#">51097.160.001</a> |
| M8 S=13 | 100 | <a href="#">51097.080.001</a> | M12 S=19 | 50 | <a href="#">51097.120.001</a> |          |    |                               |

## Hexagon socket button head screw with pin



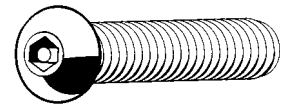
### Technical data

| d                     | M4  | M5   | M6   | M8   |
|-----------------------|-----|------|------|------|
| P                     | 0,7 | 0,8  | 1    | 1,25 |
| d <sub>k</sub> (max.) | 7,6 | 9,5  | 10,5 | 14   |
| k (max.)              | 2,2 | 2,75 | 3,3  | 4,4  |
| s                     | 2,5 | 3    | 4    | 5    |

### 51036 SECURITY Hexagon socket button head screw with pin

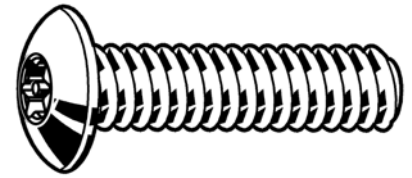
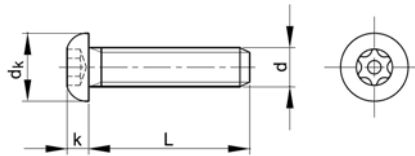
K91A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M4X10 | 50 | <a href="#">51036.040.010</a> | M5X25 | 25 | <a href="#">51036.050.025</a> | M8X10 | 25 | <a href="#">51036.080.010</a> |
| M4X12 | 50 | <a href="#">51036.040.012</a> | M5X30 | 25 | <a href="#">51036.050.030</a> | M8X12 | 25 | <a href="#">51036.080.012</a> |
| M4X16 | 50 | <a href="#">51036.040.016</a> |       |    |                               | M8X16 | 25 | <a href="#">51036.080.016</a> |
| M4X20 | 50 | <a href="#">51036.040.020</a> | M6X10 | 25 | <a href="#">51036.060.010</a> | M8X20 | 25 | <a href="#">51036.080.020</a> |
| M4X25 | 50 | <a href="#">51036.040.025</a> | M6X12 | 25 | <a href="#">51036.060.012</a> | M8X25 | 25 | <a href="#">51036.080.025</a> |
| M4X30 | 50 | <a href="#">51036.040.030</a> | M6X16 | 25 | <a href="#">51036.060.016</a> | M8X30 | 25 | <a href="#">51036.080.030</a> |
|       |    |                               | M6X20 | 25 | <a href="#">51036.060.020</a> | M8X40 | 25 | <a href="#">51036.080.040</a> |
| M5X10 | 50 | <a href="#">51036.050.010</a> | M6X25 | 25 | <a href="#">51036.060.025</a> | M8X50 | 25 | <a href="#">51036.080.050</a> |
| M5X12 | 50 | <a href="#">51036.050.012</a> | M6X30 | 25 | <a href="#">51036.060.030</a> |       |    |                               |
| M5X16 | 50 | <a href="#">51036.050.016</a> | M6X40 | 25 | <a href="#">51036.060.040</a> |       |    |                               |
| M5X20 | 50 | <a href="#">51036.050.020</a> | M6X50 | 25 | <a href="#">51036.060.050</a> |       |    |                               |

## Button head screw with hexalobular with pin



### Technical data

| d                     | M4    | M5    | M6    | M8    |
|-----------------------|-------|-------|-------|-------|
| P                     | 0,7   | 0,8   | 1     | 1,25  |
| d <sub>k</sub> (max.) | 7,6   | 9,5   | 10,5  | 14    |
| k (max.)              | 2,2   | 2,75  | 3,3   | 4,4   |
| Socket                | No.20 | No.25 | No.30 | No.40 |

### 51037 SECURITY Button head screw with hexalobular with pin

K91A

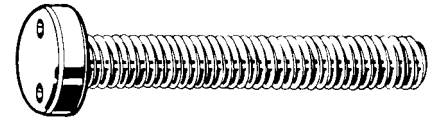
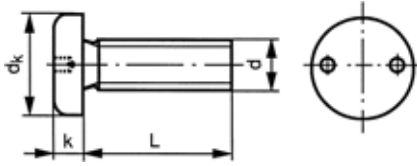
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Class</b>     | 70                 |
| <b>Packaging</b> | Standard           |



| d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M4X10 | 50 | <a href="#">51037.040.010</a> | M5X25 | 25 | <a href="#">51037.050.025</a> | M8X10 | 25 | <a href="#">51037.080.010</a> |
| M4X12 | 50 | <a href="#">51037.040.012</a> | M5X30 | 25 | <a href="#">51037.050.030</a> | M8X12 | 25 | <a href="#">51037.080.012</a> |
| M4X16 | 50 | <a href="#">51037.040.016</a> |       |    |                               | M8X16 | 25 | <a href="#">51037.080.016</a> |
| M4X20 | 50 | <a href="#">51037.040.020</a> | M6X10 | 25 | <a href="#">51037.060.010</a> | M8X20 | 25 | <a href="#">51037.080.020</a> |
| M4X25 | 50 | <a href="#">51037.040.025</a> | M6X12 | 25 | <a href="#">51037.060.012</a> | M8X25 | 25 | <a href="#">51037.080.025</a> |
| M4X30 | 50 | <a href="#">51037.040.030</a> | M6X16 | 25 | <a href="#">51037.060.016</a> | M8X30 | 25 | <a href="#">51037.080.030</a> |
|       |    |                               | M6X20 | 25 | <a href="#">51037.060.020</a> | M8X40 | 25 | <a href="#">51037.080.040</a> |
| M5X10 | 50 | <a href="#">51037.050.010</a> | M6X25 | 25 | <a href="#">51037.060.025</a> | M8X50 | 25 | <a href="#">51037.080.050</a> |
| M5X12 | 50 | <a href="#">51037.050.012</a> | M6X30 | 25 | <a href="#">51037.060.030</a> |       |    |                               |
| M5X16 | 50 | <a href="#">51037.050.016</a> | M6X40 | 25 | <a href="#">51037.060.040</a> |       |    |                               |
| M5X20 | 50 | <a href="#">51037.050.020</a> | M6X50 | 25 | <a href="#">51037.060.050</a> |       |    |                               |



**Pan head screw with 2 holes**



**Technical data**

| d  | P   | dk | k   |
|----|-----|----|-----|
| M3 | 0,5 | 6  | 1,8 |
| M4 | 0,7 | 8  | 2,4 |
| M5 | 0,8 | 10 | 3   |
| M6 | 1   | 12 | 3,6 |

**51591 SECURITY Pan head screw with 2 holes**

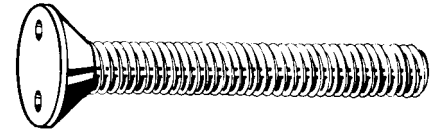
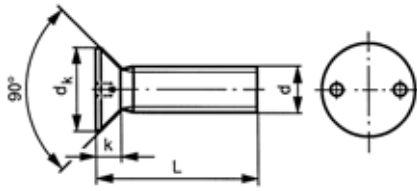
**K91A**

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M3X10 | 10 | <a href="#">51591.030.010</a> | M4X25 | 10 | <a href="#">51591.040.025</a> | M6X12 | 10 | <a href="#">51591.060.012</a> |
| M3X12 | 10 | <a href="#">51591.030.012</a> | M5X12 | 10 | <a href="#">51591.050.012</a> | M6X16 | 10 | <a href="#">51591.060.016</a> |
| M3X16 | 10 | <a href="#">51591.030.016</a> | M5X16 | 10 | <a href="#">51591.050.016</a> | M6X20 | 10 | <a href="#">51591.060.020</a> |
| M4X10 | 10 | <a href="#">51591.040.010</a> | M5X20 | 10 | <a href="#">51591.050.020</a> | M6X25 | 10 | <a href="#">51591.060.025</a> |
| M4X12 | 10 | <a href="#">51591.040.012</a> | M5X25 | 10 | <a href="#">51591.050.025</a> | M6X30 | 10 | <a href="#">51591.060.030</a> |
| M4X16 | 10 | <a href="#">51591.040.016</a> | M5X30 | 10 | <a href="#">51591.050.030</a> | M6X40 | 10 | <a href="#">51591.060.040</a> |
| M4X20 | 10 | <a href="#">51591.040.020</a> |       |    |                               |       |    |                               |

## Countersunk head screw with 2 holes



### Technical data

| d  | P   | d <sub>k</sub> | k (max.) |
|----|-----|----------------|----------|
| M3 | 0,5 | 6,3            | 1,7      |
| M4 | 0,7 | 9,4            | 2,7      |
| M5 | 0,8 | 10,4           | 2,7      |
| M6 | 1   | 12,6           | 3,3      |

### 51592 SECURITY Countersunk head screw with 2 holes

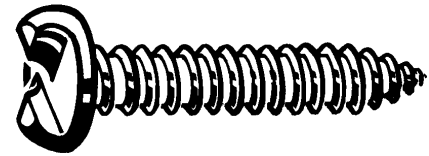
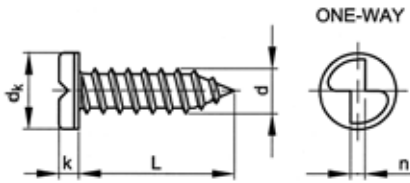
K91A

**Thread** Metric thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    | d x L | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| M3X10 | 10 | <a href="#">51592.030.010</a> | M4X25 | 10 | <a href="#">51592.040.025</a> | M6X12 | 10 | <a href="#">51592.060.012</a> |
| M3X12 | 10 | <a href="#">51592.030.012</a> |       |    |                               | M6X20 | 10 | <a href="#">51592.060.020</a> |
| M3X16 | 10 | <a href="#">51592.030.016</a> | M5X12 | 10 | <a href="#">51592.050.012</a> | M6X25 | 10 | <a href="#">51592.060.025</a> |
|       |    |                               | M5X16 | 10 | <a href="#">51592.050.016</a> | M6X30 | 10 | <a href="#">51592.060.030</a> |
| M4X10 | 10 | <a href="#">51592.040.010</a> | M5X20 | 10 | <a href="#">51592.050.020</a> | M6X40 | 10 | <a href="#">51592.060.040</a> |
| M4X12 | 10 | <a href="#">51592.040.012</a> | M5X25 | 10 | <a href="#">51592.050.025</a> |       |    |                               |
| M4X16 | 10 | <a href="#">51592.040.016</a> | M5X30 | 10 | <a href="#">51592.050.030</a> |       |    |                               |
| M4X20 | 10 | <a href="#">51592.040.020</a> |       |    |                               |       |    |                               |

## One way tapping screw



### Technical data

|    | ST2,9 | ST3,5 | ST4,2 |
|----|-------|-------|-------|
| d  |       |       |       |
| P  | 1,1   | 1,3   | 1,4   |
| dk | 5,6   | 6,9   | 8,2   |
| k  | 1,75  | 2,1   | 2,45  |
| n  | 0,8   | 1     | 1,2   |

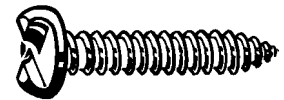
### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page   |
|--------|------------------|-----------|-------------------|-----------|-------|--------|
| ST     | slotted          | St        | Zipl              | Standard  | 26910 | 10-121 |
| ST     | slotted          | St.St. A2 |                   | Standard  | 51668 | 10-121 |

#### 26910 SECURITY One way tapping screw

K91A

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Self tapping thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |

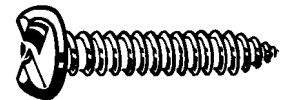


| d x L      | ☒    | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|------------|------|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X19MM | 2000 | <a href="#">26910.029.019</a> | ST4,2X19MM | 200 | <a href="#">26910.042.019</a> | ST4,2X60MM | 200 | <a href="#">26910.042.060</a> |
| ST3,5X13MM | 200  | <a href="#">26910.035.013</a> | ST4,2X25MM | 200 | <a href="#">26910.042.025</a> |            |     |                               |
| ST3,5X19MM | 200  | <a href="#">26910.035.019</a> | ST4,2X32MM | 200 | <a href="#">26910.042.032</a> |            |     |                               |
| ST3,5X25MM | 200  | <a href="#">26910.035.025</a> | ST4,2X38MM | 200 | <a href="#">26910.042.038</a> |            |     |                               |
|            |      |                               | ST4,2X50MM | 200 | <a href="#">26910.042.050</a> |            |     |                               |

#### 51668 SECURITY One way tapping screw

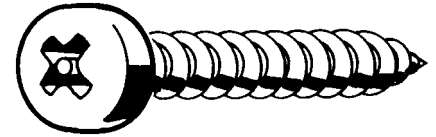
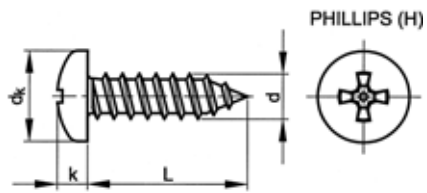
K91A

|                  |                     |
|------------------|---------------------|
| <b>Thread</b>    | Self tapping thread |
| <b>Material</b>  | Stainless steel A2  |
| <b>Packaging</b> | Standard            |



| d x L       | ☒   | Art.number                    | d x L      | ☒   | Art.number                    | d x L      | ☒   | Art.number                    |
|-------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| ST2,9X9,5MM | 200 | <a href="#">51668.029.009</a> | ST3,5X19MM | 200 | <a href="#">51668.035.019</a> | ST4,2X32MM | 200 | <a href="#">51668.042.032</a> |
| ST2,9X13MM  | 200 | <a href="#">51668.029.013</a> | ST3,5X25MM | 200 | <a href="#">51668.035.025</a> | ST4,2X38MM | 200 | <a href="#">51668.042.038</a> |
| ST2,9X19MM  | 200 | <a href="#">51668.029.019</a> |            |     |                               | ST4,2X50MM | 200 | <a href="#">51668.042.050</a> |
| ST3,5X13MM  | 200 | <a href="#">51668.035.013</a> | ST4,2X19MM | 200 | <a href="#">51668.042.019</a> |            |     |                               |
|             |     |                               | ST4,2X25MM | 200 | <a href="#">51668.042.025</a> |            |     |                               |

## Cross recessed pan head tapping screw with pin



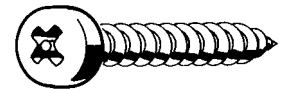
### Technical data

|                  | ST3,5 | ST4,2 | ST4,8 | ST5,5 |
|------------------|-------|-------|-------|-------|
| d                | 3,5   | 4,2   | 4,8   | 5,5   |
| P                | 1,3   | 1,4   | 1,6   | 1,8   |
| $d_k \approx$    | 7     | 8,1   | 9,3   | 10,6  |
| $k \approx$      | 2,5   | 2,8   | 3,5   | 3,8   |
| No. cross recess | 2     | 2     | 2     | 3     |

### 51593 SECURITY Cross recessed pan head tapping screws Phillips with pin

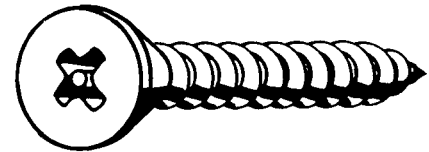
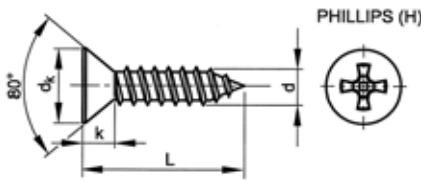
K91A

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| ST3,5X13MM | 10 | <a href="#">51593.035.013</a> | ST4,2X32MM | 10 | <a href="#">51593.042.032</a> | ST4,8X50MM | 10 | <a href="#">51593.048.050</a> |
| ST3,5X19MM | 10 | <a href="#">51593.035.019</a> | ST4,2X38MM | 10 | <a href="#">51593.042.038</a> | ST5,5X19MM | 10 | <a href="#">51593.055.019</a> |
| ST3,5X25MM | 10 | <a href="#">51593.035.025</a> |            |    |                               | ST5,5X25MM | 10 | <a href="#">51593.055.025</a> |
| ST3,5X38MM | 10 | <a href="#">51593.035.038</a> | ST4,8X13MM | 10 | <a href="#">51593.048.013</a> | ST5,5X32MM | 10 | <a href="#">51593.055.032</a> |
|            |    |                               | ST4,8X19MM | 10 | <a href="#">51593.048.019</a> | ST5,5X38MM | 10 | <a href="#">51593.055.038</a> |
| ST4,2X13MM | 10 | <a href="#">51593.042.013</a> | ST4,8X25MM | 10 | <a href="#">51593.048.025</a> | ST5,5X50MM | 10 | <a href="#">51593.055.050</a> |
| ST4,2X19MM | 10 | <a href="#">51593.042.019</a> | ST4,8X32MM | 10 | <a href="#">51593.048.032</a> |            |    |                               |
| ST4,2X25MM | 10 | <a href="#">51593.042.025</a> | ST4,8X38MM | 10 | <a href="#">51593.048.038</a> |            |    |                               |

**Cross recessed countersunk head tapping screw with pin**



**Technical data**

|                  | ST3,5 | ST4,2 | ST4,8 | ST5,5 |
|------------------|-------|-------|-------|-------|
| d                |       |       |       |       |
| P                | 1,3   | 1,4   | 1,6   | 1,8   |
| dk ≈             | 6,7   | 8,3   | 9     | 10,6  |
| k ≈              | 2,7   | 3,4   | 3,4   | 4,3   |
| No. cross recess | 2     | 2     | 2     | 3     |

**51594 SECURITY Cross recessed countersunk head tapping screw Phillips with pin**

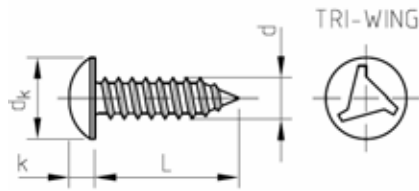
K91A

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| ST3,5X13MM | 10 | <a href="#">51594.035.013</a> | ST4,2X38MM | 10 | <a href="#">51594.042.038</a> | ST5,5X19MM | 10 | <a href="#">51594.055.019</a> |
| ST3,5X25MM | 10 | <a href="#">51594.035.025</a> |            |    |                               | ST5,5X25MM | 10 | <a href="#">51594.055.025</a> |
| ST3,5X32MM | 10 | <a href="#">51594.035.032</a> | ST4,8X19MM | 10 | <a href="#">51594.048.019</a> | ST5,5X32MM | 10 | <a href="#">51594.055.032</a> |
| ST3,5X38MM | 10 | <a href="#">51594.035.038</a> | ST4,8X25MM | 10 | <a href="#">51594.048.025</a> | ST5,5X38MM | 10 | <a href="#">51594.055.038</a> |
|            |    |                               | ST4,8X32MM | 10 | <a href="#">51594.048.032</a> | ST5,5X50MM | 10 | <a href="#">51594.055.050</a> |
| ST4,2X19MM | 10 | <a href="#">51594.042.019</a> | ST4,8X38MM | 10 | <a href="#">51594.048.038</a> |            |    |                               |
| ST4,2X25MM | 10 | <a href="#">51594.042.025</a> | ST4,8X50MM | 10 | <a href="#">51594.048.050</a> |            |    |                               |
| ST4,2X32MM | 10 | <a href="#">51594.042.032</a> |            |    |                               |            |    |                               |

**Mushroom head tapping screw with Tri-wing recessed**



**Technical data**

|              |       |       |
|--------------|-------|-------|
| d            | ST4,2 | ST4,8 |
| P            | 1,7   | 2     |
| dk           | 9,4   | 10,8  |
| k            | 2,5   | 3     |
| No. Tri-Wing | W4    | W5    |

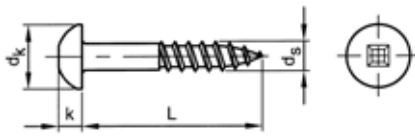
**51669 SECURITY Mushroom head tapping screw with Tri-wing recessed K91A**

**Thread** Self tapping thread  
**Material** Stainless steel A2  
**Packaging** Standard



| d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    | d x L      | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| ST4,2X13MM | 10 | <a href="#">51669.042.013</a> | ST4,8X13MM | 10 | <a href="#">51669.048.013</a> | ST4,8X38MM | 10 | <a href="#">51669.048.038</a> |
| ST4,2X19MM | 10 | <a href="#">51669.042.019</a> | ST4,8X19MM | 10 | <a href="#">51669.048.019</a> |            |    |                               |
| ST4,2X25MM | 10 | <a href="#">51669.042.025</a> | ST4,8X25MM | 10 | <a href="#">51669.048.025</a> |            |    |                               |
| ST4,2X32MM | 10 | <a href="#">51669.042.032</a> | ST4,8X32MM | 10 | <a href="#">51669.048.032</a> |            |    |                               |

## Square socket drive round head wood screw



### Technical data

|                |     |
|----------------|-----|
| ds             | 4,2 |
| d <sub>k</sub> | 8   |
| k (max.)       | 2,8 |
| No. Square     | 2   |

### Article groups

| Driving features | Material | Surface treatment | Packaging      | Code  | Page   |
|------------------|----------|-------------------|----------------|-------|--------|
| square socket    | St       | Zipl              | Standard       | 25750 | 10-125 |
| square socket    | St       | Zipl              | fully threaded | 25751 | 10-125 |

#### 25750 SECURITY Square socket drive round head wood screw

K05A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

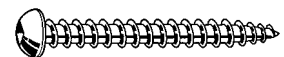


| ds x L   | ☒   | Art.number                    | ds x L | ☒ | Art.number | ds x L | ☒ | Art.number |
|----------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| 4,2X32MM | 200 | <a href="#">25750.042.032</a> |        |   |            |        |   |            |
| 4,2X38MM | 200 | <a href="#">25750.042.038</a> |        |   |            |        |   |            |
| 4,2X50MM | 200 | <a href="#">25750.042.050</a> |        |   |            |        |   |            |

#### 25751 SECURITY Square socket drive round head wood screw fully threaded

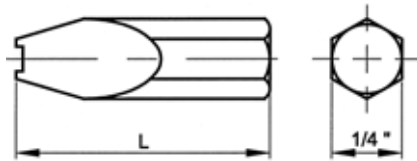
K05A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| ds x L   | ☒   | Art.number                    | ds x L | ☒ | Art.number | ds x L | ☒ | Art.number |
|----------|-----|-------------------------------|--------|---|------------|--------|---|------------|
| 4,2X19MM | 200 | <a href="#">25751.042.019</a> |        |   |            |        |   |            |
| 4,2X25MM | 200 | <a href="#">25751.042.025</a> |        |   |            |        |   |            |

## Security screwdriver bit



### Article groups

| Driving features | Material | Surface treatment |                       | Packaging | Code  | Page   |
|------------------|----------|-------------------|-----------------------|-----------|-------|--------|
|                  | St       | Zipl              | for 2 holes           | Standard  | 81150 | 10-126 |
| Phillips         | St       |                   | for pin               | Standard  | 81152 | 10-126 |
|                  | St       |                   | Tri-wing              | Standard  | 81158 | 10-126 |
|                  | St       |                   | square                | Standard  | 81278 | 10-126 |
|                  | St       |                   | hexalobular with hole | Standard  | 81582 | 10-127 |

#### 81150 SECURITY Screwdriver bit for screws with 2 holes

K91A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| Size             | ☒ | Art.number                    | Size              | ☒ | Art.number                    | Size | ☒ | Art.number |
|------------------|---|-------------------------------|-------------------|---|-------------------------------|------|---|------------|
| M3x39 (C6-188/4) | 1 | <a href="#">81150.030.001</a> | M5x39 (C6-188/10) | 1 | <a href="#">81150.050.001</a> |      |   |            |
| M4x39 (C6-188/8) | 1 | <a href="#">81150.040.001</a> | M6x39 (C6-188/12) | 1 | <a href="#">81150.060.001</a> |      |   |            |

- SECURITY screwdriver bits and screwdrivers, suitable for SECURITY screws with 2 holes, see articles groups 51591 and 51592.

#### 81152 SECURITY Screwdriver bit for cross recessed screws with pin Phillips

K91A

|                  |          |
|------------------|----------|
| <b>Material</b>  | Steel    |
| <b>Packaging</b> | Standard |



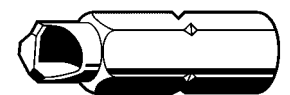
| Size    | ☒ | Art.number                    | Size | ☒ | Art.number                    | Size | ☒ | Art.number |
|---------|---|-------------------------------|------|---|-------------------------------|------|---|------------|
| No.2x25 | 1 | <a href="#">81152.001.770</a> | NR3  | 1 | <a href="#">81152.001.775</a> |      |   |            |

- SECURITY screwdriver bits and screwdrivers, suitable for SECURITY cross recessed screws with pin, see article groups 51593 and 51594.
- Depending on availability with an organic dip surface coating / corrosion protection supplied.

#### 81158 SECURITY Tri-Wing screwdriver bit

WER1

|                  |          |
|------------------|----------|
| <b>Material</b>  | Steel    |
| <b>Packaging</b> | Standard |



| Size   | ☒ | Art.number                    | Size   | ☒ | Art.number                    | Size | ☒ | Art.number |
|--------|---|-------------------------------|--------|---|-------------------------------|------|---|------------|
| S=4x25 | 1 | <a href="#">81158.000.040</a> | S=5x25 | 1 | <a href="#">81158.000.050</a> |      |   |            |

- Suitable for SECURITY mushroom head tapping screw with Tri-Wing recessed, see article group 51669.

#### 81278 SECURITY Square screwdriver bit

WER1

|                  |          |
|------------------|----------|
| <b>Material</b>  | Steel    |
| <b>Packaging</b> | Standard |



| Size       | ☒ | Art.number                    | Size       | ☒ | Art.number                    | Size | ☒ | Art.number |
|------------|---|-------------------------------|------------|---|-------------------------------|------|---|------------|
| /1 Gr.2x25 | 2 | <a href="#">81278.102.025</a> | /4 Gr.2x50 | 1 | <a href="#">81278.402.050</a> |      |   |            |



**81278 SECURITY Square screwdriver bit** ←

| Size | ✉ | Art.number | Size | ✉ | Art.number | Size | ✉ | Art.number |
|------|---|------------|------|---|------------|------|---|------------|
|------|---|------------|------|---|------------|------|---|------------|

- SECURITY square screwdriver bits type 868/1 Z (WERA) and screwdriver, suitable for SECURITY square socket drive round head wood screws, see article groups 25750 and 25751

**81582 SECURITY Hexalobular screwdriver bit with hole** WER1

|                  |          |  |  |  |  |  |  |  |
|------------------|----------|--|--|--|--|--|--|--|
| <b>Material</b>  | Steel    |  |  |  |  |  |  |  |
| <b>Packaging</b> | Standard |  |  |  |  |  |  |  |

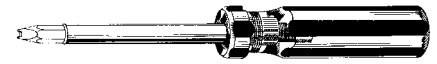


| Size | ✉ | Art.number | Size | ✉ | Art.number | Size | ✉ | Art.number |
|------|---|------------|------|---|------------|------|---|------------|
|------|---|------------|------|---|------------|------|---|------------|

|         |   |                               |         |   |                               |         |   |                               |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| TX10x25 | 2 | <a href="#">81582.010.026</a> | TX25x25 | 2 | <a href="#">81582.025.026</a> | TX40x25 | 2 | <a href="#">81582.040.026</a> |
| TX15x25 | 2 | <a href="#">81582.015.026</a> | TX27x25 | 2 | <a href="#">81582.027.026</a> |         |   |                               |
| TX20x25 | 2 | <a href="#">81582.020.026</a> | TX30x25 | 2 | <a href="#">81582.030.026</a> |         |   |                               |

- SECURITY hexalobular screwdriver bits with hole type 867/1 Z BO (WERA), suitable for SECURITY button head screw with hexalobular with pin, see article group 51037.

## Security screwdriver



### Article groups

| Driving features | Material |             | Packaging | Code  | Page   |
|------------------|----------|-------------|-----------|-------|--------|
|                  | St       | with 2 pins | Standard  | 81372 | 10-128 |
| Phillips         | St       | for pin     | Standard  | 81371 | 10-128 |
| Spline drive     | St       | square      | Standard  | 81400 | 10-128 |

#### 81372 SECURITY Screwdriver for screws with 2 holes K91A

**Material** Steel  
**Packaging** Standard



| Size          | Art.number                      | Size | Art.number | Size | Art.number |
|---------------|---------------------------------|------|------------|------|------------|
| 190B No.3-150 | 1 <a href="#">81372.001.775</a> |      |            |      |            |

- SECURITY screwdriver bits and screwdrivers, suitable for SECURITY cross recessed screws with pin, see article groups 51593 and 51594.

#### 81371 SECURITY Screwdriver Phillips K91A

**Material** Steel  
**Packaging** Standard

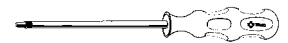


| Size      | Art.number                      | Size       | Art.number                      | Size       | Art.number                      |
|-----------|---------------------------------|------------|---------------------------------|------------|---------------------------------|
| 6188/8 M4 | 1 <a href="#">81371.040.001</a> | 6188/10 M5 | 1 <a href="#">81371.050.001</a> | 6188/12 M6 | 1 <a href="#">81371.060.001</a> |

- SECURITY screwdriver bits and screwdrivers, suitable for SECURITY cross recessed screws with pin, see article groups 51593 and 51594.

#### 81400 SECURITY Square screwdriver WER1

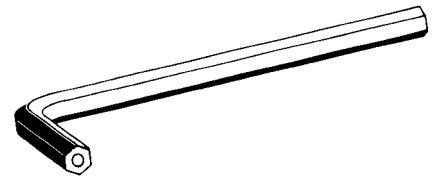
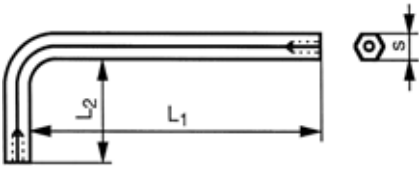
**Material** Steel  
**Packaging** Standard



| Size     | Art.number                      | Size | Art.number | Size | Art.number |
|----------|---------------------------------|------|------------|------|------------|
| Gr.2-100 | 1 <a href="#">81400.001.770</a> |      |            |      |            |

- SECURITY square screwdriver bits type 868/1 Z (WERA) and screwdriver, suitable for SECURITY square socket drive round head wood screws, see article groups 25750 and 25751.

**Security hexagon socket screw key with two holes**



**Technical data**

| s   | L <sub>1</sub> | L <sub>2</sub> |
|-----|----------------|----------------|
| 2,5 | 56             | 18             |
| 3   | 63             | 20             |
| 4   | 70             | 25             |
| 5   | 80             | 28             |

**07751 Security hexagon socket screw key with two holes**

D91A

**Material** Steel  
**Surface treatment** Zinc plated yellow passivated  
**Packaging** Standard



| s     | ✉ | Art.number                    | s   | ✉ | Art.number                    | s | ✉ | Art.number |
|-------|---|-------------------------------|-----|---|-------------------------------|---|---|------------|
| 2,5MM | 1 | <a href="#">07751.025.001</a> | 4MM | 1 | <a href="#">07751.040.001</a> |   |   |            |
| 3MM   | 1 | <a href="#">07751.030.001</a> | 5MM | 1 | <a href="#">07751.050.001</a> |   |   |            |

- SECURITY hexagon socket screw keys and screwdriver bits, suitable for SECURITY hexagon socket button head screws with pin, see article group 51036.

## Assortments/storage systems 11

|   |   |  |  |   |
|---|---|--|--|---|
|  <p>Page 11-3</p> <p><b>Plastic box</b></p>      |  <p>Page 11-16</p> <p><b>Steel box</b></p>                 |  <p>Page 11-28</p> <p><b>Accessories assortment</b></p> |  <p>Page 11-29</p> <p><b>Warehouse cabinet</b></p>     |  <p>Page 11-30</p> <p><b>Warehouse cabinet with doors and bins</b></p> |
|  <p>Page 11-31</p> <p><b>Workshop module</b></p> |  <p>Page 11-32</p> <p><b>Cabinet for threaded rods</b></p> |  <p>Page 11-32</p> <p><b>Wheeled rack</b></p>           |  <p>Page 11-33</p> <p><b>Storage box stackable</b></p> |  <p>Page 11-35</p> <p><b>Carrying box</b></p>                          |

## FABORY quality assortments

**FABORY QUALITY ASSORTMENTS**, compiled from the most popular fasteners, make a unique range of plastic (types 9T and 18T) and steel (type S) assortment boxes for repairs,



Over 120 plastic assortment boxes (types 9T and 18T) **FABORY QUALITY ASSORTMENTS** have been carefully selected from fasteners best seller and for years have been an indispensable tool for every maintenance- and service engineer.



Thanks to their unique composition, over 90 steel assortment boxes (type S) **FABORY QUALITY ASSORTMENTS** make a complete range of fasteners and are therefore eminently suitable for repairs and maintenance in the factory, on site or in the workshop.

maintenance, service, etc. All **FABORY QUALITY ASSORTMENTS** are permanently available from stock.



All solid transparent assortment boxes are provided with a clear label, a conveniently arranged table of contents and a lockable lid. The environmentally friendly plastic boxes are provided with a 9 or 18 compartment interior.




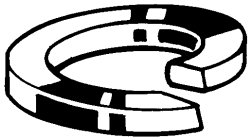
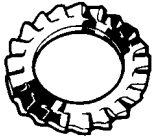
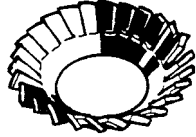
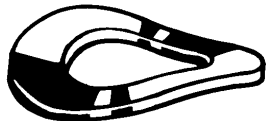
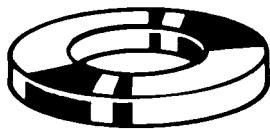


All solid steel assortment boxes are provided with a sturdy plastic interior, a clear label and a conveniently arranged multi-lingual table of contents.

For accessories such as wall racks, turntables, chests of drawers and storage cabinets, see elsewhere in this catalogue. Technical brochure available on request.

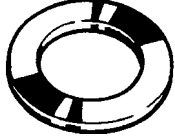
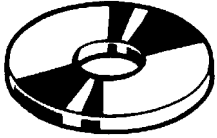


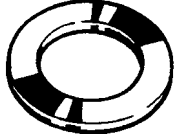
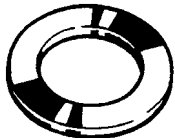

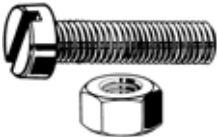


**Assortment box plastic**



|                  |                               |   |
|------------------|-------------------------------|---|
| <b>41000</b>     | <b>Assortment box plastic</b> | <b>Y94A</b>   |
| <b>Packaging</b> | Standard                      |  |

| Size  | ✉ | Art.number                    |  |   |
|-------|---|-------------------------------|--|---|
| 9 T 1 | 1 | <a href="#">41000.000.001</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Spring lock washers with square ends acc. to DIN 127 B</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• M5 / M6 / M8 / M10 / M11 / M12 / M14 / M16 / M20</li> <li>• 523 pieces</li> </ul>                                     |    |
| 9 T 3 | 1 | <a href="#">41000.000.003</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Serrated lock washers external teeth acc. to DIN 6798 A</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20</li> <li>• 743 pieces</li> </ul>                                     |   |
| 9 T 5 | 1 | <a href="#">41000.000.005</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Countersunk serrated lock washers external teeth acc. to DIN 6798 V</li> <li>• Steel</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20</li> <li>• 595 pieces</li> </ul>                                |  |
| 9 T 6 | 1 | <a href="#">41000.000.006</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Wave spring washers acc. to DIN 137 B</li> <li>• Steel</li> <li>• Contents:</li> <li>• M5 / M6 / M7 / M8 / M10 / M12 / M14 / M16 / M20</li> <li>• 570 pieces</li> </ul>   |  |
| 9 T 7 | 1 | <a href="#">41000.000.007</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Plain washers without chamfer acc. to DIN 125-1 A</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16</li> <li>• 825 pieces</li> </ul>  |  |
| 9 T 8 | 1 | <a href="#">41000.000.008</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Single chamfer plain washers acc. to DIN 125-1 B</li> <li>• Brass</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16</li> <li>• 835 pieces</li> </ul>   |  |
| 9 T 9 | 1 | <a href="#">41000.000.009</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Single chamfer plain washers acc. to DIN 125-1 B and plain washers without chamfer acc. to DIN 125-1 A</li> <li>• Steel</li> <li>• Contents:</li> <li>• M5 / M6 / M8 / M10 / M11 / M12 / M14 / M16 / M20</li> <li>• 440 pieces</li> </ul> |  |

**41000 Assortment box plastic**

| Size    | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number  |
|---------|---|-------------------------------|---|---|------------|------|---|---|
| 18 T 10 | 1 | <a href="#">41000.000.010</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Sealing rings acc. to DIN 7603 A</li> <li>• Aluminium 99F11, hardness HB 32-45</li> <li>• Contents:</li> <li>• Ø 4x8x1 / 5x9x1 / 6x10x1 / 6x12x1 / 8x12x1 / 8x14x1 / 10x14x1 / 12x18x1,5 / 14x20x1,5 / 16x20x1,5 / 16x22x1,5 / 18x24x1,5 / 20x26x1,5 / 22x27x1,5 / 24x30x2 / 26x32x2</li> </ul>                                  |   |            |      |   |    |
| 9 T 11  | 1 | <a href="#">41000.000.011</a> | <ul style="list-style-type: none"> <li>• 571 pieces</li> <li>• Composition:</li> <li>• Mudwing repair washers and plain washers d2 ≈ 3xd1 acc. to DIN 9021</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• Mudwing repair washers: M4x20 / M5x20 / M6x25 / M8x30 / M10x30 / M12x36</li> <li>• DIN 9021: M6x18 / M8x24 / M10x30</li> </ul>  |   |            |      |   |    |
| 9 T 12  | 1 | <a href="#">41000.000.012</a> | <ul style="list-style-type: none"> <li>• 180 pieces</li> <li>• Composition:</li> <li>• Shim rings thickness 0,1 mm</li> <li>• Steel</li> <li>• Contents:</li> <li>• Ø 8x20 / 10x22 / 12x24 / 14x26 / 16x28 / 18x30 / 20x32 / 22x34 / 24x36</li> </ul>   |   |            |      |   |    |
| 9 T 13  | 1 | <a href="#">41000.000.013</a> | <ul style="list-style-type: none"> <li>• 215 pieces</li> <li>• Composition:</li> <li>• Rosettes, open model</li> <li>• Brass nickel plated</li> <li>• Contents:</li> <li>• Ø 3,2 / 4 / 4,8 / 5,5 / 6,6 / 7,4</li> </ul>   |   |            |      |   |   |
| 18 T 14 | 1 | <a href="#">41000.000.014</a> | <ul style="list-style-type: none"> <li>• 850 pieces</li> <li>• Composition:</li> <li>• Sealing rings acc. to DIN 7603 A</li> <li>• Copper, annealed</li> <li>• Contents:</li> <li>• Ø 5x10x1 / 6x10x1 / 7x10x1 / 8x12x1 / 9x14x1 / 10x16x1,5 / 10,5x17x1,5 / 11x17x1,5 / 12x16x1,5 / 12,5x20x1,5 / 13x18x2 / 14x18x1 / 14x20x1,5 / 15x20x2 / 16x22x2 / 16,5x24x2 / 17x24x2 / 17,5x25x2</li> </ul> |   |            |      |   |  |
| 9 T 15  | 1 | <a href="#">41000.000.015</a> | <ul style="list-style-type: none"> <li>• 244 pieces</li> <li>• Composition:</li> <li>• Sealing rings acc. to DIN 7603 A</li> <li>• Copper, annealed</li> <li>• Contents:</li> <li>• Ø 18x24x2 / 20x24x2 / 22x26x2 / 24x30x2 / 26x33x2 / 28x35x2 / 30x38x2 / 32x40x2 / 35x45x2</li> </ul>  |   |            |      |   |  |
| 9 T 16  | 1 | <a href="#">41000.000.016</a> | <ul style="list-style-type: none"> <li>• 90 pieces</li> <li>• Composition:</li> <li>• Split pins (cotter pins) acc. to DIN 94</li> <li>• Steel</li> <li>• Contents:</li> <li>• 1x25 / 1,6x32 / 2x40 / 2,5x40 / 3,2x40 -x50 / 4x32 -x50 / 5x50</li> </ul>  |   |            |      |   |  |
| 9 T 17  | 1 | <a href="#">41000.000.017</a> | <ul style="list-style-type: none"> <li>• 600 pieces</li> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-18l zinc plated</li> <li>• Contents:</li> <li>• M3x25 -x40 / M4x25 -x40 / M5x25 -x40 / M6x25 -x40 -x50</li> </ul>  |   |            |      |   |  |
| 9 T 18  | 1 | <a href="#">41000.000.018</a> | <ul style="list-style-type: none"> <li>• 550 pieces</li> <li>• Composition:</li> <li>• Slotted countersunk head screws acc. to DIN 963 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-18l zinc plated</li> <li>• Contents:</li> <li>• M3x10 -x30 / M4x16 -x40 / M5x16 -x30 -x40 / M6x16 -x50</li> </ul>  |   |            |      |   |  |
| 9 T 19  | 1 | <a href="#">41000.000.019</a> | <ul style="list-style-type: none"> <li>• 490 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed raised cheese head screws acc. to DIN 7985 H and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-18l zinc plated</li> <li>• Contents:</li> <li>• M3x25 -x30 / M4x25 -x40 / M5x25 -x40 / M6x25 -x40 -x50</li> </ul>   |   |            |      |   |  |

| 41000 Assortment box plastic |   |                               |   |   |            |      |   |            |
|------------------------------|---|-------------------------------|---|---|------------|------|---|------------|
| Size                         | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number |
| 9 T 20                       | 1 | <a href="#">41000.000.020</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Phillips (H) cross recessed countersunk head screws acc. to DIN 965 H and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M3x10 -x20 / M4x16 -x30 / M5x16 -x30 -x40 / M6x16 -x50</li> <li>• 480 pieces</li> </ul>  |   |            |      |   |            |
| 9 T 21                       | 1 | <a href="#">41000.000.021</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M5x10 -x16 -x20 -x25 / M6x10 -x16 -x20 -x25 -x30</li> <li>• 400 pieces</li> </ul>  |   |            |      |   |            |
| 9 T 22                       | 1 | <a href="#">41000.000.022</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Brass</li> <li>• Contents:</li> <li>• M3x25 -x40 / M4x25 -x40 / M5x25 -x40 / M6x25 -x40 -x50</li> <li>• 470 pieces</li> </ul>  |   |            |      |   |            |
| 9 T 23                       | 1 | <a href="#">41000.000.023</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted pan head tapping screws acc. to DIN 7971 C and slotted raised countersunk head tapping screws acc. to DIN 7973 C</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x16 -x19 / ST4,2x16 -x19 -x25 / ST4,8x16 -x19 / ST5,5x25</li> <li>• 390 pieces</li> </ul>  |   |            |      |   |            |
| 9 T 24                       | 1 | <a href="#">41000.000.024</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted pan head tapping screws acc. to DIN 7971 C</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x16 -x19 / ST4,2x16 -x19 -x25 / ST4,8x16 -x19 / ST5,5x25</li> <li>• 390 pieces</li> </ul>  |   |            |      |   |            |
| 9 T 25                       | 1 | <a href="#">41000.000.025</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted raised countersunk head tapping screws acc. to DIN 7973 C</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x16 -x19 / ST4,2x16 -x19 -x25 / ST4,8x16 -x19 / ST5,5x25</li> <li>• 390 pieces</li> </ul>   |   |            |      |   |            |
| 9 T 26                       | 1 | <a href="#">41000.000.026</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• SECURITY One way tapping screws</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x19 / ST3,5x13 -x19 -x25 / ST4,2x19 -x25 -x32 -x38 -x50</li> <li>• 370 pieces</li> </ul>   |   |            |      |   |            |
| 9 T 27                       | 1 | <a href="#">41000.000.027</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon washer head tapping screws acc. to ≈ DIN 7976 C, hexagon head tapping screws acc. to DIN 7976 F and hexagon head tapping screws with cone end and captive washer</li> <li>• Steel zinc plated and steel zinc plated, yellow passivated</li> <li>• Contents:</li> <li>• ≈ DIN 7976 C: ST3,5x16 / ST4,2x16 -x19 -x25 / ST4,8x19 -x25</li> <li>• DIN 7976 F: ST6,3x25</li> <li>• With cone end and captive washer: ST5,6x13 / ST6,5x20</li> <li>• 255 pieces</li> </ul> |   |            |      |   |            |
| 18 T 28                      | 1 | <a href="#">41000.000.028</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H and Phillips (H) cross recessed raised countersunk head tapping screws acc. to DIN 7983 C-H</li> <li>• Steel zinc plated, black passivated</li> <li>• Contents:</li> <li>• ST2,9x19 / ST3,5x16 -x25 / ST4,2x16 -x25 -x32 / ST4,8x19 -x25 -x32</li> <li>• 440 pieces</li> </ul>  |   |            |      |   |            |





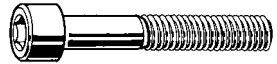
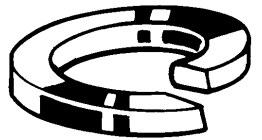




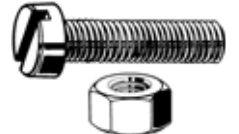
**41000 Assortment box plastic** ←


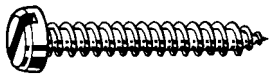
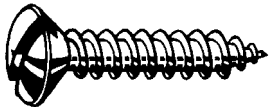

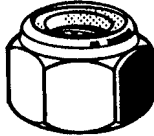


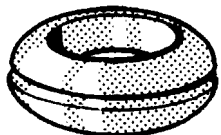
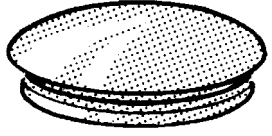
| Size   | ☒ | Art.number                    | Size  | ☒ | Art.number | Size | ☒ | Art.number |
|--------|---|-------------------------------|---|---|------------|------|---|------------|
| 9 T 29 | 1 | <a href="#">41000.000.029</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head bolts acc. to ISO 8765, hexagon head screws acc. to ISO 8676 and hexagon nuts acc. to DIN 934</li> <li>• Metric fine pitch thread</li> <li>• Steel class 8.8-I8I</li> <li>• Contents:</li> <li>• M8x1x30 -x40 / M10x1x30 -x40 / M10x1,25x30 -x40</li> </ul> |   |            |      |   |            |
| 9 T 30 | 1 | <a href="#">41000.000.030</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 8.8-I8I zinc plated</li> <li>• Contents:</li> <li>• M5x12 -x16 -x20 -x25 / M6x12 -x16 -x20 -x25 -x30</li> </ul>   |   |            |      |   |            |
| 9 T 32 | 1 | <a href="#">41000.000.032</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Finished hex bolts and hexagon nuts</li> <li>• Steel class ≈ 8.8/8</li> <li>• Contents:</li> <li>• UNC 1/4 x 5/8 -x 3/4 -x 1.IN. -x 1.1/4 / UNC 5/16 x 1.IN. -x 1.1/2 / UNC 3/8 x 1.IN. -x 1.1/2 / UNC 1/2 x 1.1/4</li> </ul>  |   |            |      |   |            |
| 9 T 33 | 1 | <a href="#">41000.000.033</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head screws acc. to DIN 933 (1954) and hexagon nuts acc. to DIN 934 (1954)</li> <li>• Steel class ≈ 8.8/8</li> <li>• Contents:</li> <li>• BSW 1/4 x15 -x20 -x25 -x30 / BSW 5/16 x20 -x30 / BSW 3/8 x25 -x35 / BSW 1/2 x30</li> </ul>                             |   |            |      |   |            |
| 9 T 34 | 1 | <a href="#">41000.000.034</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Brass</li> <li>• Contents:</li> <li>• M5x12 -x16 -x20 -x25 / M6x12 -x16 -x20 -x25 -x30</li> </ul>   |   |            |      |   |            |
| 9 T 35 | 1 | <a href="#">41000.000.035</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket head cap screws acc. to DIN 912</li> <li>• Steel class 8.8 zinc plated</li> <li>• Contents:</li> <li>• M6x16 -x20 -x25 -x30 / M8x25 -x30 -x35 / M10x25 -x35</li> </ul>  |   |            |      |   |            |
| 9 T 36 | 1 | <a href="#">41000.000.036</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket head cap screws</li> <li>• Steel class ≈ 12.9</li> <li>• Contents:</li> <li>• UNC 1/4 x 5/8 -x 3/4 -x 1.IN. -x 1.1/4 / UNC 5/16 x 1.IN. -x 1.1/4 -x 1.1/2 / UNC 3/8 x 1.IN. -x 1.1/2</li> </ul>   |   |            |      |   |            |
| 9 T 37 | 1 | <a href="#">41000.000.037</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket countersunk head screws acc. to DIN 7991</li> <li>• Steel class 8.8 zinc plated</li> <li>• Contents:</li> <li>• M6x20 -x25 -x30 / M8x20 -x25 -x30 -x40 / M10x30 -x40</li> </ul>   |   |            |      |   |            |
| 9 T 39 | 1 | <a href="#">41000.000.039</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 8.8-I8I zinc plated, yellow passivated</li> <li>• Contents:</li> <li>• M5x10 -x20 / M6x12 -x30 / M8x20 -x40 / M10x30 -x40</li> </ul>  |   |            |      |   |            |
| 9 T 40 | 1 | <a href="#">41000.000.040</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket head cap screws acc. to DIN 912</li> <li>• Steel class 12.9</li> <li>• Contents:</li> <li>• M6x16 -x20 -x25 -x30 / M8x25 -x30 -x35 / M10x25 -x35</li> </ul>   |   |            |      |   |            |

**41000 Assortment box plastic**

| Size    | ✉ | Art.number                    | Size   | ✉ | Art.number | Size | ✉ | Art.number |
|---------|---|-------------------------------|--|---|------------|------|---|------------|
| 18 T 41 | 1 | <a href="#">41000.000.041</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Filled sealing rings acc. to DIN 7603 C</li> <li>• Copper/FESTAPLAN</li> <li>• Contents:</li> <li>• Ø 5x9x1,5 / 6x10x1,5 / 8x12x1,5 / 8x14x1,5 / 10x14x1,5 / 10x16x1,5 / 12x16x2 / 12x18x2 / 14x18x2 / 14x20x2 / 16x20x2 / 16x22x2 / 18x22x2 / 18x24x2 / 20x24x2 / 20x26x2 / 22x27x2 / 22x29x2</li> </ul> |   |            |      |   |            |
| 9 T 42  | 1 | <a href="#">41000.000.042</a> | <ul style="list-style-type: none"> <li>• 200 pieces</li> <li>• Composition:</li> <li>• Filled sealing rings acc. to DIN 7603 C</li> <li>• Copper/FESTAPLAN</li> <li>• Contents:</li> <li>• Ø 24x32x2,5 / 26x32x2,5 / 26x34x2,5 / 30x36x2,5 / 30x38x2,5 / 32x38x2,5 / 35x41x2,5 / 38x44x2,5 / 40x47x2,5</li> </ul>  |   |            |      |   |            |
| 9 T 51  | 1 | <a href="#">41000.000.051</a> | <ul style="list-style-type: none"> <li>• 65 pieces</li> <li>• Composition:</li> <li>• Parallel keys - high type acc. to DIN 6885 A</li> <li>• Steel</li> <li>• Contents:</li> <li>• 5x5x20 -x32 -x40 / 6x6x20 -x32 / 8x7x40 -x50 / 10x8x50 -x63</li> </ul>   |   |            |      |   |            |
| 9 T 54  | 1 | <a href="#">41000.000.054</a> | <ul style="list-style-type: none"> <li>• 90 pieces</li> <li>• Composition:</li> <li>• Packing (jointing) rings</li> <li>• Fibre</li> <li>• Contents:</li> <li>• Ø 20x24 / 22x26 / 24x28 / 25x34 / 26x33 / 28x40 / 30x42 / 32x44 / 34x46</li> </ul>   |   |            |      |   |            |
| 18 T 55 | 1 | <a href="#">41000.000.055</a> | <ul style="list-style-type: none"> <li>• 120 pieces</li> <li>• Composition:</li> <li>• Hexagon nuts acc. to ≈ DIN 934, slotted cheese head screws acc. to ≈ DIN 84 and plain washers without chamfer ≈ DIN 125-1 A</li> <li>• Plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• M3x6 -x8 -x10 -x12 / M4x8 -x10 -x12 -x16 / M5x10 -x16 -x20 -x25</li> </ul>            |   |            |      |   |            |
| 9 T 56  | 1 | <a href="#">41000.000.056</a> | <ul style="list-style-type: none"> <li>• 770 pieces</li> <li>• Composition:</li> <li>• Plain washers without chamfer</li> <li>• Aluminium Sopral AG3</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M16 / M20</li> </ul>   |   |            |      |   |            |
| 9 T 57  | 1 | <a href="#">41000.000.057</a> | <ul style="list-style-type: none"> <li>• 514 pieces</li> <li>• Composition:</li> <li>• DUBO retaining rings for hexagon bolts and nuts</li> <li>• Plastic PA 6 (white)</li> <li>• Contents:</li> <li>• M5 / M6 / M8 / M10 / M12 / M14 / M16 / M18 / M20</li> </ul>   |   |            |      |   |            |
| 9 T 58  | 1 | <a href="#">41000.000.058</a> | <ul style="list-style-type: none"> <li>• 311 pieces</li> <li>• Composition:</li> <li>• Plain washers without chamfer acc. to ≈ DIN 125-1 A</li> <li>• Plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20</li> </ul>  |   |            |      |   |            |
| 9 T 59  | 1 | <a href="#">41000.000.059</a> | <ul style="list-style-type: none"> <li>• 484 pieces</li> <li>• Composition:</li> <li>• Hexagon head screws acc. to ≈ ISO 4017, hexagon nuts acc. to ≈ DIN 934 and slotted cheese head screws acc. to ≈ DIN 84</li> <li>• Plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• M5x20 / M6x20 -x40 / M8x30 -x50 / M10x50</li> </ul>  |   |            |      |   |            |
| 18 T 60 | 1 | <a href="#">41000.000.060</a> | <ul style="list-style-type: none"> <li>• 106 pieces</li> <li>• Composition:</li> <li>• Spacers</li> <li>• Plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• Ø 2,5x5x5 / 2,5x5x15 / 3x8x5 / 3x8x15 / 3,5x6x5 / 3,5x6x15 / 4x8x15 / 5x10x5 / 5x10x15 / 6x10x5 / 6x10x15 / 8x12x5 / 8x12x15 / 10x15x5 / 10x15x15 / 10x15x25 / 12x18x5 / 12x18x15</li> </ul>              |   |            |      |   |            |

**41000 Assortment box plastic**

| Size    | Art.number                    | Size  | Art.number | Size | Art.number  |
|---------|-------------------------------|---|------------|------|---|
| 9 T 62  | <a href="#">41000.000.062</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Pozidriv (Z) cross recessed countersunk screws for chipboard</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• 3x13 -x17 -x20 / 3,5x20 -x25 / 4x20 -x25 -x30 / 5x40</li> <li>• 380 pieces</li> </ul>  |            |      |    |
| 9 T 66  | <a href="#">41000.000.066</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Split pins (cotter pins) acc. to DIN 94</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 1x20 / 1,6x20 / 2x32 / 2,5x32 / 3,2x32 -x40 / 4x40 / 5x50 / 6,3x50</li> <li>• 165 pieces</li> </ul>  |            |      |    |
| 9 T 68  | <a href="#">41000.000.068</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket head cap screws acc. to DIN 912</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M6x16 -x20 -x25 -x30 / M8x25 -x30 -x35 / M10x25 -x35</li> <li>• 85 pieces</li> </ul>   |            |      |    |
| 18 T 69 | <a href="#">41000.000.069</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84, hexagon nuts acc. to DIN 934, plain washers without chamfer acc. to DIN 125-1 A and spring lock washers with square ends acc. to ≈ DIN 127 B</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M1,6x6 / M2x8 / M2,5x10 / M3x6 -x8 -x10 / M4x8 -x10 -x12 / M5x10 -x16 -x20</li> <li>• 945 pieces</li> </ul> |            |      |    |
| 9 T 70  | <a href="#">41000.000.070</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Spring lock washers with square ends acc. to DIN 127 B</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20</li> <li>• 527 pieces</li> </ul>  |            |      |  |
| 9 T 71  | <a href="#">41000.000.071</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Plain washers without chamfer acc. to DIN 125-1 A</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20</li> <li>• 390 pieces</li> </ul>   |            |      |  |
| 9 T 72  | <a href="#">41000.000.072</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted round head wood screws acc. to DIN 96</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 3x12 -x16 / 4x20 -x25 -x30 -x40 / 5x25 -x40 -x50</li> <li>• 279 pieces</li> </ul>  |            |      |  |
| 9 T 73  | <a href="#">41000.000.073</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted countersunk (flat) head wood screws acc. to DIN 97</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 3x20 -x25 / 4x20 -x25 -x30 -x40 / 5x30 -x40 -x50</li> <li>• 223 pieces</li> </ul>   |            |      |  |
| 9 T 74  | <a href="#">41000.000.074</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Pozidriv (Z) cross recessed countersunk screws for chipboard</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 3,5x25 -x30 / 4x20 -x30 -x40 -x50 / 5x50 -x60 -x70</li> <li>• 220 pieces</li> </ul>   |            |      |  |
| 9 T 75  | <a href="#">41000.000.075</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M6x16 -x20 -x25 / M8x20 -x25 -x30 / M10x25 -x30 -x40</li> <li>• 138 pieces</li> </ul>   |            |      |  |
| 9 T 76  | <a href="#">41000.000.076</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M4x10 -x16 -x20 / M5x10 -x16 -x20 / M6x16 -x20 -x25</li> <li>• 360 pieces</li> </ul>   |            |      |  |

| 41000 Assortment box plastic |   |                               |  |   |            |      |   |   |
|------------------------------|---|-------------------------------|--|---|------------|------|---|---|
| Size                         | ✉ | Art.number                    | Size   | ✉ | Art.number | Size | ✉ | Art.number  |
| 9 T 77                       | 1 | <a href="#">41000.000.077</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted countersunk head screws acc. to DIN 963 and hexagon nuts acc. to DIN 934</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M4x10 -x16 -x20 / M5x10 -x16 -x20 / M6x16 -x20 -x25</li> </ul>  |   |            |      |   |    |
| 9 T 78                       | 1 | <a href="#">41000.000.078</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted pan head tapping screws acc. to DIN 7971 C</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x9,5 -x13 -x19 / ST4,2x13 -x19 -x25 / ST4,8x19 -x25</li> </ul>   |   |            |      |   |    |
| 9 T 79                       | 1 | <a href="#">41000.000.079</a> | <ul style="list-style-type: none"> <li>• 265 pieces</li> <li>• Composition:</li> <li>• Slotted raised countersunk head tapping screws acc. to DIN 7973 C</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x9,5 -x13 -x19 / ST4,2x13 -x19 -x25 / ST4,8x19 -x25</li> </ul>  |   |            |      |   |    |
| 9 T 80                       | 1 | <a href="#">41000.000.080</a> | <ul style="list-style-type: none"> <li>• 265 pieces</li> <li>• Composition:</li> <li>• Prevailing torque type hexagon nuts with non-metallic insert acc. to DIN 985</li> <li>• Steel class 5/8 zinc plated</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M7 / M8 / M10 / M12 / M14 / M16</li> </ul>   |   |            |      |   |   |
| 9 T 81                       | 1 | <a href="#">41000.000.081</a> | <ul style="list-style-type: none"> <li>• 214 pieces</li> <li>• Composition:</li> <li>• Prevailing torque type hexagon nuts with non-metallic insert acc. to DIN 985</li> <li>• Steel class ≥ 6 zinc plated</li> <li>• Contents:</li> <li>• M10x1 -x1,25 / M12x1,25 -x1,5</li> <li>• UNF 1/4 / UNF 5/16 / UNF 3/8 / UNF 7/16 / UNF 1/2</li> </ul>   |   |            |      |   |  |
| 18 T 85                      | 1 | <a href="#">41000.000.085</a> | <ul style="list-style-type: none"> <li>• 95 pieces</li> <li>• Composition:</li> <li>• O-rings (metric)</li> <li>• Rubber - NBR 70° shore (black)</li> <li>• Contents:</li> <li>• Ø 5x1,5 / 6x1,5 / 7x1,5 / 8x1,5 / 8x2 / 10x2 / 12x2 / 11,3x2,4 / 13,3x2,4 / 12x2,5 / 14x2,5 / 15x2,5 / 16x2,5 / 18x3 / 20,2x3 / 22,2x3 / 24,2x3 / 26,2x3</li> </ul>   |   |            |      |   |  |
| 18 T 86                      | 1 | <a href="#">41000.000.086</a> | <ul style="list-style-type: none"> <li>• 179 pieces</li> <li>• Composition:</li> <li>• O-rings (non-metric)</li> <li>• Rubber - NBR 70° shore (black)</li> <li>• Contents:</li> <li>• Ø 5,28x1,78 / 6,07x1,78 / 7,66x1,78 / 9,25x1,78 / 10,82x1,78 / 12,42x1,78 / 10,78x2,62 / 12,37x2,62 / 13,95x2,62 / 15,08x2,62 / 17,13x2,62 / 18,72x2,62 / 20,29x2,62 / 21,89x2,62 / 23,47x2,62 / 23,40x3,53 / 24,99x3,53 / 26,58x3,53</li> </ul> |   |            |      |   |  |
| 9 T 88                       | 1 | <a href="#">41000.000.088</a> | <ul style="list-style-type: none"> <li>• 167 pieces</li> <li>• Composition:</li> <li>• Grommets</li> <li>• Rubber (black)</li> <li>• Contents:</li> <li>• Ø 4x6,4 / 5,5x8 / 6,4x9,5 / 8x9,5 / 9,5x12,5 / 11x12,5 / 12,5x17,5 / 14,2x17,5 / 16x19</li> </ul>  |   |            |      |   |  |
| 9 T 89                       | 1 | <a href="#">41000.000.089</a> | <ul style="list-style-type: none"> <li>• 218 pieces</li> <li>• Composition:</li> <li>• Blanking plugs</li> <li>• Rubber (black)</li> <li>• Contents:</li> <li>• Ø 6,4x9,5 / 8x14,2 / 9,5x15,4 / 11,2x17,7 / 12,5x18,7 / 15,5x22 / 19x25,5 / 20x25,5 / 22,5x28,4</li> </ul>   |   |            |      |   |  |

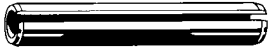









41000 Assortment box plastic

| Size     | ☒ | Art.number                    | Size  | ☒ | Art.number | Size | ☒ | Art.number |
|----------|---|-------------------------------|---|---|------------|------|---|------------|
| 9 T 91   | 1 | <a href="#">41000.000.091</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Round head rivets acc. to DIN 660 and countersunk head rivets acc. to DIN 661</li> <li>• Copper</li> <li>• Contents:</li> <li>• 2x6 -x10 / 3x6 -x10 / 4x10 -x16 / 5x12 -x20 / 6x20</li> <li>• 620 pieces</li> </ul>  |   |            |      |   |            |
| 9 T 93   | 1 | <a href="#">41000.000.093</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Round head rivets acc. to DIN 660 and countersunk head rivets acc. to DIN 661</li> <li>• Aluminium</li> <li>• Contents:</li> <li>• 2x6 -x10 / 3x6 -x10 / 4x10 -x16 / 5x12 -x20 / 6x20</li> <li>• 620 pieces</li> </ul>   |   |            |      |   |            |
| 18 T 101 | 1 | <a href="#">41000.000.101</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Packing (jointing) rings</li> <li>• Fibre</li> <li>• Contents:</li> <li>• Ø 5x8 / 6x9 / 6,5x10 / 7x10 / 8x12 / 8,5x14 / 9x14 / 9,5x14 / 10x14 / 11x17 / 12x16 / 12,5x18 / 14x18 / 15x19 / 16x21 / 17x22 / 18x24 / 19x23</li> </ul>   |   |            |      |   |            |
| 18 T 102 | 1 | <a href="#">41000.000.102</a> | <ul style="list-style-type: none"> <li>• 400 pieces</li> <li>• Composition:</li> <li>• Retaining rings for shafts acc. to DIN 471</li> <li>• Steel</li> <li>• Contents:</li> <li>• Ø 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 21 / 22 / 23 / 24 / 25 / 26 / 27</li> </ul>   |   |            |      |   |            |
| 18 T 103 | 1 | <a href="#">41000.000.103</a> | <ul style="list-style-type: none"> <li>• 260 pieces</li> <li>• Composition:</li> <li>• Retaining rings for bores acc. to DIN 472</li> <li>• Steel</li> <li>• Contents:</li> <li>• Ø 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 21 / 22 / 23 / 24 / 25 / 26 / 27</li> </ul>  |   |            |      |   |            |
| 9 T 104  | 1 | <a href="#">41000.000.104</a> | <ul style="list-style-type: none"> <li>• 260 pieces</li> <li>• Composition:</li> <li>• Retaining rings for shafts acc. to DIN 471</li> <li>• Steel</li> <li>• Contents:</li> <li>• Ø 29 / 30 / 31 / 33 / 35 / 36 / 38 / 40 / 42</li> </ul>  |   |            |      |   |            |
| 9 T 105  | 1 | <a href="#">41000.000.105</a> | <ul style="list-style-type: none"> <li>• 115 pieces</li> <li>• Composition:</li> <li>• Retaining rings for bores acc. to DIN 472</li> <li>• Steel</li> <li>• Contents:</li> <li>• Ø 28 / 29 / 30 / 32 / 35 / 36 / 37 / 40 / 42</li> </ul>   |   |            |      |   |            |
| 18 T 106 | 1 | <a href="#">41000.000.106</a> | <ul style="list-style-type: none"> <li>• 115 pieces</li> <li>• Composition:</li> <li>• Slotted pan head tapping screws acc. to DIN 7971 C and slotted raised countersunk head tapping screws acc. to DIN 7973 C</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> </ul> |   |            |      |   |            |
| 18 T 107 | 1 | <a href="#">41000.000.107</a> | <ul style="list-style-type: none"> <li>• 500 pieces</li> <li>• Composition:</li> <li>• Slotted pan head tapping screws acc. to DIN 7971 C</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -25 -x32 / ST6,3x25 -x38</li> </ul>   |   |            |      |   |            |


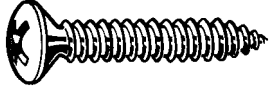
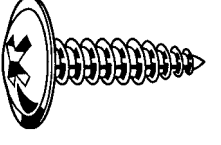






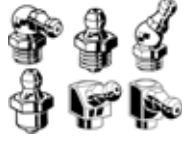
**41000 Assortment box plastic** ←

| Size     | Art.number                      | Size   | Art.number | Size | Art.number |
|----------|---------------------------------|--|------------|------|------------|
| 18 T 108 | 1 <a href="#">41000.000.108</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted raised countersunk head tapping screws acc. to DIN 7973 C</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> <li>• 500 pieces</li> </ul>                           |            |      |            |
| 18 T 109 | 1 <a href="#">41000.000.109</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Phillips (H) cross recessed raised countersunk head tapping screws acc. to DIN 7983 C-H</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> <li>• 500 pieces</li> </ul>     |            |      |            |
| 18 T 110 | 1 <a href="#">41000.000.110</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket set screws with cup point acc. to DIN 916 (excl. UNC sizes)</li> <li>• Steel class 45H</li> <li>• Contents:</li> <li>• M4x5 -x10 / M5x10 -x16 / M6x8 -x12 -x20 / M8x12 -x20 / UNC 3/16 x 1/4 -x 3/8 / UNC 1/4 x 3/8 -x 1/2 -x 5/8 -x 3/4 / UNC 5/16 x 1/2 -x 5/8 -x 3/4</li> <li>• 229 pieces</li> </ul> |            |      |            |
| 18 T 111 | 1 <a href="#">41000.000.111</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Woodruff keys acc. to DIN 6888</li> <li>• Steel</li> <li>• Contents:</li> <li>• 2x3,7 / 2,5x3,7 / 3x3,7 -x5 -x6,5 / 4x5 -x6,5 -x7,5 -x9 / 5x6,5 -x9 / 6x9 -x11 -x13 -x15 / 8x11 -x13 / 10x13</li> <li>• 220 pieces</li> </ul>   |            |      |            |
| 18 T 112 | 1 <a href="#">41000.000.112</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M3x4 -x6 -x8 -x10 -x12 -x16 -x20 -x25 / M4x6 -x8 -x10 -x12 -x16 -x20 -x25 -x30</li> <li>• 1020 pieces</li> </ul>  |            |      |            |
| 18 T 113 | 1 <a href="#">41000.000.113</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• PRYM spring-type straight pins (spiral pins), coiled standard duty acc. to ISO 8750</li> <li>• Steel</li> <li>• Contents:</li> <li>• 1,5x8 -x12 / 2x10 -x16 / 3x12 -x14 -x16 -x20 -x24 -x30 / 4x16 -x20 -x24 -x30 -x40 / 5x20 -x40 / 6x40</li> <li>• 415 pieces</li> </ul>  |            |      |            |
| 18 T 114 | 1 <a href="#">41000.000.114</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Taper pins - turned acc. to DIN 1 B</li> <li>• Steel</li> <li>• Contents:</li> <li>• 2x10 -x12 -x14 -x20 -x30 / 3x14 -x20 -x24 -x30 -x40 / 4x20 -x30 -x40 / 5x20 -x30 -x40 / 6x30 -x40</li> <li>• 365 pieces</li> </ul>   |            |      |            |
| 18 T 115 | 1 <a href="#">41000.000.115</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Parallel pins (dowel pins) - hardened and ground acc. to DIN 6325</li> <li>• Steel hardness 60 ± 2 HRC</li> <li>• Contents:</li> <li>• 2x10 -x12 -x14 -x20 -x28 / 3x14 -x20 -x24 -x32 -x40 / 4x20 -x32 -x40 / 5x20 -x32 -x40 / 6x28 -x40</li> <li>• 187 pieces</li> </ul>   |            |      |            |
| 18 T 116 | 1 <a href="#">41000.000.116</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Spring type straight pins slotted - heavy type acc. to ISO 8752</li> <li>• Steel</li> <li>• Contents:</li> <li>• 1,5x8 -x12 / 2x10 -x16 / 2,5x30 / 3x14 -x16 -x20 -x24 -x30 / 4x16 -x20 -x24 -x30 -x40 / 5x20 -x40 / 6x40</li> <li>• 414 pieces</li> </ul>  |            |      |            |

**41000 Assortment box plastic** ←




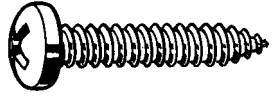


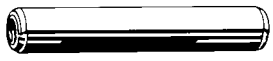
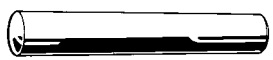

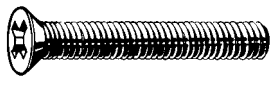
| Size     | ✉ | Art.number                    | Size   | ✉ | Art.number | Size | ✉ | Art.number  |
|----------|---|-------------------------------|--|---|------------|------|---|---|
| 9 T 117  | 1 | <a href="#">41000.000.117</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Spring type straight pins slotted - heavy type acc. to ISO 8752</li> <li>• Steel</li> <li>• Contents:</li> <li>• 4x50 / 5x50 -x60 / 6x50 -x60 -x70 / 8x50 -x60 -x70</li> <li>• 136 pieces</li> </ul>  |   |            |      |   |    |
| 9 T 121  | 1 | <a href="#">41000.000.121</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted countersunk (flat) head wood screws acc. to DIN 97</li> <li>• Brass</li> <li>• Contents:</li> <li>• 3x20 -x25 / 4x20 -x25 -x30 -x40 / 5x30 -x40 -x50</li> <li>• 223 pieces</li> </ul>   |   |            |      |   |    |
| 9 T 122  | 1 | <a href="#">41000.000.122</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted round head wood screws acc. to DIN 96</li> <li>• Brass</li> <li>• Contents:</li> <li>• 3x20 / 3,5x20 -x25 -x30 / 4x20 -x25 -x30 / 5x30 -x40</li> <li>• 235 pieces</li> </ul>  |   |            |      |   |    |
| 9 T 125  | 1 | <a href="#">41000.000.125</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted countersunk (flat) head wood screws acc. to DIN 97</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• 3x20 / 3,5x20 -x25 -x30 / 4x20 -x25 -x30 / 5x40 -x50</li> <li>• 425 pieces</li> </ul>   |   |            |      |   |    |
| 9 T 126  | 1 | <a href="#">41000.000.126</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted round head wood screws acc. to DIN 96</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• 3x20 / 3,5x20 -x25 -x30 / 4x20 -x25 -x30 / 5x30 -x40</li> <li>• 425 pieces</li> </ul>  |   |            |      |   |  |
| 9 T 129  | 1 | <a href="#">41000.000.129</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted countersunk (flat) head wood screws with hole acc. to ≈ DIN 97 with corresponding covers</li> <li>• Steel zinc plated and plastic PA 6 covers</li> <li>• Contents:</li> <li>• 4,5x35 -x50 / 5x40 -x60 / 6x50 -x60</li> <li>• 180 pieces</li> </ul>  |   |            |      |   |  |
| 18 T 131 | 1 | <a href="#">41000.000.131</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted pan head tapping screws acc. to DIN 7971 C</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> <li>• 500 pieces</li> </ul>                                      |   |            |      |   |  |
| 18 T 133 | 1 | <a href="#">41000.000.133</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted raised countersunk head tapping screws acc. to DIN 7973 C</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> <li>• 500 pieces</li> </ul>                       |   |            |      |   |  |
| 18 T 137 | 1 | <a href="#">41000.000.137</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> <li>• 500 pieces</li> </ul>                |   |            |      |   |  |
| 18 T 139 | 1 | <a href="#">41000.000.139</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Phillips (H) cross recessed raised countersunk head tapping screws acc. to DIN 7983 C-H</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> <li>• 500 pieces</li> </ul> |   |            |      |   |  |

**41000 Assortment box plastic**

| Size     | Art.number                      | Size  | Art.number  | Size | Art.number |
|----------|---------------------------------|---|---|------|------------|
| 9 T 140  | 1 <a href="#">41000.000.140</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H</li> <li>Steel zinc plated, black passivated</li> <li>Contents:</li> <li>ST2,9x19 / ST3,5x16 -x25 / ST4,2x16 -x25 -x32 / ST4,8x19 -x25 -x32</li> <li>440 pieces</li> </ul>  |    |      |            |
| 9 T 141  | 1 <a href="#">41000.000.141</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Phillips (H) cross recessed raised countersunk head tapping screws acc. to DIN 7983 C-H</li> <li>Steel zinc plated, black passivated</li> <li>Contents:</li> <li>ST2,9x19 / ST3,5x16 -x25 / ST4,2x16 -x25 -x32 / ST4,8x19 -x25 -x32</li> <li>440 pieces</li> </ul>   |    |      |            |
| 9 T 143  | 1 <a href="#">41000.000.143</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Phillips (H) cross recessed mushroom head tapping screws with flange</li> <li>Steel zinc plated, black passivated</li> <li>Contents:</li> <li>ST3,5x16 -x19 / ST4,2x16 -x19 -x22 / ST4,8x16 -x19 -x25</li> <li>360 pieces</li> </ul>   |    |      |            |
| 9 T 151  | 1 <a href="#">41000.000.151</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Packing (jointing) rings</li> <li>Fibre</li> <li>Contents:</li> <li>Ø 3x5 / 4x6,5 / 4,5x8 / 5x8 / 5,5x9 / 6x9 / 6,5x10 / 7x10 / 8x12</li> <li>750 pieces</li> </ul>  |   |      |            |
| 9 T 152  | 1 <a href="#">41000.000.152</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Woodruff keys acc. to DIN 6888</li> <li>Steel</li> <li>Contents:</li> <li>2x2,6 -x3,7 -x5 / 2,5x3,7 / 3x3,7 -x5 -x6,5 -x7,5 / 4x5</li> <li>235 pieces</li> </ul>   |  |      |            |
| 9 T 156  | 1 <a href="#">41000.000.156</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Retaining rings for shafts acc. to DIN 471 and retaining rings for bores acc. to DIN 472</li> <li>Steel</li> <li>Contents:</li> <li>Ø 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16</li> <li>326 pieces</li> </ul>  |  |      |            |
| 9 T 157  | 1 <a href="#">41000.000.157</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Retaining rings for shafts acc. to DIN 6799</li> <li>Steel</li> <li>Contents:</li> <li>Ø 1,5 / 1,9 / 2,3 / 3,2 / 4 / 5 / 6 / 7 / 8</li> <li>550 pieces</li> </ul>  |  |      |            |
| 9 T 159  | 1 <a href="#">41000.000.159</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>STARLOCK fixing washers for shafts</li> <li>Springsteel (without cap) and springsteel (with stainless steel cap)</li> <li>Contents:</li> <li>Ø 3 / 4 / 5 / 6 / 8 / 10 / 12 / 16 / 20</li> <li>289 pieces</li> </ul>  |  |      |            |
| 9 T 175  | 1 <a href="#">41000.000.175</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Lubricating nipples cone type acc. to ≈ DIN 71412</li> <li>Steel zinc plated</li> <li>Contents:</li> <li>R 1/8 -45° -90° -180° / R 1/4 -45° -90° -180°</li> <li>SAE (UNF) 1/4 -180° / UNF 5/16 -180° / UNF 3/8 -180°</li> <li>97 pieces</li> </ul>   |  |      |            |
| 18 T 176 | 1 <a href="#">41000.000.176</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Lubricating nipples cone type acc. to ≈ DIN 71412 and drive-in lubricating nipples</li> <li>Steel zinc plated</li> <li>Contents:</li> <li>M6x1-45° -90° -180°</li> <li>M8x1-45° -90° -180° / M8x1,25-45° -90° -180°</li> <li>M10x1-45° -90° -180° / M10x1,5-90° -180°</li> <li>Drive-in lubricating nipple: 6-45° -180° / 8-90° -180°</li> <li>123 pieces</li> </ul> |  |      |            |



**41000 Assortment box plastic**

| Size     | ☒ | Art.number                    | Size   | ☒ | Art.number | Size | ☒ | Art.number  |
|----------|---|-------------------------------|--|---|------------|------|---|---|
| 9 T 177  | 1 | <a href="#">41000.000.177</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Lubricating nipples cone type acc. to ≈ DIN 71412</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• M6x1-45° -90° -180°</li> <li>• M8x1-180° / M8x1,25-45° -90° -180°</li> <li>• M10x1-180° / M10x1,5-180°</li> </ul>  |   |            |      |   |    |
| 9 T 201  | 1 | <a href="#">41000.000.201</a> | <ul style="list-style-type: none"> <li>• 120 pieces</li> <li>• Composition:</li> <li>• Plain washers without chamfer acc. to DIN 125-1 A and spring lock washers with square ends acc. to DIN 127 B</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• M5 / M6 / M8 / M10 / M11</li> </ul>   |   |            |      |   |    |
| 9 T 203  | 1 | <a href="#">41000.000.203</a> | <ul style="list-style-type: none"> <li>• 675 pieces</li> <li>• Composition:</li> <li>• Plain washers without chamfer acc. to DIN 125-1 A and spring lock washers with square ends acc. to DIN 127 B</li> <li>• Steel zinc plated, yellow passivated</li> <li>• Contents:</li> <li>• M5 / M6 / M8 / M10 / M12</li> </ul>  |   |            |      |   |    |
| 18 T 209 | 1 | <a href="#">41000.000.209</a> | <ul style="list-style-type: none"> <li>• 630 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H</li> <li>• Steel nickel plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 x32 / ST5,5x19-x25 -x32 / ST6,3x25-x38</li> </ul> |   |            |      |   |   |
| 18 T 210 | 1 | <a href="#">41000.000.210</a> | <ul style="list-style-type: none"> <li>• 500 pieces</li> <li>• Composition:</li> <li>• Hexagon socket set screws with cup point acc. to DIN 916</li> <li>• Steel class 45H</li> <li>• Contents:</li> <li>• M4x5 -x8 -x10 / M5x8 -x10 -x12 -x16 / M6x8 -x10 -x12 -x16 -x20 / M8x12 -x16 -x20 / M10x16 -x20 -x25</li> </ul>  |   |            |      |   |  |
| 9 T 212  | 1 | <a href="#">41000.000.212</a> | <ul style="list-style-type: none"> <li>• 245 pieces</li> <li>• Composition:</li> <li>• Shim rings thickness 0,1 mm</li> <li>• Steel</li> <li>• Contents:</li> <li>• Ø 24x36 / 26x38 / 28x40 / 30x42 / 32x44 / 34x46 / 36x48 / 38x50 / 40x50</li> </ul>   |   |            |      |   |  |
| 9 T 213  | 1 | <a href="#">41000.000.213</a> | <ul style="list-style-type: none"> <li>• 160 pieces</li> <li>• Composition:</li> <li>• PRYM spring-type straight pins (spiral pins), coiled standard duty acc. to ISO 8750</li> <li>• Steel</li> <li>• Contents:</li> <li>• 4x50 / 5x50 -x60 / 6x50 -x60 -x70 / 8x50 -x60 -x70</li> </ul>  |   |            |      |   |  |
| 9 T 214  | 1 | <a href="#">41000.000.214</a> | <ul style="list-style-type: none"> <li>• 140 pieces</li> <li>• Composition:</li> <li>• Taper pins - turned acc. to DIN 1 B</li> <li>• Steel</li> <li>• Contents:</li> <li>• 3x50 / 4x50 -x60 / 5x50 -x60 / 6x50 -x60 -x70 / 6,5x60</li> </ul>  |   |            |      |   |  |
| 9 T 219  | 1 | <a href="#">41000.000.219</a> | <ul style="list-style-type: none"> <li>• 150 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed raised cheese head screws acc. to DIN 7985 H</li> <li>• Steel class 4.8 zinc plated, black passivated</li> <li>• Contents:</li> <li>• M3x6 -x10 -x16 -x20 -x30 / M4x10 -x20 -x30 -x50</li> </ul>  |   |            |      |   |  |
| 9 T 220  | 1 | <a href="#">41000.000.220</a> | <ul style="list-style-type: none"> <li>• 525 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed countersunk head screws acc. to DIN 965 H</li> <li>• Steel class 4.8 zinc plated, black passivated</li> <li>• Contents:</li> <li>• M3x6 -x10 -x16 -x20 -x30 / M4x10 -x20 -x30 -x50</li> </ul>   |   |            |      |   |  |

**41000 Assortment box plastic** ←

| Size     | Art.number                      | Size   | Art.number | Size | Art.number |
|----------|---------------------------------|--|------------|------|------------|
| 9 T 230  | 1 <a href="#">41000.000.230</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 8.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M8x20 -x25 -x30 -x35 / M10x25 -x30 -x35</li> <li>• 86 pieces</li> </ul>  |            |      |            |
| 9 T 231  | 1 <a href="#">41000.000.231</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Finished hex bolts and hexagon nuts</li> <li>• Steel Grade 5 zinc plated</li> <li>• Contents:</li> <li>• UNF 1/4 x 5/8 -x 3/4 -x 1.IN. -x 1.1/4 / UNF 5/16 x 1.IN. -x 1.1/2 / UNF 3/8 x 1.IN. -x 1.1/2 / UNF 1/2 x 1.1/4</li> <li>• 126 pieces</li> </ul>   |            |      |            |
| 9 T 240  | 1 <a href="#">41000.000.240</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Helical compression springs acc. to DIN 2095</li> <li>• Spring steel zinc plated</li> <li>• Contents:</li> <li>• 0,5x6,5x30 / 0,8x7,7x35 -x50 / 1x8x30 / 1x10x60 / 1,5x10x50 / 1,5x12x40 / 1,5x14x60 / 2x14x50</li> <li>• 105 pieces</li> </ul>   |            |      |            |
| 9 T 245  | 1 <a href="#">41000.000.245</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Helical tension springs acc. to DIN 2097</li> <li>• Spring steel zinc plated</li> <li>• Contents:</li> <li>• 0,5x4,5x20 / 0,5x6,5x20 -x30 / 0,8x6,7x35 / 0,8x7,7x40 -x50 / 1x10x40 -x60 / 1,5x10x50</li> <li>• 166 pieces</li> </ul>  |            |      |            |
| 18 T 250 | 1 <a href="#">41000.000.250</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Helical compression springs acc. to DIN 2095 and helical tension springs acc. to DIN 2097</li> <li>• Spring steel zinc plated</li> <li>• Contents:</li> <li>• 0,5x3,5x15 -x20 / 0,5x4,5x12 / 0,5x6,5x20 -x25 -x35 / 0,8x5,7x25 / 0,8x6,7x25 -x30 / 0,8x7,7x30 / 1x6x25 -x30 / 1x8x25 -x35 / 1x10x25 -x35 / 1x10x40 -x60 / 1,5x10x35</li> <li>• 251 pieces</li> </ul>                              |            |      |            |
| 9 T 300  | 1 <a href="#">41000.000.300</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Pre-insulated terminals and connectors</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• Cable 0,5 - 1,5 mm<sup>2</sup>: type 545 / 547 / 548</li> <li>• Cable 1,5 - 2,5 mm<sup>2</sup>: type 546 / 550 / 549</li> <li>• Cable 2,5 - 6,0 mm<sup>2</sup>: type 563 (M8) / 554 (M10)</li> <li>• Connector type C-560 blue</li> <li>• 149 pieces</li> </ul>                                   |            |      |            |
| 18 T 305 | 1 <a href="#">41000.000.305</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Pre-insulated terminals</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• Cable 0,5 - 1,5 mm<sup>2</sup>: type 599 / 741 / 541 / 540 / 1541 / 561 / 556 (M3) / 535 (M4) / 557 (M5)</li> <li>• Cable 1,5 - 2,5 mm<sup>2</sup>: type 742 / 542 / 740 / 1542 / 562 / 536 (M4) / 537 (M5) / 560 (M6)</li> <li>• Cable 2,5 - 6,0 mm<sup>2</sup>: type 539 (M6)</li> <li>• 204 pieces</li> </ul> |            |      |            |
| 18 T 320 | 1 <a href="#">41000.000.320</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Car fuses</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• 7,5A / 10A / 15A / 20A / 25A / 30A</li> <li>• 2A (5x20 mm) / 2A (6,35x25 mm) / 5A / 10A / 15A / 20A / 25A</li> <li>• 5A / 8A / 16A / 25A / 40A</li> <li>• 152 pieces</li> </ul>  |            |      |            |
| 9 T 321  | 1 <a href="#">41000.000.321</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• NORD-LOCK Vibration proof washer 2 pieces</li> <li>• Steel Deltaprotekt</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16</li> <li>• 180 (x2) pieces</li> </ul>   |            |      |            |

**Assortment box steel**



- Technical brochure available on request.

|                                   |             |
|-----------------------------------|-------------|
| <b>41010 Assortment box steel</b> | <b>Y94A</b> |
| <b>Packaging</b>                  | Standard    |

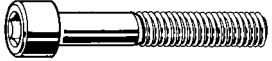
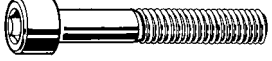

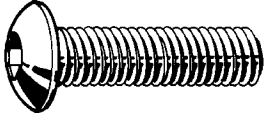



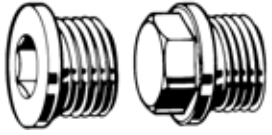
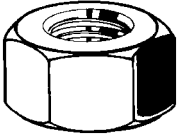



| Size  | ✉ | Art.number                    |   |  |
|-------|---|-------------------------------|---|--|
| S 502 | 1 | <a href="#">41010.000.502</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head bolts acc. to ISO 4014, hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 8.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M5x10 -x16 -x20 -x30 -x40 / M6x12 -x16 -x20 -x25 -x30 -x40 -x50 / M8x20 -x25 -x30 -x40 -x50 -x60</li> </ul>  |  |
| S 504 | 1 | <a href="#">41010.000.504</a> | <ul style="list-style-type: none"> <li>• 758 pieces</li> <li>• Composition:</li> <li>• Hexagon head bolts acc. to ISO 4014, hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 8.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M10x20 -x25 -x30 -x40 -x50 -x60 / M12x30 -x40 -x50 / M14x50 -x60 / M16x40 -x50 -x60</li> </ul>   |  |
| S 506 | 1 | <a href="#">41010.000.506</a> | <ul style="list-style-type: none"> <li>• 157 pieces</li> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 8.8-l8l zinc plated</li> <li>• Contents:</li> <li>• M5x10 -x16 -x20 / M6x16 -x20 -x25 / M8x20 -x25 -x30 / M10x30 -x40 / M12x30 -x40</li> </ul>  |  |
| S 508 | 1 | <a href="#">41010.000.508</a> | <ul style="list-style-type: none"> <li>• 950 pieces</li> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017</li> <li>• Steel class 8.8 zinc plated, yellow passivated</li> <li>• Contents:</li> <li>• M5x16 -x25 / M6x10 -x16 -x20 -x25 / M8x20 -x25 -x30 / M10x25 -x30 -x35</li> </ul>   |  |
| S 510 | 1 | <a href="#">41010.000.510</a> | <ul style="list-style-type: none"> <li>• 610 pieces</li> <li>• Composition:</li> <li>• Hexagon head bolts acc. to ISO 8765, hexagon head screws acc. to ISO 8676 and hexagon nuts acc. to DIN 934</li> <li>• Metric fine pitch thread</li> <li>• Steel class 8.8-l8l</li> <li>• Contents:</li> <li>• M10x1,25x20 -x25 -x30 -x40 -x50 / M12x1,5x30 -x40 -x45 -x50 / M14x1,5x30 -x40 -x50 -x60 / M16x1,5x30 -x40 -x50 -x60</li> </ul> |  |
| S 512 | 1 | <a href="#">41010.000.512</a> | <ul style="list-style-type: none"> <li>• 196 pieces</li> <li>• Composition:</li> <li>• Hexagon head screws acc. to ISO 4017 and hexagon nuts acc. to DIN 934</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M5x16 -x20 / M6x16 -x20 -x25 / M8x20 -x25 -x30 / M10x20 -x30 -x40 / M12x30 -x40</li> </ul>  |  |

**41010 Assortment box steel**

| Size  | ✉ | Art.number                    | Size   | ✉ | Art.number | Size | ✉ | Art.number |
|-------|---|-------------------------------|--|---|------------|------|---|------------|
| S 514 | 1 | <a href="#">41010.000.514</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon head bolts acc. to ISO 4014, hexagon nuts acc. to DIN 934 and spring lock washers with square ends acc. to DIN 127 B</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M6x30 -x35 -x40 -x50 -x60 / M8x30 -x35 -x40 -x50 -x60 / M10x40 -x50 -x60 / M12x50</li> </ul>  |   |            |      |   |            |
| S 518 | 1 | <a href="#">41010.000.518</a> | <ul style="list-style-type: none"> <li>• 552 pieces</li> <li>• Composition:</li> <li>• Hexagon head screws acc. to ≈ ISO 4017 and hexagon nuts acc. to ≈ DIN 934</li> <li>• Plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• M5x10 -x20 / M6x10 -x20 -x25 -x30 -x40 / M8x16 -x20 -x25 -x30 -x40 -x50</li> </ul>  |   |            |      |   |            |
| S 520 | 1 | <a href="#">41010.000.520</a> | <ul style="list-style-type: none"> <li>• 987 pieces</li> <li>• Composition:</li> <li>• Finished hex bolts and hexagon nuts</li> <li>• Steel Grade 5 zinc plated</li> <li>• Contents:</li> <li>• UNF 1/4 x 5/8 -x 3/4 -x 1.IN. -x 1.1/4 -x 1.1/2 -x 2.IN. / UNF 5/16 x 3/4 -x 1.IN. -x 1.1/4 -x 1.1/2 -x 2.IN. / UNF 3/8 x 3/4 -x 1.IN. -x 1.1/4 -x 1.1/2 -x 2.IN. -x 2.1/2 / UNF 7/16 x 1.1/2</li> </ul> |   |            |      |   |            |
| S 522 | 1 | <a href="#">41010.000.522</a> | <ul style="list-style-type: none"> <li>• 600 pieces</li> <li>• Composition:</li> <li>• Finished hex bolts and hexagon nuts</li> <li>• Steel Grade 5 zinc plated</li> <li>• Contents:</li> <li>• UNF 7/16 x 1.IN. -x 1.1/4 -x 1.1/2 -x 1.3/4 -x 2.IN. / UNF 1/2 x 1.IN. -x 1.1/4 -x 1.1/2 -x 2.IN. / UNF 9/16 x 1.3/4 -x 2.IN. / UNF 5/8 x 1.1/2 -x 2.IN. -x 2.1/2</li> </ul>                             |   |            |      |   |            |
| S 524 | 1 | <a href="#">41010.000.524</a> | <ul style="list-style-type: none"> <li>• 148 pieces</li> <li>• Composition:</li> <li>• Finished hex bolts and hexagon nuts</li> <li>• Steel Grade 5 zinc plated</li> <li>• Contents:</li> <li>• UNC 1/4 x 1/2 -x 5/8 -x 3/4 -x 1.IN. / UNC 5/16 x 3/4 -x 1.IN. -x 1.1/4 -x 1.1/2 / UNC 3/8 x 3/4 -x 1.IN. -x 1.1/4 -x 1.1/2 / UNC 1/2 x 1.1/4 -x 1.1/2</li> </ul>  |   |            |      |   |            |
| S 526 | 1 | <a href="#">41010.000.526</a> | <ul style="list-style-type: none"> <li>• 670 pieces</li> <li>• Composition:</li> <li>• Finished hex bolts and hexagon nuts</li> <li>• Stainless steel A4</li> <li>• Contents:</li> <li>• UNC 1/4 x 3/4 / UNC 5/16 x 3/4 -x 1.IN. / UNC 3/8 x 3/4 -x 1.IN. / UNC 1/2 x 1.IN.</li> </ul>   |   |            |      |   |            |
| S 528 | 1 | <a href="#">41010.000.528</a> | <ul style="list-style-type: none"> <li>• 395 pieces</li> <li>• Composition:</li> <li>• Mushroom head square neck bolts acc. to DIN 603 and hexagon nuts acc. to DIN 555</li> <li>• Steel class 4.6-8 zinc plated</li> <li>• Contents:</li> <li>• M5x16 -x20 -x25 -x30 / M6x25 -x30 -x35 -x40 / M8x25 -x40 -x50 -x60</li> </ul>   |   |            |      |   |            |
| S 530 | 1 | <a href="#">41010.000.530</a> | <ul style="list-style-type: none"> <li>• 517 pieces</li> <li>• Composition:</li> <li>• Hexagon head wood screws acc. to DIN 571</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• 6x30 -x40 -x50 -x60 / 8x30 -x40 -x50 -x60 -x70 -x80 / 10x50 -x60 mm</li> </ul>  |   |            |      |   |            |
| S 532 | 1 | <a href="#">41010.000.532</a> | <ul style="list-style-type: none"> <li>• 357 pieces</li> <li>• Composition:</li> <li>• Hexagon head wood screws acc. to DIN 571</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 6x30 -x40 -x50 -x60 -x70 / 8x40 -x50 -x60 -x70 -x80 / 10x50 -x70</li> <li>• 323 pieces</li> </ul>  |   |            |      |   |            |




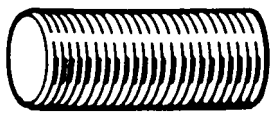
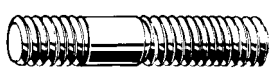
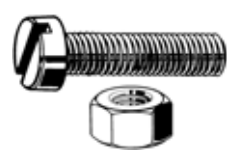

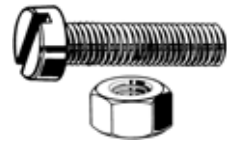
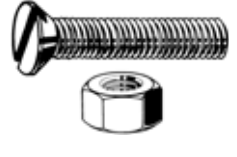
**41010 Assortment box steel**

| Size  | ☒ | Art.number                    | Size  | ☒ | Art.number | Size | ☒ | Art.number  |
|-------|---|-------------------------------|---|---|------------|------|---|---|
| S 534 | 1 | <a href="#">41010.000.534</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon socket head cap screws acc. to DIN 912</li> <li>• Steel class 8.8 zinc plated</li> <li>• Contents:</li> <li>• M4x10 -x16 -x20 / M5x10 -x16 -x20 -x25 -x30 / M6x10 -x16 -x20 -x25 -x30 -x40 / M8x20 -x25 -x30 -x40</li> </ul>   |   |            |      |   |    |
| S 536 | 1 | <a href="#">41010.000.536</a> | <ul style="list-style-type: none"> <li>• 885 pieces</li> <li>• Composition:</li> <li>• Hexagon socket head cap screws acc. to DIN 912</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M4x10 -x12 -x16 / M5x10 -x12 -x16 -x20 / M6x10 -x12 -x16 -x20 -x25 -x30 / M8x16 -x20 -x25 -x30 -x35</li> </ul>   |   |            |      |   |    |
| S 538 | 1 | <a href="#">41010.000.538</a> | <ul style="list-style-type: none"> <li>• 355 pieces</li> <li>• Composition:</li> <li>• Hexagon socket countersunk head screws acc. to DIN 7991</li> <li>• Steel class 8.8 zinc plated</li> <li>• Contents:</li> <li>• M3x8 -x16 / M4x10 -x12 -x16 / M5x10 -x16 / M6x10 -x16 -x20 -x25 / M8x20 -x25 -x30 / M10x20 -x25 -x30 -x40</li> </ul>  |   |            |      |   |    |
| S 540 | 1 | <a href="#">41010.000.540</a> | <ul style="list-style-type: none"> <li>• 1147 pieces</li> <li>• Composition:</li> <li>• Hexagon socket button head screws acc. to ≈ ISO 7380</li> <li>• Steel class 10.9 zinc plated</li> <li>• Contents:</li> <li>• M4x6 -x10 / M5x12 -x16 -x20 / M6x10 -x12 -x16 -x20 -x25 / M8x16 -x20 -x25 / M10x20 -x25 -x30 / M12x25 -x30</li> </ul>  |   |            |      |   |    |
| S 542 | 1 | <a href="#">41010.000.542</a> | <ul style="list-style-type: none"> <li>• 582 pieces</li> <li>• Composition:</li> <li>• Hexagon socket set screws with flat point acc. to DIN 913, hexagon socket set screws with cone point acc. to DIN 914 and hexagon socket set screws with dog point acc. to DIN 915</li> <li>• Steel class 45H</li> <li>• Contents:</li> <li>• M4x5 -x8 -x10 / M5x6 -x10 -x20 / M6x8 -x10 -x12 -x16 -x20 / M8x10 -x16</li> </ul> |   |            |      |   |  |
| S 544 | 1 | <a href="#">41010.000.544</a> | <ul style="list-style-type: none"> <li>• 1950 pieces</li> <li>• Composition:</li> <li>• Hexagon socket set screws with cup point acc. to DIN 916S</li> <li>• Steel class 45H zinc plated</li> <li>• Contents:</li> <li>• M4x4 -x6 -x8 -x10 / M5x6 -x8 -x10 / M6x8 -x10 -x16 -x20 / M8x10 -x12 -x16 -x20 / M10x16 -x20 -x25</li> </ul>   |   |            |      |   |  |
| S 546 | 1 | <a href="#">41010.000.546</a> | <ul style="list-style-type: none"> <li>• 1105 pieces</li> <li>• Composition:</li> <li>• Hexagon socket set screws with cup point acc. to DIN 916</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M6x6 -x8 -x10 -x16 / M8x16 -x20 -x25 -x30 / M10x10 -x16 -x20 -x30</li> </ul>  |   |            |      |   |  |
| S 548 | 1 | <a href="#">41010.000.548</a> | <ul style="list-style-type: none"> <li>• 585 pieces</li> <li>• Composition:</li> <li>• Hexagon socket screw plugs acc. to DIN 908 and hexagon head screw plugs acc. to DIN 910</li> <li>• Metric fine cylindrical thread</li> <li>• Steel</li> <li>• Contents:</li> <li>• M10x1 / M12x1,5 / M14x1,5 / M16x1,5 / M18x1,5 / M20x1,5 / M22x1,5 / M24x1,5 / M30x1,5</li> </ul>  |   |            |      |   |  |
| S 550 | 1 | <a href="#">41010.000.550</a> | <ul style="list-style-type: none"> <li>• 126 pieces</li> <li>• Composition:</li> <li>• Hexagon nuts acc. to DIN 934</li> <li>• Steel class I8I zinc plated</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M16</li> </ul>  |   |            |      |   |  |
| S 552 | 1 | <a href="#">41010.000.552</a> | <ul style="list-style-type: none"> <li>• 2200 pieces</li> <li>• Composition:</li> <li>• Hexagon nuts acc. to ISO 4032 and plain washers without chamfer acc. to DIN 125-1A</li> <li>• Steel class 8 zinc plated, yellow passivated</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12</li> </ul>   |   |            |      |   |  |

**41010 Assortment box steel**

| Size  | Art.number                      | Size   | Art.number | Size | Art.number |
|-------|---------------------------------|--|------------|------|------------|
| S 554 | 1 <a href="#">41010.000.554</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon nuts acc. to DIN 934 and plain washers without chamfer acc. to DIN 125-1 A</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10 / M12</li> <li>• 1700 pieces</li> </ul>   |            |      |            |
| S 556 | 1 <a href="#">41010.000.556</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Prevailing torque type hexagon nuts with non-metallic insert acc. to DIN 985</li> <li>• Steel class <math>\geq 5</math> zinc plated</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M7 / M8 / M10 / M12 / M14 / M16</li> <li>• 1450 pieces</li> </ul>   |            |      |            |
| S 558 | 1 <a href="#">41010.000.558</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Prevailing torque type hexagon nuts with non-metallic insert acc. to <math>\approx</math> DIN 985</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20</li> <li>• 614 pieces</li> </ul>   |            |      |            |
| S 560 | 1 <a href="#">41010.000.560</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon domed cap nuts acc. to DIN 1587 and hexagon cap nuts, low type acc. to DIN 917</li> <li>• Steel class 6 zinc plated</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10</li> <li>• 1050 pieces</li> </ul>   |            |      |            |
| S 562 | 1 <a href="#">41010.000.562</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon domed cap nuts acc. to DIN 1587 and hexagon cap nuts acc. to DIN 917</li> <li>• Stainless steel A1-50</li> <li>• Contents:</li> <li>• M4 / M5 / M6 / M8 / M10</li> <li>• 540 pieces</li> </ul>  |            |      |            |
| S 564 | 1 <a href="#">41010.000.564</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Wing screws, rounded wings acc. to DIN 316 and wing nuts light (American) type</li> <li>• Cast iron and steel class 04 zinc plated</li> <li>• Contents:</li> <li>• DIN 316: M5x16 / M6x10 -x20 -x30 / M8x20 -x30</li> <li>• Wing nuts: M4 / M5 / M6 / M8 / M10 / M12</li> <li>• 417 pieces</li> </ul>   |            |      |            |
| S 566 | 1 <a href="#">41010.000.566</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Slotted screwed inserts type A acc. to DIN 7965 and drive-in nuts for wood</li> <li>• Steel</li> <li>• Contents:</li> <li>• DIN 7965: M4x10 / M5x12 / M6x15 / M8x15 -x18</li> <li>• Drive-in nuts for wood: M4 / M5 / M6 / M8 / M10</li> <li>• 665 pieces</li> </ul>  |            |      |            |
| S 570 | 1 <a href="#">41010.000.570</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Spacers with 2x internal thread type H1200 and spacers with internal thread and external threaded stud type H1202</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• H1200: M3x5x5 -x8,5x8,5 -x10x10 -x20x7 / M4x10x10 -x15x15 / -x25x9 -x40x9 -x50x9</li> <li>• H1202: M3x5x3 -x10x7 -x15x7 -x30x7 / M4x10x6 -x30x9 -x40x9 / M5x20x11 -x30x11</li> <li>• 435 pieces</li> </ul> |            |      |            |
| S 572 | 1 <a href="#">41010.000.572</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Self-cutting threaded inserts type 300</li> <li>• Steel zinc plated, yellow passivated and stainless steel C4</li> <li>• Contents:</li> <li>• M3 / M4 / M5 / M6 / M8 / M10 / M12 / M16</li> <li>• 420 pieces</li> </ul>   |            |      |            |

**41010 Assortment box steel**


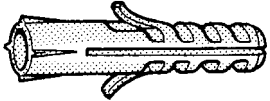


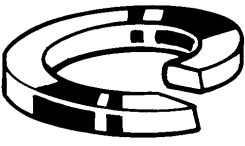




| Size  | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number  |
|-------|---|-------------------------------|---|---|------------|------|---|---|
| S 574 | 1 | <a href="#">41010.000.574</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Screw eyes art. 1G: 2,40x10x5 / 4,00x30x12 / 4,40x40x16,</li> <li>• Square hook pins art. 4: 2,40x25 / 3,20x30 / 4,00x50,</li> <li>• Square hooks art. 7: 2,65x30 / 3,20x40,</li> <li>• Cross recessed heavy square hooks art. 9G: 5,25x40 -x50,</li> <li>• Cup hooks art. 11: 2,40x16/30 / 3,20x20/40</li> <li>• Steel zinc plated</li> </ul> |   |            |      |   |    |
| S 576 | 1 | <a href="#">41010.000.576</a> | <ul style="list-style-type: none"> <li>• 1050 pieces</li> <li>• Composition:</li> <li>• Dowel screws art. 73A and dowel screws with hexagon for jaw art. 69G</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• Art. 73A: M6x40 -x50 -x60 -x90 / M8x60 -x70</li> <li>• Art. 69G: M8x80 -x90 / M10x80 -x90 -x100</li> </ul>  |   |            |      |   |    |
| S 578 | 1 | <a href="#">41010.000.578</a> | <ul style="list-style-type: none"> <li>• 226 pieces</li> <li>• Composition:</li> <li>• Dee (chain) shackles and bow (anchor) shackles with screw collar pin</li> <li>• Stainless steel A4</li> <li>• Contents:</li> <li>• 5 / 6 / 8 / 10 / 12</li> </ul>  |   |            |      |   |    |
| S 580 | 1 | <a href="#">41010.000.580</a> | <ul style="list-style-type: none"> <li>• 32 pieces</li> <li>• Composition:</li> <li>• Stud bolts acc. to DIN 976-1 A</li> <li>• Steel class <math>\geq 4.6</math> zinc plated, yellow passivated</li> <li>• Contents:</li> <li>• M4x30 -x40 / M5x40 -x50 / M6x30 -x40 -x50 / M8x60 -x70 -x80 / M10x40 -x60</li> </ul>   |   |            |      |   |   |
| S 582 | 1 | <a href="#">41010.000.582</a> | <ul style="list-style-type: none"> <li>• 505 pieces</li> <li>• Composition:</li> <li>• Studs metal end <math>\approx 1,25 d</math> acc. to DIN 939</li> <li>• Stainless steel A4</li> <li>• Contents:</li> <li>• M6x30 / M8x20 -x25 -x40 -x50 / M10x25 -x30 -x40 -x50 / M12x40 -x50 / M16x50</li> </ul>   |   |            |      |   |  |
| S 584 | 1 | <a href="#">41010.000.584</a> | <ul style="list-style-type: none"> <li>• 73 pieces</li> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-8I zinc plated</li> <li>• Contents:</li> <li>• M3x10 -x12 -x16 -x20 -x25 / M4x10 -x16 -x20 -x25 -x30 / M5x20 -x25 -x30 -x40 / M6x25 -x30 -x40 -x50</li> </ul>   |   |            |      |   |  |
| S 586 | 1 | <a href="#">41010.000.586</a> | <ul style="list-style-type: none"> <li>• 3060 pieces</li> <li>• Composition:</li> <li>• Slotted countersunk head screws acc. to DIN 963 and hexagon nuts acc. to DIN 934</li> <li>• Steel class 4.8-8I zinc plated</li> <li>• Contents:</li> <li>• M3x10 -x20 -x30 / M4x10 -x20 -x30 / M5x10 -x20 -x25 / M6x20 -x30 / M8x20 -x25</li> </ul>   |   |            |      |   |  |
| S 588 | 1 | <a href="#">41010.000.588</a> | <ul style="list-style-type: none"> <li>• 2970 pieces</li> <li>• Composition:</li> <li>• Slotted cheese head screws acc. to DIN 84 and hexagon nuts acc. to DIN 934</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M3x8 -x10 -x16 / M4x8 -x10 -x16 -x20 / M5x10 -x12 -x16 -x20 / M6x10 -x16 -x20</li> </ul>  |   |            |      |   |  |
| S 590 | 1 | <a href="#">41010.000.590</a> | <ul style="list-style-type: none"> <li>• 4550 pieces</li> <li>• Composition:</li> <li>• Slotted countersunk head screws acc. to DIN 963 and hexagon nuts acc. to DIN 934</li> <li>• Stainless steel A2-70</li> <li>• Contents:</li> <li>• M3x6 -x10 -x16 / M4x10 -x16 -x20 / M5x10 -x16 -x20 -x30 / M6x16 -x20 -x25 -x30</li> </ul>   |   |            |      |   |  |

**41010 Assortment box steel**

| Size  | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number |
|-------|---|-------------------------------|---|---|------------|------|---|------------|
| S 592 | 1 | <a href="#">41010.000.592</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Hexagon nuts acc. to ≈ DIN 934, slotted cheese head screws acc. to ≈ DIN 84, slotted countersunk head screws acc. to ≈ DIN 963 and plain washers without chamfer acc. to ≈ DIN 125-1 A</li> <li>• Plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• M3x10 / M4x8 -x20 / M5x16 / M6x20</li> </ul>                                      |   |            |      |   |            |
|       |   |                               |   |   |            |      |   |            |
| S 594 | 1 | <a href="#">41010.000.594</a> | <ul style="list-style-type: none"> <li>• 2100 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x13 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25 -x32 / ST6,3x25 -x38</li> </ul>  |   |            |      |   |            |
| S 596 | 1 | <a href="#">41010.000.596</a> | <ul style="list-style-type: none"> <li>• 1855 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H</li> <li>• Steel zinc plated, black passivated</li> <li>• Contents:</li> <li>• ST2,9x6,5 -x9,5 -x13 -x19 / ST3,5x9,5 -x13 -x16 -x19 -x25 / ST3,9x9,5 / ST4,2x9,5 -x13 -x16 -x19 -x25 / ST4,8x16 -x19 -x25</li> </ul>                       |   |            |      |   |            |
| S 598 | 1 | <a href="#">41010.000.598</a> | <ul style="list-style-type: none"> <li>• 2145 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed countersunk head tapping screws acc. to DIN 7982 C-H</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x9,5 -x13 / ST3,5x16 -x19 -x25 -x32 / ST3,9x19 / ST4,2x13 -x16 -x19 -x25 -x32 -x38 / ST4,8x19 -x25 -x32 / ST5,5x25 -x32</li> </ul>                               |   |            |      |   |            |
| S 600 | 1 | <a href="#">41010.000.600</a> | <ul style="list-style-type: none"> <li>• 1650 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed pan head tapping screws acc. to DIN 7981 C-H and Phillips (H) cross recessed countersunk head tapping screws acc. to DIN 7982 C-H</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• ST3,5x9,5 -x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 -x32 / ST4,8x19 -x25</li> </ul> |   |            |      |   |            |
| S 602 | 1 | <a href="#">41010.000.602</a> | <ul style="list-style-type: none"> <li>• 1675 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed raised countersunk head tapping screws acc. to DIN 7983 C-H</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ST2,9x9,5 -x13 -x16 / ST3,5x13 -x16 -x19 -x25 / ST4,2x13 -x16 -x19 -x25 -x32 / ST4,8x16 -x19 -x25 -x32 / ST5,5x19 -x25</li> </ul>                              |   |            |      |   |            |
| S 604 | 1 | <a href="#">41010.000.604</a> | <ul style="list-style-type: none"> <li>• 2175 pieces</li> <li>• Composition:</li> <li>• Phillips (H) cross recessed raised countersunk head tapping screws acc. to DIN 7983 C-H</li> <li>• Steel zinc plated, black passivated</li> <li>• Contents:</li> <li>• ST2,9x9,5 -x13 -x19 / ST3,5x13 -x16 -x19 -x25 / ST3,9x16 -x25 / ST4,2x13 -x16 -x19 -x25 -x32 / ST4,8x16 -x19 -x25 -x32</li> </ul>            |   |            |      |   |            |
| S 606 | 1 | <a href="#">41010.000.606</a> | <ul style="list-style-type: none"> <li>• 1875 pieces</li> <li>• Composition:</li> <li>• Pozidriv (Z) cross recessed countersunk screws for chipboard</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• 3,5x20 -x25 -x30 -x35 -x40 / 4x17 -x20 -x25 -x30 -x35 -x40 -x45 -x50 / 4,5x30 -x40 -x50 / 5x50 -x60</li> <li>• 1225 pieces</li> </ul>   |   |            |      |   |            |



**41010 Assortment box steel**

| Size  | Art.number                    | Size   | Art.number  | Size | Art.number |
|-------|-------------------------------|--|---|------|------------|
| S 608 | <a href="#">41010.000.608</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li><b>SPEDEC:</b> self-drilling Phillips (H) cross recessed pan head screws acc. to DIN 7504 M-H, self-drilling Phillips (H) cross recessed countersunk head screws acc. to DIN 7504 O-H and self-drilling hexagon head screws with collar acc. to DIN 7504 K</li> <li>Steel zinc plated</li> <li>Contents:</li> <li>ST3,5x9,5 -x19 / ST3,9x13 -x19 / ST4,2x13 -x19 -x25 -x32 / ST4,8x13 -x16 -x19 -x32 / ST5,5x32 / ST6,3x19</li> </ul> |    |      |            |
| S 610 | <a href="#">41010.000.610</a> | <ul style="list-style-type: none"> <li>1460 pieces</li> <li>Composition:</li> <li>Wall plugs</li> <li>Plastic nylon (grey)</li> <li>Contents:</li> <li>4 / 5 / 6 / 7 / 8 / 10 / 12</li> </ul>  |    |      |            |
| S 612 | <a href="#">41010.000.612</a> | <ul style="list-style-type: none"> <li>720 pieces</li> <li>Composition:</li> <li>Mudwing repair washers and plain washers d2 ≈ 3xd1 acc. to DIN 9021</li> <li>Steel zinc plated</li> <li>Contents:</li> <li>Mudwing repair washers: M4x20 / M5x20 / M6x25 -x30 / M8x30 / M10x30 / M12x36</li> <li>DIN 9021: M4x12 / M5x15 / M6x18 / M8x24 / M10x24</li> </ul>  |    |      |            |
| S 614 | <a href="#">41010.000.614</a> | <ul style="list-style-type: none"> <li>1300 pieces</li> <li>Composition:</li> <li>Plain washers without chamfer acc. to DIN 125-1 A and spring lock washers with square ends acc. to DIN 127 B</li> <li>Steel zinc plated</li> <li>Contents:</li> <li>M4 / M5 / M6 / M8 / M10 / M11 / M12 / M14 / M16</li> </ul>   |  |      |            |
| S 616 | <a href="#">41010.000.616</a> | <ul style="list-style-type: none"> <li>1700 pieces</li> <li>Composition:</li> <li>Spring lock washers with square ends acc. to DIN 127 B</li> <li>Stainless steel A2</li> <li>Contents:</li> <li>M3 / M4 / M5 / M6 / M8 / M10 / M12 / M14 / M16 / M20 / M24 / M27</li> </ul>   |  |      |            |
| S 618 | <a href="#">41010.000.618</a> | <ul style="list-style-type: none"> <li>1180 pieces</li> <li>Composition:</li> <li>Wave spring washers acc. to DIN 137 B, serrated lock washers external teeth acc. to DIN 6798 A and serrated lock washers internal teeth acc. to DIN 6798 J</li> <li>Steel zinc plated and steel zinc plated, yellow passivated</li> <li>Contents:</li> <li>M3 / M4 / M5 / M6 / M8 / M10</li> </ul>   |  |      |            |
| S 620 | <a href="#">41010.000.620</a> | <ul style="list-style-type: none"> <li>6450 pieces</li> <li>Composition:</li> <li>Plain washers without chamfer acc. to DIN 125-1 A, wave spring washers acc. to DIN 137 B and serrated lock washers external teeth acc. to ≈ DIN 6798 A</li> <li>Stainless steel A2</li> <li>Contents:</li> <li>M3 / M4 / M5 / M6 / M8 / M10</li> </ul>   |  |      |            |
| S 622 | <a href="#">41010.000.622</a> | <ul style="list-style-type: none"> <li>2475 pieces</li> <li>Composition:</li> <li>Retaining rings for shafts acc. to DIN 471</li> <li>Steel</li> <li>Contents:</li> <li>Ø 25 / 26 / 27 / 30 / 31 / 33 / 35 / 38 / 40 / 42</li> </ul>   |  |      |            |
| S 624 | <a href="#">41010.000.624</a> | <ul style="list-style-type: none"> <li>247 pieces</li> <li>Composition:</li> <li>Retaining rings for bores acc. to DIN 472</li> <li>Steel</li> <li>Contents:</li> <li>Ø 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 22 / 24 / 25 / 26 / 27</li> <li>1460 pieces</li> </ul>  |  |      |            |

**41010 Assortment box steel**

| Size  | Art.number                    | Size  | Art.number | Size | Art.number |
|-------|-------------------------------|---|------------|------|------------|
| S 626 | <a href="#">41010.000.626</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Retaining rings for shafts acc. to DIN 471 and retaining rings for bores acc. to DIN 472</li> <li>Stainless steel</li> <li>Contents:</li> <li>Ø 5 / 6 / 8 / 10 / 12 / 14 / 16 / 20 / 22 / 25 / 26 / 30 / 32 / 35 / 42 / 47</li> <li>263 pieces</li> </ul>  |            |      |            |
| S 628 | <a href="#">41010.000.628</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Adjusting rings acc. to ≈ DIN 705 A with socket set screw acc. to DIN 916</li> <li>Stainless steel A1</li> <li>Contents:</li> <li>6x12x8 / 8x16x8 / 10x20x10 / 12x22x12 / 14x25x12 / 15x25x12 / 20x32x14 / 25x40x16 / 30x45x16 / 36x56x16</li> <li>46 pieces</li> </ul>  |            |      |            |
| S 630 | <a href="#">41010.000.630</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Sealing rings acc. to DIN 7603 A</li> <li>Copper, annealed</li> <li>Contents:</li> <li>Ø 6x10x1 / 8x12x1 / 8x14x1,5 / 10x14x1,5 / 10x16x1,5 / 12x16x1,5 / 12x18x1,5 / 13x18x1,5 / 14x18x1 / 14x20x1,5 / 16x20x1,5</li> <li>840 pieces</li> </ul>   |            |      |            |
| S 632 | <a href="#">41010.000.632</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Sealing rings acc. to DIN 7603 A</li> <li>Copper, annealed</li> <li>Contents:</li> <li>Ø 8x12x1 / 10x14x1,5 / 10x16x1,5 / 12x16x1,5 / 12x18x1,5 / 12x20x1,5 / 14x18x1,5 / 14x20x1,5 / 14x20x2 / 16x20x1,5 / 16x22x2 / 18x24x2 / 20x24x1,5 / 22x26x2 / 24x30x2 / 26x33x2 / 28x34x2 / 30x38x2</li> <li>780 pieces</li> </ul> |            |      |            |
| S 634 | <a href="#">41010.000.634</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Sealing rings acc. to DIN 7603 A</li> <li>Copper, annealed</li> <li>Contents:</li> <li>Ø 14x20x2 / 15x20x2 / 16x22x2 / 17x24x2 / 18x24x2 / 20x24x2 / 22x26x2 / 24x30x2 / 26x33x2 / 28x34x2 / 30x38x2 / 32x40x2</li> <li>275 pieces</li> </ul>  |            |      |            |
| S 636 | <a href="#">41010.000.636</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Filled sealing rings acc. to DIN 7603 C</li> <li>Copper/FESTAPLAN</li> <li>Contents:</li> <li>Ø 6x10x1,5 / 8x12x1,5 / 8x14x1,5 / 12x16x2 / 14x18x2 / 14x20x2 / 16x22x2 / 18x24x2 / 20x26x2 / 24x32x2,5 / 26x32x2,5 / 32x38x2,5</li> <li>645 pieces</li> </ul>  |            |      |            |
| S 638 | <a href="#">41010.000.638</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>Packing (jointing) rings</li> <li>Fibre</li> <li>Contents:</li> <li>Ø 5x8 / 6x9 / 7x10 / 8x12 / 9x14 / 10x14 / 11x17 / 12x16 / 12,5x18 / 14x18 / 15x19 / 16x21 / 17x22 / 18x24 / 19x23 / 20x24 / 22x26 / 24x28</li> <li>1910 pieces</li> </ul>   |            |      |            |
| S 640 | <a href="#">41010.000.640</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>O-rings (metric)</li> <li>Rubber - NBR 70° shore (black).</li> <li>Contents:</li> <li>Ø 5x1,5 / 6x1,5 / 7x1,5 / 8x2 / 10x2 / 12x2 / 18x2 / 20x2 / 11,3x2,4 / 13,3x2,4 / 13x2,5 / 14x2,5 / 15x2,5 / 16x2,5 / 20,2x3 / 22,2x3 / 24,2x3 / 26,2x3.</li> <li>1075 pieces</li> </ul>   |            |      |            |
| S 642 | <a href="#">41010.000.642</a> | <ul style="list-style-type: none"> <li>Composition:</li> <li>O-ring cord with measuring tape, knives, cutting mould and cyanoacrylate adhesive</li> <li>Rubber - Buna N 70° shore</li> <li>Contents:</li> <li>Ø 1,78 / 2,0 / 2,4 / 2,62 / 3,0 / 3,53 / 4,0 / 5,0 / 5,33 / 5,7</li> <li>ATTENTION: quantity is 10x2 meters O-ring cord.</li> </ul>                                       |            |      |            |




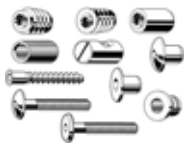
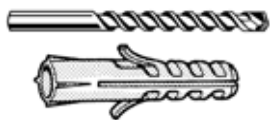
**41010 Assortment box steel** ←

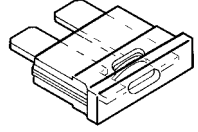
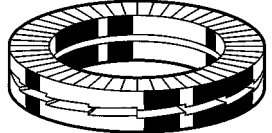




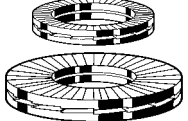
| Size  | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number |
|-------|---|-------------------------------|---|---|------------|------|---|------------|
| S 644 | 1 | <a href="#">41010.000.644</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Grommets and blanking plugs</li> <li>• Rubber (black)</li> <li>• Contents:</li> <li>• Grommets: Ø 4x6,4 / 5,5x8 / 6,4x9,5 / 8x9,5 / 9,5x12,5 / 11x12,5 / 12,5x17,5 / 14,2x17,5 / 16x19</li> <li>• Blanking plugs: Ø 6,4x9,5 / 8x14,2 / 9,5x15,4 / 11,2x17,7 / 12,5x18,7 / 15,5x22 / 19x25,5 / 20x25,5 / 22,5x28,4</li> <li>• 596 pieces</li> </ul> |   |            |      |   |            |
| S 646 | 1 | <a href="#">41010.000.646</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• STARLOCK fixing washers for shafts</li> <li>• Springsteel (without cap) and springsteel (with stainless steel cap)</li> <li>• Contents:</li> <li>• Ø 3 / 4 / 5 / 6 / 8 / 10</li> <li>• 1400 pieces</li> </ul>  |   |            |      |   |            |
| S 648 | 1 | <a href="#">41010.000.648</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Spring type straight pins slotted - heavy type acc. to ISO 8752</li> <li>• Steel</li> <li>• Contents:</li> <li>• 4x30 -x40 -x50 -x60 / 5x20 -x26 -x30 -x40 -x50 -x60 / 6x40 -x50 -x60 -x70 / 8x40 -x50 -x60 -x70</li> <li>• 520 pieces</li> </ul>  |   |            |      |   |            |
| S 650 | 1 | <a href="#">41010.000.650</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• PRYM spring-type straight pins (spiral pins), coiled standard duty acc. to ISO 8750</li> <li>• Steel</li> <li>• Contents:</li> <li>• 1,5x12 / 2x16 / 3x16 -x20 -x24 / 4x20 -x24 -x30 -x40 / 5x30 -x50 / 6x40 -x50 -x70 8x50 -x70 / 10x50 -x70</li> <li>• 1040 pieces</li> </ul>  |   |            |      |   |            |
| S 652 | 1 | <a href="#">41010.000.652</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• PRYM spring-type straight pins (spiral pins), coiled standard duty acc. to ≈ ISO 8750</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 2,5x8 -x16 / 3x8 -x10 -x12 -x16 -x20 / 4x10 -x14 -x16 -x18 -x22 -x30 / 5x24 -x26 -x50 / 6x20</li> <li>• 725 pieces</li> </ul>  |   |            |      |   |            |
| S 654 | 1 | <a href="#">41010.000.654</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Split pins (cotter pins) acc. to DIN 94</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• 2x20 -x40 / 2,5x32 -x40 / 3,2x40 -x50 / 4x40 -x50 / 5x40 -x50 / 6,3x63 -x80</li> <li>• 1345 pieces</li> </ul>   |   |            |      |   |            |
| S 656 | 1 | <a href="#">41010.000.656</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Split pins (cotter pins) acc. to DIN 94</li> <li>• Stainless steel A2</li> <li>• Contents:</li> <li>• 1,6x16 -x32 / 2x16 -x20 -x32 -x40 / 2,5x25 -x32 / 3,2x20 -x40 / 4x25 -x32</li> <li>• 915 pieces</li> </ul>   |   |            |      |   |            |
| S 658 | 1 | <a href="#">41010.000.658</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Parallel keys - high type acc. to DIN 6885 A</li> <li>• Steel</li> <li>• Contents:</li> <li>• 4x4x12 / 5x5x10 -x20 -x25 / 6x6x12 -x20 -x25 -x32 -x40 / 8x7x25 -x32 -x40 -x50 / 10x8x40 -x50 -x63 / 12x8x40 -x50</li> <li>• 336 pieces</li> </ul>   |   |            |      |   |            |
| S 660 | 1 | <a href="#">41010.000.660</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Woodruff keys acc. to DIN 6888</li> <li>• Steel</li> <li>• Contents:</li> <li>• 2x3,7 / 2,5x3,7 / 3x3,7 -x5 -x6,5 / 4x5 -x6,5 -x7,5 -x9 / 5x6,5 -x9 / 6x9 -x11 -x13 -x15 / 8x11 -x13 / 10x13</li> <li>• 450 pieces</li> </ul>  |   |            |      |   |            |

**41010 Assortment box steel**

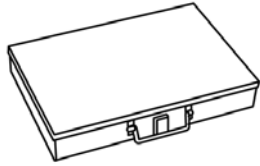
| Size  | ✉ | Art.number                    | Size   | ✉ | Art.number | Size | ✉ | Art.number |
|-------|---|-------------------------------|--|---|------------|------|---|------------|
| S 662 | 1 | <a href="#">41010.000.662</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Clevis pins with head and split pin hole acc. to DIN 1434, plain washers for clevis pins acc. to DIN 1440 and split pins (cotter pins) acc. to DIN 94</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• ISO 2341 B: Ø 5x14 / 6x18 / 8x22 / 10x28 / 12x35 / 14x40</li> <li>• DIN 1440: For pin Ø 5 / 6 / 8 / 10 / 12 / 14 / 16</li> <li>• DIN 94: 1,6x10 / 2x16 / 2,5x20 / 3,2x20 / 4x25</li> </ul>   |   |            |      |   |            |
| S 666 | 1 | <a href="#">41010.000.666</a> | <ul style="list-style-type: none"> <li>• 234 pieces</li> <li>• Composition:</li> <li>• Sealing rings acc. to DIN 7603 A, filled sealing rings acc. to DIN 7603 C and plain washers without chamfer acc. to DIN 125-1 A</li> <li>• Aluminium 99F11; hardness HB 32-45, copper, copper/FESTAPLAN and plastic PA 6.6 (white)</li> <li>• Contents:</li> <li>• Aluminium: Ø 8x14x1 / 10x14x1 / 12x18x1,5 / 14x20x1,5 / 16x22x1,5 / 18x24x1,5 / 20x26x1,5</li> <li>• Copper: Ø 10x16x1,5 / 12x16x1,5 / 14x20x1,5 / 16x22x2 / 18x24x2 / 20x24x2</li> <li>• Copper/FESTAPLAN: Ø 14x20x2 / 16x22x2 / 18x24x2 / 20x26x2</li> <li>• Plastic: M14,5</li> </ul> |   |            |      |   |            |
| S 668 | 1 | <a href="#">41010.000.668</a> | <ul style="list-style-type: none"> <li>• 1155 pieces</li> <li>• Composition:</li> <li>• Pre-insulated terminals</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• Cable 0,5 - 1,5 mm<sup>2</sup>: type 599 / 741 / 541 / 540 / 1541 / 561 / 556 (M3) / 535 (M4) / 557 (M5)</li> <li>• Cable 1,5 - 2,5 mm<sup>2</sup>: type 742 / 542 / 740 / 1542 / 562 / 536 (M4) / 537 (M5) / 560(M6)</li> <li>• Cable 2,5 - 6,0 mm<sup>2</sup>: type 539 (M6)</li> </ul>   |   |            |      |   |            |
| S 670 | 1 | <a href="#">41010.000.670</a> | <ul style="list-style-type: none"> <li>• 408 pieces</li> <li>• Composition:</li> <li>• Pre-insulated terminals and connectors</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• Cable 0,5 - 1,5 mm<sup>2</sup>: type 545 / 547 / 548</li> <li>• Cable 1,5 - 2,5 mm<sup>2</sup>: type 546 / 550 / 549</li> <li>• Cable 2,5 - 6,0 mm<sup>2</sup>: type 563 (M8) / 554 (M10)</li> <li>• Connector type C-560 blue</li> </ul>   |   |            |      |   |            |
| S 672 | 1 | <a href="#">41010.000.672</a> | <ul style="list-style-type: none"> <li>• 298 pieces</li> <li>• Composition:</li> <li>• Car fuses</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• 7,5A / 10A / 15A / 20A / 25A / 30A</li> <li>• 2A (5x20 mm) / 2A (6,35x25 mm) / 5A / 10A / 15A / 20A / 25A</li> <li>• 5A / 8A / 16A / 25A / 40A</li> </ul>  |   |            |      |   |            |
| S 676 | 1 | <a href="#">41010.000.676</a> | <ul style="list-style-type: none"> <li>• 304 pieces</li> <li>• Composition:</li> <li>• Lubricating nipples cone type acc. to ≈ DIN 71412 and drive-in lubricating nipples</li> <li>• Steel zinc plated</li> <li>• Contents:</li> <li>• M6x1-45° -90° -180° / M8x1-45° -90° -180° / M8x1,25-45° -90° -180° / M10x1-45° -90° -180° / M10x1,25-45° -90° -180°</li> <li>• Drive-in-lubricating nipple: 6-45° -180° / 8-90° -180°</li> </ul>  |   |            |      |   |            |
| S 680 | 1 | <a href="#">41010.000.680</a> | <ul style="list-style-type: none"> <li>• 246 pieces</li> <li>• Composition:</li> <li>• Helical compression springs acc. to DIN 2095</li> <li>• Spring steel zinc plated</li> <li>• Contents:</li> <li>• 0,5x3,5x15 / 0,5x4,5x12 / 0,5x6,5x20 -x30 / 0,8x5,7x25 / 0,8x6,7x25 / 0,8x7,7x30 -x35 -x50 / 1x6x25 / 1x8x25 -x30 / 1x10x25 -x60 / 1,5x10x50 / 1,5x12x40 / 1,5x14x60 / 2x14x50</li> </ul>  |   |            |      |   |            |

**41010 Assortment box steel**

| Size  | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number  |
|-------|---|-------------------------------|---|---|------------|------|---|---|
| S 682 | 1 | <a href="#">41010.000.682</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Helical tension springs acc. to DIN 2097</li> <li>• Spring steel zinc plated</li> <li>• Contents:</li> <li>• 0,5x3,5x20 / 0,5x4,5x20 / 0,5x6,5x20 -x25 -x30 -x35 / 0,8x6,7x30 -x35 / 0,8x7,7x40 -x50 / 1x6x30 / 1x8x25 -x35 / 1x10x35 -x40 -x60 / 1,5x10x35 -x50</li> </ul>  |   |            |      |   |    |
| S 684 | 1 | <a href="#">41010.000.684</a> | <ul style="list-style-type: none"> <li>• 522 pieces</li> <li>• Composition:</li> <li>• SECURITY: pan head screws with 2 holes, countersunk head screws with 2 holes, cross recessed pan head tapping screws with pin, one way tapping screws, square socket drive round head wood screws, hexagon socket button head cap screws with pin, screwdriver bits, hexagon socket screw key, screwdriver and nuts</li> <li>• Steel, steel zinc plated and stainless steel A2</li> <li>• Contents:</li> <li>• Pan head screws with 2 holes: M4x10 / M5x12 + screwdriver bit</li> <li>• Countersunk head screws with 2 holes: M3x12 / M4x10 + screwdriver bit</li> <li>• Cross recessed pan head tapping screws with pin: ST 4,8x13 -x19 + screwdriver bit</li> <li>• One way tapping screws: ST 3,5x25 / ST 4,2x19 -x32</li> <li>• Square socket drive round head wood screws: 4,2x25 -x32</li> <li>• Hexagon socket button head cap screws with pin: M6x25 + hexagon socket screw key</li> <li>• Nuts: M8</li> <li>• Screwdriver</li> <li>• 310</li> </ul>   |   |            |      |   |    |
| S 686 | 1 | <a href="#">41010.000.686</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Parallel shank twist drills acc. to DIN 338-RN (code U0000)</li> <li>• Steel HSS</li> <li>• Contents:</li> <li>• Ø 0,5 / 1 / 1,5 / 2 / 2,5 / 3 / 3,5 / 4 / 4,5 / 5 / 5,5 / 6 / 6,5 / 7 / 7,5 / 8 / 8,5 / 9 / 9,5 / 10</li> </ul>   |   |            |      |   |  |
| S 688 | 1 | <a href="#">41010.000.688</a> | <ul style="list-style-type: none"> <li>• 175 pieces</li> <li>• Composition:</li> <li>• Furniture fasteners: hexagon screwed inserts type SK, hexagon socket screwed inserts with collar type SKD, knurled nuts type RM, hexagon socket dowel nuts type RSK, hexagon socket flat head cap nuts type RF, hexagon socket mushroom head cap nuts type RT, knock-in inserts with collar type TS, slotted cross dowels type Q, hexagon socket flat head cap screws type KF, hexagon socket mushroom head cap screws type KT and hexagon socket corner connectors type KOK</li> <li>• Steel zinc plated, steel nickel plated and brass nickel plated</li> <li>• Contents:</li> <li>• Hexagon screwed inserts: M6x15</li> <li>• Hexagon socket screwed inserts with collar: M6x15</li> <li>• Knurled nuts: M6x18</li> <li>• Hexagon socket dowel nuts: M6x16</li> <li>• Hexagon socket flat head cap nuts: M6</li> <li>• Hexagon socket mushroom head cap nuts: M6</li> <li>• Knock-in inserts with collar: M6</li> <li>• Slotted cross dowels: M6x12 -x14</li> <li>• Hexagon socket flat head cap screws: M6x50 -x60 -x70</li> <li>• Hexagon socket mushroom head cap screws: M6x50 -x60 -x70</li> <li>• Hexagon socket corner connectors: 7x50</li> </ul> |   |            |      |   |  |
| S 690 | 1 | <a href="#">41010.000.690</a> | <ul style="list-style-type: none"> <li>• 425 pieces</li> <li>• Composition:</li> <li>• Wall plugs and masonry drills type A</li> <li>• Plastic nylon (grey) and steel</li> <li>• Contents:</li> <li>• 5 / 6 / 7 / 8 / 10 / 12</li> <li>• 520 pieces</li> </ul>  |   |            |      |   |  |

| 41010 Assortment box steel |   |                               |   |   |            |      |   |   |
|----------------------------|---|-------------------------------|---|---|------------|------|---|---|
| Size                       | ✉ | Art.number                    | Size  | ✉ | Art.number | Size | ✉ | Art.number  |
| S 692                      | 1 | <a href="#">41010.000.692</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• Car fuses</li> <li>• Steel/plastic</li> <li>• Contents:</li> <li>• 7,5A / 10A / 15A / 20A / 25A / 30A</li> <li>• 4A / 5A / 7,5A / 10A / 15A / 20A / 25A / 30A</li> <li>• 20A / 30A / 40A / 50A / 60A / 70A / 80A</li> </ul>  |   |            |      |   |    |
| S 694                      | 1 | <a href="#">41010.000.694</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• NORD-LOCK Vibration proof washer 2 pieces</li> <li>• Steel Deltaprotekt</li> <li>• Contents:</li> <li>• M8 / M10 / M14 / M16 / M18 / M20 / M24</li> <li>• 170 (x2) pieces</li> </ul>   |   |            |      |   |    |
| S 698                      | 1 | <a href="#">41010.000.698</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• OMNI domed head blind rivets, plain washers without chamfer acc. to DIN 125-1 A and handtool</li> <li>• Aluminium with steel zinc plated mandrel</li> <li>• Contents:</li> <li>• 3x6 -x8 -x10 / 4x6 -x8 -x10 -x12 -x16 / 4,8x8 - x10 -x12 -x14</li> <li>• DIN 125-1 A: M3 / M4 / M5</li> <li>• Handtool: type F150B</li> <li>• 1.565 pieces</li> </ul> |   |            |      |   |    |
| S 700                      | 1 | <a href="#">41010.000.700</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• ABA Rubber lined clip</li> <li>• Content:</li> <li>• 5 / 6 / 8 / 10 / 11 / 13 / 14 / 16 mm</li> <li>• 130 pieces</li> </ul>  |   |            |      |   |   |
| S 702                      | 1 | <a href="#">41010.000.702</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• ABA Nova and Mini clamps</li> <li>• Content:</li> <li>• Nova 11-17 / 13-20 / 15-24 / 19-28 / 22-32 / 26-38 mm</li> <li>• Mini No. 8 / 10 / 12 / 14 / 16 / 17</li> <li>• 1 flexible screwdriver</li> <li>• 146 pieces</li> </ul>  |   |            |      |   |  |
| S 704                      | 1 | <a href="#">41010.000.704</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• ABA 2-ear clamps</li> <li>• Content:</li> <li>• 5-7 / 7-9 / 9-11 / 11-13 / 13-15 / 15-18 / 17-20 / 20-23 / 23-25</li> <li>• 1 tool</li> <li>• 601 pieces</li> </ul>  |   |            |      |   |  |
| S706                       | 1 | <a href="#">41010.000.706</a> | <ul style="list-style-type: none"> <li>• Composition:</li> <li>• NORD-LOCK Vibration proof washer / NORD-LOCK Vibration proof washer large outside diameter</li> <li>• Content:</li> <li>• M6 - M8 - M10 - M12 - M16 - M20 / M6x13,5 - M8x16 - M10x21 - M12x25 - M16x30 - M20x39</li> <li>• 350 pieces</li> </ul>   |   |            |      |   |  |

## Accessories assortment



|                  |                        |             |
|------------------|------------------------|-------------|
| <b>41030</b>     | <b>Cabinet drawers</b> | <b>*99B</b> |
| <b>Packaging</b> | Standard               |             |



| Type | ☒ | Art.number                    |  |
|------|---|-------------------------------|--|
| SF-3 | 1 | <a href="#">41030.001.770</a> | <ul style="list-style-type: none"> <li>• Usable for 3 x type S Quality assortment boxes (steel)</li> <li>• Size: 385 x 265 x 215 mm</li> <li>• Robust, stackable</li> <li>• With two holes in the back, enabling the storage cabinet to be attached to the wall if required</li> </ul>   |
| SF-5 | 1 | <a href="#">41030.001.780</a> | <ul style="list-style-type: none"> <li>• For use with 5 x type S Quality assortment boxes (steel).</li> <li>• Size: 415 x 255 x 430 mm.</li> <li>• Each drawer has a handy red locking device.</li> <li>• Each drawer is extendable with telescopic lever.</li> <li>• A cylinder lock enables all the drawers to be locked in a single operation. Fastening materials are included, enabling the chest of drawers to be attached to the wall.</li> </ul> |

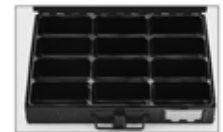


|                  |              |             |
|------------------|--------------|-------------|
| <b>41020</b>     | <b>S-box</b> | <b>*99B</b> |
| <b>Packaging</b> | Standard     |             |



| Type           | ☒ | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|----------------|---|-------------------------------|------|---|------------|------|---|------------|
| S-CASE COMPLET | 1 | <a href="#">41020.001.775</a> |      |   |            |      |   |            |

|                  |                               |             |
|------------------|-------------------------------|-------------|
| <b>41040</b>     | <b>Accessories assortment</b> | <b>*99B</b> |
| <b>Packaging</b> | Standard                      |             |



| Type     | ☒ | Art.number                    | Type     | ☒ | Art.number                    | Type       | ☒ | Art.number                    |
|----------|---|-------------------------------|----------|---|-------------------------------|------------|---|-------------------------------|
| 8-Comp.  | 1 | <a href="#">41040.100.008</a> | 12-Comp. | 1 | <a href="#">41040.100.012</a> | 18-Comp.   | 1 | <a href="#">41040.100.018</a> |
| 10-Comp. | 1 | <a href="#">41040.100.010</a> | 14-Comp. | 1 | <a href="#">41040.100.014</a> | 20-Comp.   | 1 | <a href="#">41040.100.020</a> |
| 11-Comp. | 1 | <a href="#">41040.100.011</a> | 17-Comp. | 1 | <a href="#">41040.100.017</a> | Foam cover | 1 | <a href="#">41040.200.010</a> |

## Warehouse cabinet



### W1200 Warehouse cabinet Warehouse cabinet

MET1

**Packaging** Standard



**Size**  **Art.number**

|                   |   |                               |  |
|-------------------|---|-------------------------------|--|
| 2000 X1000 X200mm | 1 | <a href="#">W1200.201.020</a> | <ul style="list-style-type: none"> <li>• Shelves: 12.</li> <li>• Partitions: 72</li> </ul> |
| 2000 X1000 X250mm | 1 | <a href="#">W1200.201.025</a> | <ul style="list-style-type: none"> <li>• Shelves: 12.</li> <li>• Partitions: 72</li> </ul> |
| 2000 X1000 X300mm | 1 | <a href="#">W1200.201.030</a> | <ul style="list-style-type: none"> <li>• Shelves: 12.</li> <li>• Partitions: 72</li> </ul> |

- Partitions are supplied in colour grey standard.
- Carrying capacity of each shelf is maximum +/- 25 kg.
- Doors and accessories available on request.
- Technical brochure also available on request.

### W1201 Warehouse cabinet with sectional layout

MET1

**Packaging** Standard



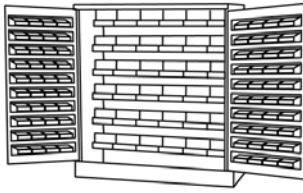
**Size**  **Art.number**



|                   |   |                               |  |
|-------------------|---|-------------------------------|--|
| 1080 X1000 X200mm | 1 | <a href="#">W1201.109.020</a> | <ul style="list-style-type: none"> <li>• Shelves: 6.</li> <li>• Partitions: 36.</li> </ul>   |
| 1080 X1000 X250mm | 1 | <a href="#">W1201.109.025</a> | <ul style="list-style-type: none"> <li>• Partitions are supplied as standard in the colour grey</li> <li>• Shelves: 6.</li> <li>• Partitions: 36.</li> </ul>   |
| 1080 X1000 X300mm | 1 | <a href="#">W1201.109.030</a> | <ul style="list-style-type: none"> <li>• Partitions are supplied as standard in the colour grey</li> <li>• Shelves: 6.</li> <li>• Partitions: 36.</li> </ul>   |
| 1300 X690 X175mm  | 1 | <a href="#">W1201.136.917</a> | <ul style="list-style-type: none"> <li>• Partitions are supplied as standard in the colour grey</li> <li>• Shelves: 6.</li> <li>• Bin no. 54 - 72x.</li> </ul>   |
| 2000 X1000 X175mm | 1 | <a href="#">W1201.201.017</a> | <ul style="list-style-type: none"> <li>• Bins are supplied as standard in the colour blue</li> <li>• Shelves: 19.</li> <li>• Bin no. 54 - 171x.</li> <li>• Bins are supplied as standard in the colour blue</li> </ul> |
| 2000 X1000 X250mm | 1 | <a href="#">W1201.201.025</a> | <ul style="list-style-type: none"> <li>• Shelves: 12.</li> <li>• Bin no. 53 - 54x.</li> </ul>  |
| 2000 X1000 X250mm | 1 | <a href="#">W1201.201.026</a> | <ul style="list-style-type: none"> <li>• Bins are supplied as standard in the colour blue</li> <li>• Shelves: 9.</li> <li>• Bin no. 54 - 54x.</li> <li>• Bins are supplied as standard in the colour blue</li> </ul>   |
| 2000 X1000 X300mm | 1 | <a href="#">W1201.201.030</a> | <ul style="list-style-type: none"> <li>• Shelves: 12.</li> <li>• Bin no. 63 - 60x.</li> </ul>  |
| 2000 X1000 X300mm | 1 | <a href="#">W1201.201.031</a> | <ul style="list-style-type: none"> <li>• Bins are supplied as standard in the colour blue</li> <li>• Shelves: 12.</li> <li>• Bin no. 54 - 60x.</li> <li>• Bins are supplied as standard in the colour blue</li> </ul>  |
| 2000 X1000 X450mm | 1 | <a href="#">W1201.201.045</a> | <ul style="list-style-type: none"> <li>• Shelves: 10.</li> <li>• Bin no. 54 - 120x.</li> <li>• Bins are supplied as standard in the colour blue</li> </ul>   |

- Partitions are supplied in colour grey standard.
- Carrying capacity of each shelf is maximum +/- 25 kg.
- Doors and accessories available on request.
- Technical brochure also available on request.



## Warehouse cabinet with doors and bins



| W1205 Warehouse cabinet with doors and plastic bins |   | MET1   |
|---|---|--|
| <b>Packaging</b>                                    | Standard  |   |
| <b>Size</b>   |  <b>Art.number</b> |  |
| 1100 X1000 X450mm                                   | 1 <a href="#">W1205.111.045</a>   | <ul style="list-style-type: none"> <li>• Bin no. 53 - 36x.</li> <li>• Bin no. 55 - 80x.</li> <li>• Bins are supplied as standard in the colour blue.</li> </ul>  |
| 2000 X1000 X450mm                                   | 1 <a href="#">W1205.201.045</a>   | <ul style="list-style-type: none"> <li>• Bin no. 53 - 66x.</li> <li>• Bin no. 55 - 160x.</li> <li>• Bins are supplied as standard in the colour blue.</li> </ul> |

## Workshop module



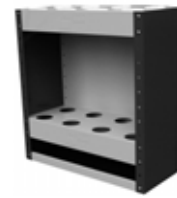
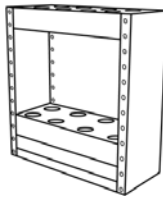
|                  |                        |             |
|------------------|------------------------|-------------|
| <b>W1280</b>     | <b>Workshop module</b> | <b>*99A</b> |
| <b>Colour</b>    | Blue                   |             |
| <b>Packaging</b> | Standard               |             |



| Size                | ✉ | Art.number                    |   |
|---------------------|---|-------------------------------|---|
| 560 X1000 X300mm A  | 1 | <a href="#">W1280.000.100</a> | <ul style="list-style-type: none"> <li>• Type: A.</li> <li>• Cabinet with perfoboard as backwall, with connection holes.</li> <li>• h mm: 560.</li> <li>• b mm: 1000.</li> <li>• d mm: 300.</li> <li>• Colour: Blue/grey</li> </ul>   |
| 335 X1000 X300mm B  | 1 | <a href="#">W1280.000.105</a> | <ul style="list-style-type: none"> <li>• Type: B.</li> <li>• Chest of drawers with 3 drawers, 6 plastic bins and 72 adhesive scan strips, with connection holes.</li> <li>• h mm: 335.</li> <li>• b mm: 1000.</li> <li>• d mm: 300.</li> <li>• Colour: Blue/grey</li> </ul> |
| 1080 X1000 X300mm C | 1 | <a href="#">W1280.000.110</a> | <ul style="list-style-type: none"> <li>• Type: C.</li> <li>• Warehouse cabinet with 6 shelves and 36 plastic partitions, with connection holes.</li> <li>• h mm: 1080.</li> <li>• b mm: 1000.</li> <li>• d mm: 300.</li> <li>• Colour: Blue/grey</li> </ul>                 |
| 560 X1000 X300mm D  | 1 | <a href="#">W1280.000.115</a> | <ul style="list-style-type: none"> <li>• Type: D.</li> <li>• Cabinet with 3 shelves and 18 plastic partitions, with connection holes.</li> <li>• h mm: 560.</li> <li>• b mm: 1000.</li> <li>• d mm: 300.</li> <li>• Colour: Blue/grey</li> </ul>                            |
| 335 X1000 X300mm E  | 1 | <a href="#">W1280.000.120</a> | <ul style="list-style-type: none"> <li>• Type: E.</li> <li>• Chest of drawers with 4 drawers, 8 plastic bins and 96 adhesive scan strips.</li> <li>• h mm: 335.</li> <li>• b mm: 1000.</li> <li>• d mm: 300.</li> <li>• Colour: Blue/grey</li> </ul>                        |
| 745 X1000 X300mm F  | 1 | <a href="#">W1280.000.125</a> | <ul style="list-style-type: none"> <li>• Type: F.</li> <li>• Cabinet with 5 shelves and 30 partitions, with connection holes.</li> <li>• h mm: 745.</li> <li>• b mm: 1000.</li> <li>• d mm: 300.</li> <li>• Colour: Blue/grey</li> </ul>                                    |

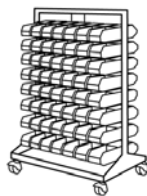
- Each article number represents a specific lay-out.
- Technical brochure available on request.



## Cabinet for threaded rods



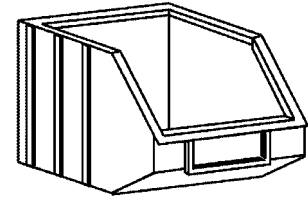
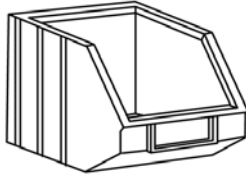
|  |  |   |
|--|--|---|
| <b>W1297 Cabinet for threaded rods</b> |  | <b>*99A</b>   |
| <b>Packaging</b>                       | Standard   |  |
| <b>Size</b>                            |  <a href="#">Art.number</a> |   |
| 630 X 600 x 250mm                      | 1 <a href="#">W1297.000.008</a>  | • With 8 holes.   |

## Wheeled rack



|                           |  |  |
|---------------------------|--|--|
| <b>W1210 Wheeled rack</b> |  | <b>MET1</b>  |
| <b>Packaging</b>          | Standard   |   |
| <b>Size</b>               |  <a href="#">Art.number</a> |  |
| 1660 X1130 X700mm         | 1 <a href="#">W1210.001.775</a>  | <ul style="list-style-type: none"> <li>• Bin no. 53 - 42x.</li> <li>• Bin no. 54 - 60x.</li> <li>• Bin no. 55 - 60x</li> <li>• The plastic bins are as standard supplied in the colour blue.</li> <li>• Rack is fitted with strengthened nylon wheels, total carrying capacity +/- 215 kg</li> </ul> |
| 1660 X1130 X700mm         | 1 <a href="#">W1210.001.776</a>  | <ul style="list-style-type: none"> <li>• Bin no. 53 - 56x.</li> <li>• The plastic bins are as standard supplied in the colour blue.</li> <li>• Rack is fitted with strengthened nylon wheels, total carrying capacity +/- 215 kg</li> </ul>  |

## Storage box



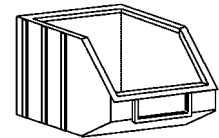
### Article groups

| Material   | Colour | Packaging             | Code  | Page  |
|------------|--------|-----------------------|-------|-------|
| Plastic PS | Red    | Standard              | W1270 | 11-33 |
| Plastic PS | Yellow | Standard              | W1271 | 11-33 |
| Plastic PS | Grey   | Standard              | W1272 | 11-33 |
| Plastic PS | Blue   | Standard              | W1274 | 11-33 |
| Plastic PS | Blue   | Including card holder | W1275 | 11-34 |

#### W1270 Storage box stackable red

**MET1**

**Material** Plastic Polystyrene  
**Colour** Red  
**Packaging** Standard



#### Size [Art.number](#)

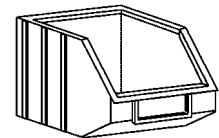
No.83 1 [W1270.000.053](#)

- L mm = 240
- b mm = 150
- h mm = 130

#### W1271 Storage box stackable yellow

**MET1**

**Material** Plastic Polystyrene  
**Colour** Yellow  
**Packaging** Standard



#### Size [Art.number](#)

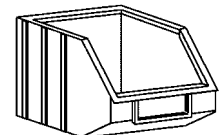
No.83 1 [W1271.000.053](#)

- L mm = 240
- b mm = 150
- h mm = 130

#### W1272 Storage box stackable grey

**MET1**

**Material** Plastic Polystyrene  
**Colour** Grey  
**Packaging** Standard



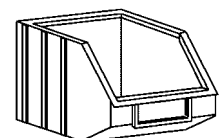
#### Size [Art.number](#)

No.83 1 [W1272.000.053](#) • L mm = 240 b mm = 150 h mm = 130

#### W1274 Storage box stackable blue

**MET1**

**Material** Plastic Polystyrene  
**Colour** Blue  
**Packaging** Standard



#### Size [Art.number](#)

No.83 1 [W1274.000.053](#)

- L mm = 240
- b mm = 150
- h mm = 130

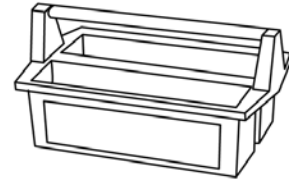
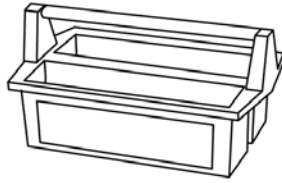
No.93 1 [W1274.000.093](#)

- L mm = 320
- b mm = 184
- h mm = 92

|  |                     |   |
|--|---------------------|---|
| <b>W1275 Storage box stackable including card holder</b> |                     | <b>MET1</b>   |
| <b>Material</b>  | Plastic Polystyrene |  |
| <b>Colour</b>  | Blue                |   |
| <b>Packaging</b>   | Standard            |   |

| Size  | ✉ | Art.number                    |  |
|-------|---|-------------------------------|--|
| No.53 | 1 | <a href="#">W1275.000.053</a> | <ul style="list-style-type: none"> <li>• L mm = 240</li> <li>• b mm = 150</li> <li>• h mm = 130</li> </ul> |
| No.54 | 1 | <a href="#">W1275.000.054</a> | <ul style="list-style-type: none"> <li>• L mm = 175</li> <li>• b mm = 105</li> <li>• h mm = 575</li> </ul> |
| No.55 | 1 | <a href="#">W1275.000.055</a> | <ul style="list-style-type: none"> <li>• L mm = 90</li> <li>• b mm = 105</li> <li>• h mm = 50</li> </ul>   |
| No.63 | 1 | <a href="#">W1275.000.063</a> | <ul style="list-style-type: none"> <li>• L mm = 320</li> <li>• b mm = 184</li> <li>• h mm = 92</li> </ul>  |

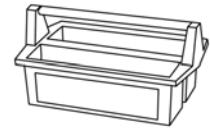
## Carrying box




63152 FISCHER Carrying box

N03B

**Material** Plastic  
**Colour** Red  
**Packaging** Standard



**Type**  [Art.number](#)

MOBIBOX 1 [63152.001.770](#) • With aluminium handle red.

## Engineering parts/machine parts 12













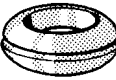
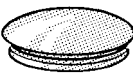


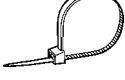



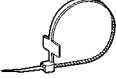
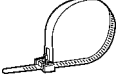

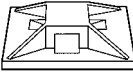

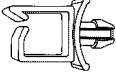



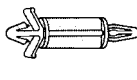
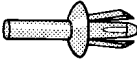
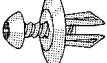
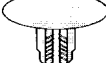
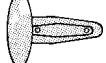

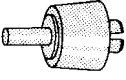








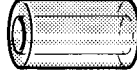





|   |   |  |  |  |
|---|---|--|--|--|
| <br>Page 12-5<br><b>Hose clamp 9mm</b>   | <br>Page 12-7<br><b>Hose clamp 12mm</b>  | <br>Page 12-9<br><b>Hose clamp 12mm stainless steel</b>                             | <br>Page 12-11<br><b>Hose clamp stainless steel</b>  | <br>Page 12-12<br><b>ABA Mini hose clamp</b>  |
| <br>Page 12-13<br><b>ABA Robust hose clamp stainless steel</b>                                       | <br>Page 12-15<br><b>Micro hose clamp</b>  | <br>Page 12-15<br><b>One-ear clip</b>   | <br>Page 12-16<br><b>ABA Two-ear clip</b>  | <br>Page 12-17<br><b>Hose clamp two parts</b>   |
| <br>Page 12-18<br><b>Rubber lined clip</b>   | <br>Page 12-19<br><b>Assortment hose clamp</b>   | <br>Page 12-20<br><b>Flexible socket screwdriver</b>                                | <br>Page 12-21<br><b>Exhaust pipe clamp</b>  | <br>Page 12-22<br><b>Pipe clamp 8mm</b>   |
| <br>Page 12-23<br><b>BAND-IT</b>  | <br>Page 12-26<br><b>Ornamental hood</b>  | <br>Page 12-27<br>DIN ≈443<br><b>Sealing push-in cap</b>                           | <br>Page 12-28<br>DIN ≈470<br><b>Sealing washer</b>   | <br>Page 12-29<br>DIN ≈71412 A/B/<br>C (A=180°/<br>B=45°/<br>C=90°)<br><b>Conical Metric</b>             |
| <br>Page 12-30<br><b>Drive-in</b>  | <br>Page 12-30<br>DIN ≈3405 A<br><b>Cupped model Metric</b>  | <br>Page 12-31<br>DIN ≈3404 A<br><b>Flat Metric fine</b>                          | <br>Page 12-31<br>DIN ≈71412 A/B/<br>C (A=180°/<br>B=45°/<br>C=90°)<br><b>Conical Metric fine</b> | <br>Page 12-32<br>DIN ≈71412 A/B/<br>C (A=180°/<br>B=45°/<br>C=90°)<br><b>Conical Metric extra fine</b> |
| <br>Page 12-33<br>DIN ≈71412 A/B/<br>C (A=180°/<br>B=45°/<br>C=90°)<br><b>Conical Non Metric R</b> | <br>Page 12-34<br>DIN ≈71412 A/B/<br>C (A=180°/<br>B=45°/<br>C=90°)<br><b>Conical Non Metric UNF</b> | <br>Page 12-34<br>DIN ≈3404 A<br><b>Flat G</b>                                    | <br>Page 12-35<br>DIN 71802 AS<br><b>Metric/Metric fine</b>  | <br>Page 12-37<br>DIN 808 E<br><b>Single</b>  |
| <br>Page 12-38<br>DIN 808 D<br><b>Double</b>   | <br>Page 12-39<br>DIN 71752<br><b>Fork joint</b>   | <br>Page 12-41<br>ISO 12240-4<br>DIN 648 B<br><b>Rod end with internal thread</b> | <br>Page 12-42<br>ISO 12240-4<br>DIN 648 A<br><b>Rod end with external thread</b>                  | <br>Page 12-43<br><b>Multiple connector</b>   |
| <br>Page 12-44<br><b>Clamping joint individually adjustable</b>                                    | <br>Page 12-45<br><b>Thermoplast hinge</b>   | <br>Page 12-46<br><b>Slotted spring plungers with ball</b>                        | <br>Page 12-47<br><b>Slotted spring plungers with pin</b>  | <br>Page 12-48<br><b>With pin and hexagon socket</b>  |
| <br>Page 12-49<br><b>With plastic pin and hexagon socket</b>                                       | <br>Page 12-49<br><b>Smooth execution</b>  | <br>Page 12-50<br><b>Without looking groove</b>                                   | <br>Page 12-50<br><b>With looking groove Plastic</b>   | <br>Page 12-51<br><b>Steel</b>  |
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# Engineering parts/machine parts 12

|   |   |   |  |   |
|---|---|---|--|---|
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|  <p>Page 12-62</p> <p><b>Foot plate</b></p>                          |  <p>Page 12-63</p> <p><b>Spindle</b></p>                     |  <p>Page 12-64</p> <p><b>Machine support</b></p>             |  <p>Page 12-65</p> <p><b>Bush type VP</b></p>                     |  <p>Page 12-66</p> <p><b>Anti-vibration plate</b></p>          |
|  <p>Page 12-67<br/>DIN 2095</p> <p><b>Compression spring</b></p>     |  <p>Page 12-68<br/>DIN 2097</p> <p><b>Tension spring</b></p> |  <p>Page 12-69<br/>DIN ≈319</p> <p><b>Metric</b></p>         |  <p>Page 12-70<br/>DIN ≈319 M</p> <p><b>With conical hole</b></p> |  <p>Page 12-71<br/>DIN ≈6336 L</p> <p><b>Type L Metric</b></p> |
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|  <p>Page 12-78</p> <p><b>5-Star Metric</b></p>                     |  <p>Page 12-79</p> <p><b>For hexagon</b></p>               |  <p>Page 12-80</p> <p><b>For hexagon socket</b></p>        |  <p>Page 12-81</p> <p><b>Metric</b></p>                         |  <p>Page 12-82</p> <p><b>Metric</b></p>                      |
|  <p>Page 12-82</p> <p><b>Metric</b></p>                            |  <p>Page 12-83</p> <p><b>Metric</b></p>                    |  <p>Page 12-83</p> <p><b>Metric</b></p>                    |  <p>Page 12-84</p> <p><b>Metric</b></p>                         |  <p>Page 12-85</p> <p><b>Metric</b></p>                      |
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|  <p>Page 12-96</p> <p><b>Liftable Metric</b></p>                   |  <p>Page 12-97</p> <p><b>Liftable Metric</b></p>           |  <p>Page 12-99</p> <p><b>Liftable with ball Metric</b></p> |  <p>Page 12-100</p> <p><b>Liftable Metric</b></p>               |  <p>Page 12-101</p> <p><b>Firm high Metric</b></p>           |







## Engineering parts/machine parts 12

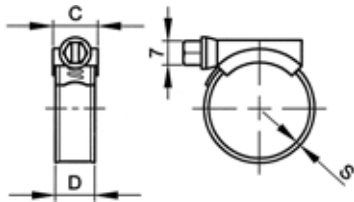
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|---|--|---|--|---|
| <br>Page 12-102<br><b>Firm Metric</b>                            | <br>Page 12-103<br>DIN 388-1C<br><b>Plastic</b>     | <br>Page 12-104<br>DIN 950<br><b>Aluminium</b>               | <br>Page 12-105<br><b>2-Spokes Plastic</b>                   | <br>Page 12-106<br><b>Foldaway handle 2-spokes Plastic</b>   |
| <br>Page 12-107<br><b>Closed plastic</b>                         | <br>Page 12-108<br><b>Solid with handle plastic</b> | <br>Page 12-108<br><b>Solid with foldaway handle Plastic</b> | <br>Page 12-109<br><b>Solid with foldaway handle Plastic</b> | <br>Page 12-109<br><b>Solid with foldaway handle Plastic</b> |
| <br>Page 12-111<br>ISO 3290<br>DIN 5401<br><b>Technical ball</b> | <br>Page 12-114<br><b>Technical ball Non ferro</b>  | <br>Page 12-116<br><b>Grommet</b>                            | <br>Page 12-117<br><b>Blanking plug</b>                      | <br>Page 12-118<br><b>With 1 fixing hole</b>                 |
| <br>Page 12-119<br><b>With 2 fixing holes</b>                   | <br>Page 12-120<br><b>Cable tie</b>                | <br>Page 12-122<br><b>Cable tie</b>                         | <br>Page 12-123<br><b>Cable tie assortment</b>             | <br>Page 12-123<br><b>Cable tie with eye</b>                |
| <br>Page 12-124<br><b>Cable tie with label</b>                 | <br>Page 12-126<br><b>Cable tie releasable</b>    | <br>Page 12-127<br><b>Cable tie with mount</b>             | <br>Page 12-128<br><b>Cable tie mount</b>                  | <br>Page 12-129<br><b>Hose clamp plastic</b>               |
| <br>Page 12-130<br><b>Cable clip</b>                           | <br>Page 12-131<br><b>Cable clip adhesive</b>     | <br>Page 12-132<br><b>Cable clip adhesive</b>              | <br>Page 12-133<br><b>Driller</b>                          | <br>Page 12-134<br><b>Spacer plastic</b>                   |
| <br>Page 12-135<br><b>Drive rivet</b>                          | <br>Page 12-136<br><b>Screw rivet</b>             | <br>Page 12-137<br><b>Ratched rivet</b>                    | <br>Page 12-138<br><b>Push rivet</b>                       | <br>Page 12-139<br><b>Expansion nut</b>                    |
| <br>Page 12-140<br><b>Glide</b>                                | <br>Page 12-141<br><b>Bumper adhesive</b>         | <br>Page 12-142<br><b>Protective buffer</b>                | <br>Page 12-143<br><b>Closed plastic</b>                   | <br>Page 12-144<br><b>Retaining washer</b>                 |
| <br>Page 12-145<br><b>Shoulder washer</b>                      | <br>Page 12-146<br><b>Insulating bush</b>         | <br>Page 12-147<br><b>Slide bearing</b>                    | <br>Page 12-148<br><b>Insulating bush</b>                 | <br>Page 12-149<br><b>Spacer plastic</b>                   |
| <br>Page 12-150<br><b>Cover plug</b>                           | <br>Page 12-151<br><b>Protecting cap and plug</b> | <br>Page 12-152<br><b>Vertical</b>                         | <br>Page 12-154<br><b>Horizontal</b>                       | <br>Page 12-157<br><b>Push-pull</b>                        |

## Engineering parts/machine parts **12**

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|   |   |   |   |
|---|---|---|---|
|  <p>Page 12-160</p> <p><b>Toggle clamp</b></p> |  <p>Page 12-161</p> <p><b>Horizontal</b></p> |  <p>Page 12-162</p> <p><b>Vertical</b></p> |  <p>Page 12-163</p> <p><b>Counter catch for hook</b></p> |
|---|---|---|---|

**Hose clamp band width 9mm**



**Technical data**

| Type  | C (max.) | D | S   | Tightening torque in Nm (max.) |
|-------|----------|---|-----|--------------------------------|
| 8-14  | 12       | 9 | 0,8 | 3,5                            |
| 8-16  | 14       | 9 | 0,6 | 3                              |
| 11-17 | 12       | 9 | 0,8 | 3,5                            |
| 12-22 | 14       | 9 | 0,6 | 3                              |
| 13-20 | 12       | 9 | 0,8 | 4                              |
| 15-24 | 12       | 9 | 0,8 | 4                              |
| 16-27 | 14       | 9 | 0,7 | 3,5                            |
| 19-28 | 12       | 9 | 0,8 | 4                              |
| 20-32 | 14       | 9 | 0,7 | 3,5                            |
| 22-32 | 12       | 9 | 0,8 | 4                              |
| 25-40 | 14       | 9 | 0,7 | 4                              |
| 26-38 | 12       | 9 | 0,8 | 4,5                            |
| 32-44 | 12       | 9 | 0,8 | 4,5                            |
| 32-50 | 14       | 9 | 0,7 | 4                              |
| 38-50 | 12       | 9 | 0,8 | 4,5                            |
| 40-60 | 14       | 9 | 0,7 | 4                              |
| 44-56 | 12       | 9 | 0,8 | 4,5                            |
| 50-65 | 12       | 9 | 0,8 | 4,5                            |
| 50-70 | 14       | 9 | 0,7 | 4                              |
| 58-75 | 12       | 9 | 0,8 | 4,5                            |
| 68-85 | 12       | 9 | 0,8 | 4,5                            |

- The type number displays the minimum and maximum grip range.

**Article groups**

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| St       | Zipl              | Standard  | 30650 | 12-5 |
| St       | Zipl              | Standard  | 43081 | 12-6 |
| St       | Zipl              | Large     | 43080 | 12-6 |

**30650 MAXXFAST Hose clamp band width 9mm**

**MF60**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE



| Grip range | ✉  | Art.number                    | Grip range | ✉  | Art.number                    | Grip range | ✉  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 8-16MM     | 50 | <a href="#">30650.008.016</a> | 20-32MM    | 50 | <a href="#">30650.020.032</a> | 40-60MM    | 25 | <a href="#">30650.040.060</a> |
| 12-22MM    | 50 | <a href="#">30650.012.022</a> | 25-40MM    | 50 | <a href="#">30650.025.040</a> | 50-70MM    | 25 | <a href="#">30650.050.070</a> |
| 16-27MM    | 50 | <a href="#">30650.016.027</a> | 32-50MM    | 25 | <a href="#">30650.032.050</a> |            |    |                               |

|                          |                                      |   |
|--------------------------|--------------------------------------|---|
| <b>43081</b>             | <b>ABA Hose clamp band width 9mm</b> | <b>Y01A</b>   |
| <b>Material</b>          | Steel                                |   |
| <b>Surface treatment</b> | Zinc plated                          |   |
| <b>Packaging</b>         | Standard                             |   |

Special features of ABA hose clamps:

- with the **BLUE** one piece pressed housing (ABA patent)
- rolled-up band edges, no damage of the hose
- smooth band underside that protects the hose
- easy to install and to loosen due to the hexagon slotted head
- re-usable many times



| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 8-14MM     | 10 | <a href="#">43081.008.014</a> | 11-17MM    | 10 | <a href="#">43081.011.017</a> | 13-20MM    | 10 | <a href="#">43081.013.020</a> |

|                          |                                      |  |
|--------------------------|--------------------------------------|--|
| <b>43080</b>             | <b>ABA Hose clamp band width 9mm</b> | <b>Y01A</b>  |
| <b>Material</b>          | Steel                                |   |
| <b>Surface treatment</b> | Zinc plated                          |  |
| <b>Packaging</b>         | Large                                |  |

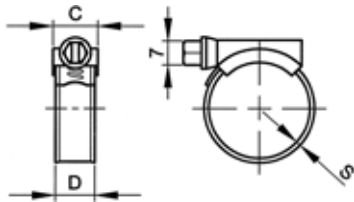
Special features of ABA hose clamps:

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- rolled-up band edges, no damage of the hose
- smooth band underside that protects the hose
- easy to install and to loosen due to the hexagon slotted head
- re-usable many times



| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 8-14MM     | 50 | <a href="#">43080.008.014</a> | 22-32MM    | 50 | <a href="#">43080.022.032</a> | 50-65MM    | 50 | <a href="#">43080.050.065</a> |
| 11-17MM    | 50 | <a href="#">43080.011.017</a> | 26-38MM    | 50 | <a href="#">43080.026.038</a> | 58-75MM    | 25 | <a href="#">43080.058.075</a> |
| 13-20MM    | 50 | <a href="#">43080.013.020</a> | 32-44MM    | 50 | <a href="#">43080.032.044</a> | 68-85MM    | 25 | <a href="#">43080.068.085</a> |
| 15-24MM    | 50 | <a href="#">43080.015.024</a> | 38-50MM    | 50 | <a href="#">43080.038.050</a> |            |    |                               |
| 19-28MM    | 50 | <a href="#">43080.019.028</a> | 44-56MM    | 50 | <a href="#">43080.044.056</a> |            |    |                               |

## Hose clamp band width 12mm



### Technical data

| Type    | C (max.) | D    | S   | Tightening torque in Nm (max.) |
|---------|----------|------|-----|--------------------------------|
| 13-20   | 17       | 12   | 0,8 | 5                              |
| 15-24   | 17       | 12   | 0,8 | 5                              |
| 16-27   | 18       | 12,2 | 0,8 | 4,2                            |
| 19-28   | 17       | 12   | 0,8 | 5                              |
| 20-32   | 18       | 12,2 | 0,8 | 5,2                            |
| 22-32   | 17       | 12   | 0,8 | 5                              |
| 25-40   | 18       | 12,2 | 0,8 | 5,2                            |
| 26-38   | 17       | 12   | 0,8 | 5                              |
| 32-44   | 17       | 12   | 1   | 6                              |
| 32-50   | 18       | 12,2 | 0,8 | 6                              |
| 38-50   | 17       | 12   | 1   | 6                              |
| 40-60   | 18       | 12,2 | 0,8 | 6                              |
| 44-56   | 17       | 12   | 1   | 6                              |
| 50-65   | 17       | 12   | 1   | 6                              |
| 50-70   | 18       | 12,2 | 0,8 | 6,8                            |
| 58-75   | 17       | 12   | 1   | 6                              |
| 60-80   | 18       | 12,2 | 0,8 | 6,8                            |
| 68-85   | 17       | 12   | 1   | 6                              |
| 70-90   | 18       | 12,2 | 0,8 | 6,8                            |
| 77-95   | 17       | 12   | 1   | 6                              |
| 80-100  | 18       | 12,2 | 0,8 | 6,8                            |
| 87-112  | 17       | 12   | 1   | 6                              |
| 90-110  | 18       | 12,2 | 0,8 | 6,8                            |
| 104-138 | 17       | 12   | 1   | 6                              |
| 130-165 | 17       | 12   | 1   | 6                              |
| 150-180 | 17       | 12   | 1   | 6                              |
| 175-205 | 17       | 12   | 1   | 6                              |
| 200-231 | 17       | 12   | 1   | 6                              |
| 226-256 | 17       | 12   | 1   | 6                              |
| 251-282 | 17       | 12   | 1   | 6                              |
| 277-307 | 17       | 12   | 1   | 6                              |

- The type number displays the minimum and maximum grip range.

### Article groups

| Material | Surface treatment | Packaging | Code  | Page |
|----------|-------------------|-----------|-------|------|
| St       | Zipl              | Standard  | 30660 | 12-7 |
| St       | Zipl              | Large     | 43010 | 12-8 |
| St       | Zipl              | Standard  | 43011 | 12-8 |

#### 30660 MAXXFAST Hose clamp band width 12mm

**MF60**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard


**MAXXFAST**  
PROFESSIONAL HARDWARE



| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 16-27MM    | 50 | <a href="#">30660.016.027</a> | 40-60MM    | 25 | <a href="#">30660.040.060</a> | 80-100MM   | 10 | <a href="#">30660.080.100</a> |
| 20-32MM    | 50 | <a href="#">30660.020.032</a> | 50-70MM    | 25 | <a href="#">30660.050.070</a> | 90-110MM   | 10 | <a href="#">30660.090.110</a> |
| 25-40MM    | 50 | <a href="#">30660.025.040</a> | 60-80MM    | 25 | <a href="#">30660.060.080</a> |            |    |                               |
| 32-50MM    | 50 | <a href="#">30660.032.050</a> | 70-90MM    | 10 | <a href="#">30660.070.090</a> |            |    |                               |

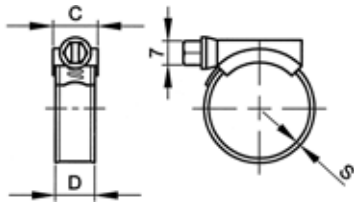
|                          |                                       |   |
|--------------------------|---------------------------------------|---|
| <b>43010</b>             | <b>ABA Hose clamp band width 12mm</b> | <b>Y01A</b>   |
| <b>Material</b>          | Steel                                 |   |
| <b>Surface treatment</b> | Zinc plated                           |   |
| <b>Packaging</b>         | Large                                 |   |

| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 15-24MM    | 50 | <a href="#">43010.015.024</a> | 50-65MM    | 50 | <a href="#">43010.050.065</a> | 150-180MM  | 10 | <a href="#">43010.150.180</a> |
| 19-28MM    | 50 | <a href="#">43010.019.028</a> | 58-75MM    | 25 | <a href="#">43010.058.075</a> | 175-205MM  | 10 | <a href="#">43010.175.205</a> |
| 22-32MM    | 50 | <a href="#">43010.022.032</a> | 68-85MM    | 25 | <a href="#">43010.068.085</a> | 200-231MM  | 10 | <a href="#">43010.200.231</a> |
| 26-38MM    | 50 | <a href="#">43010.026.038</a> | 77-95MM    | 25 | <a href="#">43010.077.095</a> | 226-256MM  | 10 | <a href="#">43010.226.256</a> |
| 32-44MM    | 50 | <a href="#">43010.032.044</a> | 87-112MM   | 25 | <a href="#">43010.087.112</a> | 251-282MM  | 10 | <a href="#">43010.251.282</a> |
| 38-50MM    | 50 | <a href="#">43010.038.050</a> | 104-138MM  | 25 | <a href="#">43010.104.138</a> | 277-307MM  | 10 | <a href="#">43010.277.307</a> |
| 44-56MM    | 50 | <a href="#">43010.044.056</a> | 130-165MM  | 25 | <a href="#">43010.130.165</a> |            |    |                               |

|                          |                                       |   |
|--------------------------|---------------------------------------|---|
| <b>43011</b>             | <b>ABA Hose clamp band width 12mm</b> | <b>Y01A</b>   |
| <b>Material</b>          | Steel                                 |   |
| <b>Surface treatment</b> | Zinc plated                           |   |
| <b>Packaging</b>         | Standard                              |   |

| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 15-24MM    | 10 | <a href="#">43011.015.024</a> | 38-50MM    | 10 | <a href="#">43011.038.050</a> | 77-95MM    | 10 | <a href="#">43011.077.095</a> |
| 19-28MM    | 10 | <a href="#">43011.019.028</a> | 44-56MM    | 10 | <a href="#">43011.044.056</a> | 87-112MM   | 10 | <a href="#">43011.087.112</a> |
| 22-32MM    | 10 | <a href="#">43011.022.032</a> | 50-65MM    | 10 | <a href="#">43011.050.065</a> | 104-138MM  | 10 | <a href="#">43011.104.138</a> |
| 26-38MM    | 10 | <a href="#">43011.026.038</a> | 58-75MM    | 10 | <a href="#">43011.058.075</a> | 130-165MM  | 10 | <a href="#">43011.130.165</a> |
| 32-44MM    | 10 | <a href="#">43011.032.044</a> | 68-85MM    | 10 | <a href="#">43011.068.085</a> |            |    |                               |

## Hose clamp band width 12mm A2



### Technical data

| Type    | C (max.) | D    | S   | Tightening torque in Nm (max.) |
|---------|----------|------|-----|--------------------------------|
| 15-24   | 17       | 12   | 0,8 | 5                              |
| 16-27   | 18       | 12,2 | 0,8 | 4,6                            |
| 19-28   | 17       | 12   | 0,8 | 5                              |
| 20-32   | 18       | 12,2 | 0,8 | 5,6                            |
| 22-32   | 17       | 12   | 0,8 | 5                              |
| 25-40   | 18       | 12,2 | 0,8 | 5,6                            |
| 26-38   | 17       | 12   | 0,8 | 5                              |
| 32-44   | 17       | 12   | 0,8 | 6                              |
| 32-50   | 18       | 12,2 | 0,8 | 6,5                            |
| 38-50   | 17       | 12   | 0,8 | 6                              |
| 40-60   | 18       | 12,2 | 0,8 | 6,5                            |
| 44-56   | 17       | 12   | 0,8 | 6                              |
| 50-65   | 17       | 12   | 0,8 | 6                              |
| 50-70   | 18       | 12,2 | 0,8 | 7                              |
| 58-75   | 17       | 12   | 0,8 | 6                              |
| 68-85   | 17       | 12   | 0,8 | 6                              |
| 77-95   | 17       | 12   | 0,8 | 6                              |
| 87-112  | 17       | 12   | 0,8 | 6                              |
| 104-138 | 17       | 12   | 0,8 | 6                              |
| 130-165 | 17       | 12   | 0,8 | 6                              |
| 150-180 | 17       | 12   | 0,8 | 6                              |
| 175-205 | 17       | 12   | 0,8 | 6                              |
| 200-231 | 17       | 12   | 0,8 | 6                              |
| 226-256 | 17       | 12   | 0,8 | 6                              |
| 251-282 | 17       | 12   | 0,8 | 6                              |
| 277-307 | 17       | 12   | 0,8 | 6                              |

- The type number displays the minimum and maximum grip range.

### Article groups

| Material  | Packaging | Code  | Page  |
|-----------|-----------|-------|-------|
| St.St. A2 | Standard  | 30664 | 12-9  |
| St.St. A2 | Standard  | 43020 | 12-10 |

30664 MAXXFAST Hose clamp band width 12mm A2

MF60

**Material** Stainless steel A2  
**Packaging** Standard

**MAXXFAST**  
PROFESSIONAL HARDWARE

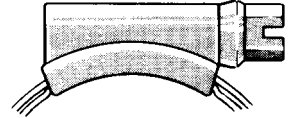
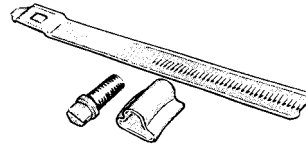
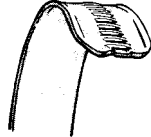
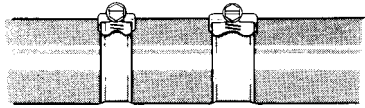


| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 16-27MM    | 10 | <a href="#">30664.016.027</a> | 25-40MM    | 10 | <a href="#">30664.025.040</a> | 40-60MM    | 10 | <a href="#">30664.040.060</a> |
| 20-32MM    | 10 | <a href="#">30664.020.032</a> | 32-50MM    | 10 | <a href="#">30664.032.050</a> | 50-70MM    | 10 | <a href="#">30664.050.070</a> |

|   |                    |   |
|---|--------------------|---|
| <b>43020 ABA Hose clamp band width 12mm</b> |                    | <b>Y03A</b>   |
| <b>Material</b>                             | Stainless steel A2 |   |
| <b>Packaging</b>                            | Standard           |   |

Special features of ABA hose clamps:

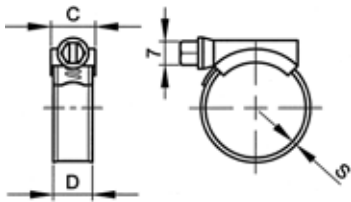
- with the one piece pressed stainless steel housing (ABA patent)
- rolled-up band edges, no damage of the hose
- smooth band underside that protects the hose
- easy to install and to loosen due to the hexagon slotted head
- re-usable many times



| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒ | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|---|-------------------------------|
| 15-24MM    | 10 | <a href="#">43020.015.024</a> | 50-65MM    | 10 | <a href="#">43020.050.065</a> | 150-180MM  | 5 | <a href="#">43020.150.180</a> |
| 19-28MM    | 10 | <a href="#">43020.019.028</a> | 58-75MM    | 10 | <a href="#">43020.058.075</a> | 175-205MM  | 5 | <a href="#">43020.175.205</a> |
| 22-32MM    | 10 | <a href="#">43020.022.032</a> | 68-85MM    | 10 | <a href="#">43020.068.085</a> | 200-231MM  | 5 | <a href="#">43020.200.231</a> |
| 26-38MM    | 10 | <a href="#">43020.026.038</a> | 77-95MM    | 10 | <a href="#">43020.077.095</a> | 226-256MM  | 5 | <a href="#">43020.226.256</a> |
| 32-44MM    | 10 | <a href="#">43020.032.044</a> | 87-112MM   | 5  | <a href="#">43020.087.112</a> | 251-282MM  | 3 | <a href="#">43020.251.282</a> |
| 38-50MM    | 10 | <a href="#">43020.038.050</a> | 104-138MM  | 5  | <a href="#">43020.104.138</a> | 277-307MM  | 3 | <a href="#">43020.277.307</a> |
| 44-56MM    | 10 | <a href="#">43020.044.056</a> | 130-165MM  | 5  | <a href="#">43020.130.165</a> |            |   |                               |



## Hose clamp A4



### Technical data

| Type    | C  | D  | S | Tightening torque in Nm |
|---------|----|----|---|-------------------------|
| 8-14    | 13 | 9  | 1 | 2,5-3,5                 |
| 11-17   | 19 | 9  | 1 | 2,5-3,5                 |
| 13-20   | 19 | 9  | 1 | 2,5-3,5                 |
| 15-24   | 19 | 12 | 1 | 2,5-3,5                 |
| 19-28   | 19 | 12 | 1 | 2,5-3,5                 |
| 22-32   | 19 | 12 | 1 | 2,5-3,5                 |
| 26-38   | 19 | 12 | 1 | 3,5-4,5                 |
| 32-44   | 19 | 12 | 1 | 3,5-4,5                 |
| 38-50   | 19 | 12 | 1 | 3,5-4,5                 |
| 44-56   | 19 | 12 | 1 | 5-6                     |
| 50-65   | 19 | 12 | 1 | 5-6                     |
| 58-75   | 19 | 12 | 1 | 5-6                     |
| 68-85   | 19 | 12 | 1 | 5-6                     |
| 77-95   | 19 | 12 | 1 | 5-6                     |
| 87-112  | 19 | 12 | 1 | 5-6                     |
| 104-138 | 19 | 12 | 1 | 5-6                     |
| 130-165 | 19 | 12 | 1 | 5-6                     |
| 150-180 | 19 | 12 | 1 | 5-6                     |
| 175-205 | 19 | 12 | 1 | 5-6                     |
| 200-231 | 19 | 12 | 1 | 5-6                     |
| 226-256 | 19 | 12 | 1 | 5-6                     |
| 251-282 | 19 | 12 | 1 | 5-6                     |
| 277-307 | 19 | 12 | 1 | 5-6                     |

- The type number displays the minimum and maximum grip range.

#### 43019 AWAB Hose clamp

Y03A

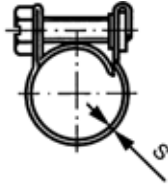
**Material** Stainless steel A4  
**Packaging** Standard

**ABA**



| Grip range     | ☒  | Art.number                    | Grip range       | ☒  | Art.number                    | Grip range       | ☒ | Art.number                    |
|----------------|----|-------------------------------|------------------|----|-------------------------------|------------------|---|-------------------------------|
| 8-14MM D= 9MM  | 10 | <a href="#">43019.008.014</a> | 38-50MM D=12MM   | 10 | <a href="#">43019.038.050</a> | 130-165MM D=12MM | 5 | <a href="#">43019.130.165</a> |
| 11-17MM D= 9MM | 10 | <a href="#">43019.011.017</a> | 44-56MM D=12MM   | 10 | <a href="#">43019.044.056</a> | 150-180MM D=12MM | 5 | <a href="#">43019.150.181</a> |
| 13-20MM D= 9MM | 10 | <a href="#">43019.013.020</a> | 50-65MM D=12MM   | 10 | <a href="#">43019.050.065</a> | 175-205MM D=12MM | 5 | <a href="#">43019.180.206</a> |
| 15-24MM D=12MM | 10 | <a href="#">43019.015.024</a> | 58-75MM D=12MM   | 10 | <a href="#">43019.058.075</a> | 200-231MM D=12MM | 5 | <a href="#">43019.205.232</a> |
| 19-28MM D=12MM | 10 | <a href="#">43019.019.028</a> | 68-85MM D=12MM   | 10 | <a href="#">43019.068.085</a> | 226-256MM D=12MM | 5 | <a href="#">43019.231.257</a> |
| 22-32MM D=12MM | 10 | <a href="#">43019.022.032</a> | 77-95MM D=12MM   | 10 | <a href="#">43019.077.095</a> | 251-282MM D=12MM | 3 | <a href="#">43019.256.283</a> |
| 26-38MM D=12MM | 10 | <a href="#">43019.026.038</a> | 87-112MM D=12MM  | 5  | <a href="#">43019.087.112</a> | 277-307MM D=12MM | 3 | <a href="#">43019.282.308</a> |
| 32-44MM D=12MM | 10 | <a href="#">43019.032.044</a> | 104-138MM D=12MM | 5  | <a href="#">43019.104.138</a> |                  |   |                               |

## Hose clamp Mini



### Technical data

| No.   | Grip range (min.) | Grip range (max.) | D | S   | Tightening torque in Nm |
|-------|-------------------|-------------------|---|-----|-------------------------|
| No.8  | 6                 | 8                 | 9 | 0,5 | 1,5                     |
| No.9  | 7                 | 9                 | 9 | 0,5 | 1,5                     |
| No.10 | 8                 | 10                | 9 | 0,5 | 1,5                     |
| No.11 | 9                 | 11                | 9 | 0,5 | 1,5                     |
| No.12 | 9                 | 12                | 9 | 0,5 | 1,5                     |
| No.13 | 10                | 13                | 9 | 0,5 | 1,5                     |
| No.14 | 11                | 14                | 9 | 0,5 | 1,5                     |
| No.15 | 12                | 15                | 9 | 0,5 | 1,5                     |
| No.16 | 13                | 16                | 9 | 0,5 | 1,5                     |
| No.17 | 14                | 17                | 9 | 0,5 | 1,5                     |

- ABA MINI hose clamps: sure seal of small thin-walled hoses, easy to assemble and with a fixed nut.

### Article groups

| Material  | Surface treatment | Packaging | Code  | Page  |
|-----------|-------------------|-----------|-------|-------|
| St.St. A2 |                   | Standard  | 43062 | 12-12 |
| St        | Zipl              | Standard  | 43063 | 12-12 |

#### 43062 ABA MINI Hose clamp

Y03A

|                  |                    |
|------------------|--------------------|
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |

**ABA**



| No.   | ☒  | Art.number                    | No.   | ☒  | Art.number                    | No.   | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| No.8  | 25 | <a href="#">43062.000.008</a> | No.12 | 25 | <a href="#">43062.000.012</a> | No.16 | 25 | <a href="#">43062.000.016</a> |
| No.9  | 25 | <a href="#">43062.000.009</a> | No.13 | 25 | <a href="#">43062.000.013</a> | No.17 | 25 | <a href="#">43062.000.017</a> |
| No.10 | 25 | <a href="#">43062.000.010</a> | No.14 | 25 | <a href="#">43062.000.014</a> |       |    |                               |
| No.11 | 25 | <a href="#">43062.000.011</a> | No.15 | 25 | <a href="#">43062.000.015</a> |       |    |                               |

#### 43063 ABA MINI Hose clamp

Y03A

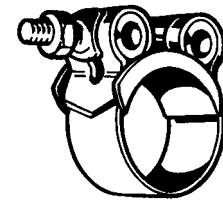
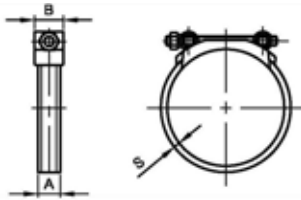
|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

**ABA**



| No.   | ☒  | Art.number                    | No.   | ☒  | Art.number                    | No.   | ☒  | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|-------|----|-------------------------------|
| No.8  | 25 | <a href="#">43063.000.008</a> | No.12 | 25 | <a href="#">43063.000.012</a> | No.16 | 25 | <a href="#">43063.000.016</a> |
| No.9  | 25 | <a href="#">43063.000.009</a> | No.13 | 25 | <a href="#">43063.000.013</a> | No.17 | 25 | <a href="#">43063.000.017</a> |
| No.10 | 25 | <a href="#">43063.000.010</a> | No.14 | 25 | <a href="#">43063.000.014</a> |       |    |                               |
| No.11 | 25 | <a href="#">43063.000.011</a> | No.15 | 25 | <a href="#">43063.000.015</a> |       |    |                               |

## Robust hose clamp stainless steel A4



### Technical data

| Type  | A  | B    | S   | Type    | A  | B    | S   | Type    | A  | B    | S   |
|-------|----|------|-----|---------|----|------|-----|---------|----|------|-----|
| 29-31 | 18 | 19,8 | 0,6 | 64-67   | 25 | 24,5 | 1   | 122-130 | 25 | 26,5 | 1,2 |
| 32-35 | 20 | 19,8 | 1   | 68-73   | 25 | 26,5 | 1   | 131-139 | 25 | 29   | 1,2 |
| 36-39 | 20 | 22   | 1   | 74-79   | 25 | 26,5 | 1   | 140-148 | 25 | 29   | 1,2 |
| 40-43 | 20 | 22   | 1   | 80-85   | 25 | 26,5 | 1,2 | 149-161 | 25 | 29   | 1,5 |
| 44-47 | 20 | 24,5 | 1   | 86-91   | 25 | 26,5 | 1,2 | 162-174 | 25 | 29   | 1,5 |
| 48-51 | 20 | 24,5 | 1   | 92-97   | 25 | 26,5 | 1,2 | 175-187 | 25 | 29   | 1,5 |
| 52-55 | 20 | 24,5 | 1   | 98-103  | 25 | 26,5 | 1,2 | 188-200 | 25 | 29   | 1,5 |
| 56-59 | 20 | 24,5 | 1   | 104-112 | 25 | 26,5 | 1,2 | 201-213 | 25 | 29   | 1,5 |
| 60-63 | 20 | 24,5 | 1   | 113-121 | 25 | 26,5 | 1,2 | 214-226 | 25 | 29   | 1,5 |

- ABA ROBUST is a heavy-duty hose clamp with rolled-up band edges. It is used primarily for tightening heavy-gauge reinforced hoses.
- The type number displays the minimum and maximum grip range.

### Assembly data



### Article groups

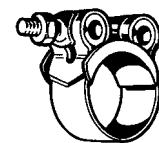
| Material       | Packaging | Code  | Page  |
|----------------|-----------|-------|-------|
| St.St. A4      | Standard  | 43024 | 12-13 |
| St.St. AISI430 | Standard  | 43033 | 12-14 |

### 43024 ABA ROBUST Hose clamp

Y03A

Material: Stainless steel A4  
Packaging: Standard

**ABA**



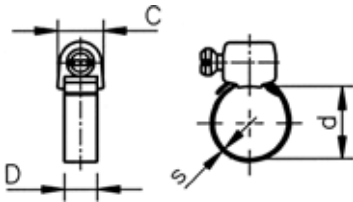
| Grip range | ✉  | Art.number                    | Grip range | ✉  | Art.number                    | Grip range | ✉ | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|---|-------------------------------|
| 29-31MM    | 10 | <a href="#">43024.029.031</a> | 64-67MM    | 10 | <a href="#">43024.064.067</a> | 122-130MM  | 5 | <a href="#">43024.122.130</a> |
| 32-35MM    | 10 | <a href="#">43024.032.035</a> | 68-73MM    | 10 | <a href="#">43024.068.073</a> | 131-139MM  | 5 | <a href="#">43024.131.139</a> |
| 36-39MM    | 10 | <a href="#">43024.036.039</a> | 74-79MM    | 10 | <a href="#">43024.074.079</a> | 140-148MM  | 3 | <a href="#">43024.140.148</a> |
| 40-43MM    | 10 | <a href="#">43024.040.043</a> | 80-85MM    | 10 | <a href="#">43024.080.085</a> | 149-161MM  | 3 | <a href="#">43024.149.161</a> |
| 44-47MM    | 10 | <a href="#">43024.044.047</a> | 86-91MM    | 5  | <a href="#">43024.086.091</a> | 162-174MM  | 3 | <a href="#">43024.162.174</a> |
| 48-51MM    | 10 | <a href="#">43024.048.051</a> | 92-97MM    | 5  | <a href="#">43024.092.097</a> | 175-187MM  | 3 | <a href="#">43024.175.187</a> |
| 52-55MM    | 10 | <a href="#">43024.052.055</a> | 98-103MM   | 5  | <a href="#">43024.098.103</a> | 188-200MM  | 3 | <a href="#">43024.188.200</a> |
| 56-59MM    | 10 | <a href="#">43024.056.059</a> | 104-112MM  | 5  | <a href="#">43024.104.112</a> | 201-213MM  | 3 | <a href="#">43024.201.213</a> |
| 60-63MM    | 10 | <a href="#">43024.060.063</a> | 113-121MM  | 5  | <a href="#">43024.113.121</a> | 214-226MM  | 3 | <a href="#">43024.214.226</a> |

|   |                         |   |
|---|-------------------------|---|
| <b>43033 ABA Hose clamp Robust</b>  |                         | <b>Y03A</b>   |
| <b>Material</b>   | Stainless steel AISI430 |   |
| <b>Packaging</b>  | Standard                |   |
|  |                         |  |

| Type  | ✉  | Art.number                    | Type    | ✉  | Art.number                    | Type    | ✉ | Art.number                    |
|-------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| 29-31 | 25 | <a href="#">43033.029.031</a> | 68-73   | 25 | <a href="#">43033.068.073</a> | 139-146 | 5 | <a href="#">43033.139.146</a> |
| 31-34 | 25 | <a href="#">43033.031.034</a> | 73-79   | 25 | <a href="#">43033.073.079</a> | 146-153 | 5 | <a href="#">43033.146.153</a> |
| 34-37 | 25 | <a href="#">43033.034.037</a> | 79-85   | 25 | <a href="#">43033.079.085</a> | 153-160 | 5 | <a href="#">43033.153.160</a> |
| 37-40 | 25 | <a href="#">43033.037.040</a> | 85-91   | 10 | <a href="#">43033.085.091</a> | 160-167 | 5 | <a href="#">43033.160.167</a> |
| 40-43 | 25 | <a href="#">43033.040.043</a> | 91-97   | 10 | <a href="#">43033.091.097</a> | 167-174 | 5 | <a href="#">43033.167.174</a> |
| 43-47 | 25 | <a href="#">43033.043.047</a> | 97-104  | 10 | <a href="#">43033.097.104</a> | 174-187 | 5 | <a href="#">43033.174.187</a> |
| 47-51 | 25 | <a href="#">43033.047.051</a> | 104-111 | 10 | <a href="#">43033.104.111</a> | 187-200 | 5 | <a href="#">43033.187.200</a> |
| 51-55 | 25 | <a href="#">43033.051.055</a> | 111-118 | 10 | <a href="#">43033.111.118</a> | 200-213 | 5 | <a href="#">43033.200.213</a> |
| 55-59 | 25 | <a href="#">43033.055.059</a> | 118-125 | 10 | <a href="#">43033.118.125</a> | 213-226 | 5 | <a href="#">43033.213.226</a> |
| 59-63 | 25 | <a href="#">43033.059.063</a> | 125-132 | 5  | <a href="#">43033.125.132</a> | 226-239 | 5 | <a href="#">43033.226.239</a> |
| 63-68 | 25 | <a href="#">43033.063.068</a> | 132-139 | 5  | <a href="#">43033.132.139</a> | 239-252 | 5 | <a href="#">43033.239.252</a> |

- Material type: Tyre and bridging piece AISI 340 / screw and bolt steel.
- Surface treatment: Electrolytically galvanised screw and bolt.
- Up to type 40-43 with hexagonal bolt M6x40, 8mm A/F.
- Up to type 85-91 with hex socket screw M7x45, 5mm A/F.
- Up to type 167-174 with hex socket screw M7x55, 5mm A/F.
- Up to type 239-252 with hexagonal bolt M10x80, 17mm A/F.

## Hose clamp Micro



### Technical data

|                         |         |         |
|-------------------------|---------|---------|
| Type                    | 6-11    | 7-11    |
| C                       | 7,5     | 9       |
| D                       | 5       | 5,5     |
| s                       | 0,4     | 0,5     |
| Tightening torque in Nm | 0,5-0,7 | 0,5-0,7 |

- Material band stainless steel.
- The type number displays the minimum and maximum grip range.

#### 43065 ABA MICRO Hose clamp

Y03A

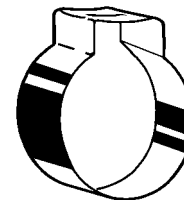
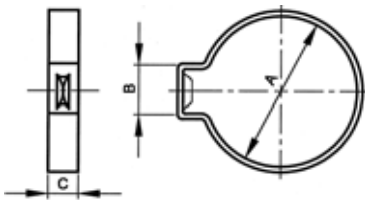
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

**ABA**



| Grip range | ✉  | Art.number                    | Grip range | ✉ | Art.number | Grip range | ✉ | Art.number |
|------------|----|-------------------------------|------------|---|------------|------------|---|------------|
| 7-11MM     | 25 | <a href="#">43065.007.011</a> |            |   |            |            |   |            |

## One-ear clip



### Technical data

|       |      |     |     |
|-------|------|-----|-----|
| Type  | A    | B   | C   |
| 10-12 | 12,3 | 7   | 6,5 |
| 12-14 | 14   | 7   | 6,5 |
| 14-16 | 16,5 | 8,5 | 7   |
| 16-18 | 18,5 | 9,5 | 7   |

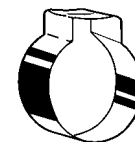
- Can be installed easily and quickly with pincer or ear clip plier.
- The typenumber amounts of the minimum and maximum grip range.

#### 43074 ABA One-ear clip

Y03A

**Material** Steel  
**Surface treatment** Galvanized thick Cr3+ passivated  
**Packaging** Standard

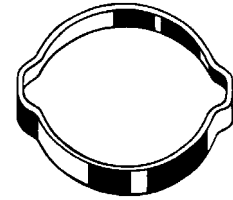
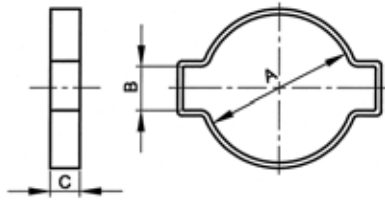
**ABA**



| Grip range | ✉  | Art.number                    | Grip range | ✉  | Art.number                    | Grip range | ✉ | Art.number |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|---|------------|
| 10-12MM    | 50 | <a href="#">43074.010.012</a> | 14-16MM    | 50 | <a href="#">43074.014.016</a> |            |   |            |
| 12-14MM    | 50 | <a href="#">43074.012.014</a> | 16-18MM    | 50 | <a href="#">43074.016.018</a> |            |   |            |

- Technical brochure available on request.

## Two-ear clip



### Technical data

| Type  | A    | B   | C   | Type  | A    | B   | C   | Type  | A    | B    | C   |
|-------|------|-----|-----|-------|------|-----|-----|-------|------|------|-----|
| 5-7   | 7,3  | 4,3 | 6   | 17-20 | 20,5 | 7,6 | 7,5 | 34-37 | 37,5 | 11,5 | 9,5 |
| 7-9   | 9,3  | 4,8 | 6   | 20-23 | 23,5 | 8,5 | 8   | 37-40 | 40,5 | 12   | 10  |
| 9-11  | 11,3 | 5,3 | 6,5 | 22-25 | 25,5 | 9,1 | 8,5 | 40-43 | 43,3 | 8,5  | 10  |
| 11-13 | 13,3 | 5,8 | 6,5 | 25-28 | 28,5 | 10  | 9   | 43-46 | 46,3 | 8,5  | 10  |
| 13-15 | 15,3 | 6,3 | 7   | 28-31 | 31,5 | 11  | 9,5 |       |      |      |     |
| 15-18 | 18,5 | 7   | 7,5 | 31-34 | 34,5 | 11  | 9,5 |       |      |      |     |

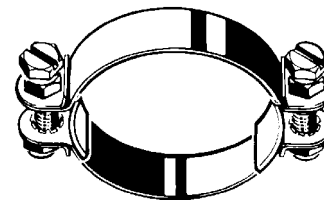
- Can be installed easily and quickly with pincer or ear clip plier.
- The typenumber amounts of the minimum and maximum griprange.

| 43076 ABA Two-ear clip   |                                  | Y03A   |
|--------------------------|----------------------------------|--|
| <b>Material</b>          | Steel                            |  |
| <b>Surface treatment</b> | Galvanized thick Cr3+ passivated |  |
| <b>Packaging</b>         | Standard                         |  |
| <b>ABA</b>               |                                  |  |

| Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    | Grip range | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 5-7MM      | 50 | <a href="#">43076.005.007</a> | 17-20MM    | 50 | <a href="#">43076.017.020</a> | 34-37MM    | 50 | <a href="#">43076.034.037</a> |
| 7-9MM      | 50 | <a href="#">43076.007.009</a> | 20-23MM    | 50 | <a href="#">43076.020.023</a> | 37-40MM    | 50 | <a href="#">43076.037.040</a> |
| 9-11MM     | 50 | <a href="#">43076.009.011</a> | 22-25MM    | 50 | <a href="#">43076.022.025</a> | 40-43MM    | 50 | <a href="#">43076.040.043</a> |
| 11-13MM    | 50 | <a href="#">43076.011.013</a> | 25-28MM    | 50 | <a href="#">43076.025.028</a> | 43-46MM    | 50 | <a href="#">43076.043.046</a> |
| 13-15MM    | 50 | <a href="#">43076.013.015</a> | 28-31MM    | 50 | <a href="#">43076.028.031</a> |            |    |                               |
| 15-18MM    | 50 | <a href="#">43076.015.018</a> | 31-34MM    | 50 | <a href="#">43076.031.034</a> |            |    |                               |

- Technical brochure available on request.

## Hose clamp two parts



### Technical data

| Type  | B  | S | Type    | B  | S    | Type    | B  | S    |
|-------|----|---|---------|----|------|---------|----|------|
| 33-39 | 20 | 1 | 89-97   | 20 | 1    | 156-166 | 25 | 1,25 |
| 37-43 | 20 | 1 | 95-103  | 20 | 1    | 166-176 | 25 | 1,25 |
| 43-49 | 20 | 1 | 97-105  | 20 | 1    | 176-186 | 25 | 1,25 |
| 49-55 | 20 | 1 | 96-106  | 25 | 1,25 | 186-196 | 25 | 1,25 |
| 55-63 | 20 | 1 | 102-112 | 25 | 1,25 | 196-206 | 25 | 1,25 |
| 61-69 | 20 | 1 | 106-116 | 25 | 1,25 | 208-218 | 25 | 1,25 |
| 67-75 | 20 | 1 | 112-122 | 25 | 1,25 | 218-228 | 25 | 1,25 |
| 73-81 | 20 | 1 | 118-128 | 25 | 1,25 | 228-238 | 25 | 1,25 |
| 79-87 | 20 | 1 | 126-136 | 25 | 1,25 | 238-248 | 25 | 1,25 |
| 85-93 | 20 | 1 | 136-146 | 25 | 1,25 | 146-156 | 25 | 1,25 |

- Band steel heavy zinc plated with a layer thickness of min. 18µm.
- The type number displays the minimum and maximum grip range.

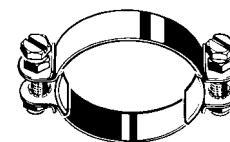
### Article groups

| Material | Surface treatment | Packaging        | Code  | Page  |
|----------|-------------------|------------------|-------|-------|
| St       | Zipl              | B=20<br>Standard | 43025 | 12-17 |
| St       | Zipl              | B=25<br>Standard | 43026 | 12-17 |

#### 43025 Hose clamp two parts

Y03A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |

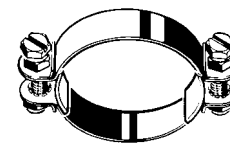


| Type    | ☒ | Art.number                    | Type    | ☒ | Art.number                    | Type     | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|----------|---|-------------------------------|
| 33-39MM | 5 | <a href="#">43025.033.039</a> | 61-69MM | 5 | <a href="#">43025.061.069</a> | 89-97MM  | 5 | <a href="#">43025.089.097</a> |
| 37-43MM | 5 | <a href="#">43025.037.043</a> | 67-75MM | 5 | <a href="#">43025.067.075</a> | 95-103MM | 5 | <a href="#">43025.095.103</a> |
| 43-49MM | 5 | <a href="#">43025.043.049</a> | 73-81MM | 5 | <a href="#">43025.073.081</a> | 97-105MM | 5 | <a href="#">43025.097.105</a> |
| 49-55MM | 5 | <a href="#">43025.049.055</a> | 79-87MM | 5 | <a href="#">43025.079.087</a> |          |   |                               |
| 55-63MM | 5 | <a href="#">43025.055.063</a> | 85-93MM | 5 | <a href="#">43025.085.093</a> |          |   |                               |

#### 43026 Hose clamp two parts

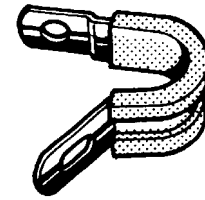
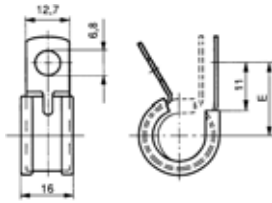
Y03A

|                          |             |
|--------------------------|-------------|
| <b>Material</b>          | Steel       |
| <b>Surface treatment</b> | Zinc plated |
| <b>Packaging</b>         | Standard    |



| Type      | ☒ | Art.number                    | Type      | ☒ | Art.number                    | Type      | ☒ | Art.number                    |
|-----------|---|-------------------------------|-----------|---|-------------------------------|-----------|---|-------------------------------|
| 96-106MM  | 2 | <a href="#">43026.096.106</a> | 136-146MM | 2 | <a href="#">43026.136.146</a> | 196-206MM | 1 | <a href="#">43026.196.206</a> |
| 102-112MM | 2 | <a href="#">43026.102.112</a> | 146-156MM | 2 | <a href="#">43026.146.156</a> | 208-218MM | 1 | <a href="#">43026.208.218</a> |
| 106-116MM | 2 | <a href="#">43026.106.116</a> | 156-166MM | 2 | <a href="#">43026.156.166</a> | 218-228MM | 1 | <a href="#">43026.218.228</a> |
| 112-122MM | 2 | <a href="#">43026.112.122</a> | 166-176MM | 2 | <a href="#">43026.166.176</a> | 228-238MM | 1 | <a href="#">43026.228.238</a> |
| 118-128MM | 2 | <a href="#">43026.118.128</a> | 176-186MM | 1 | <a href="#">43026.176.186</a> | 238-248MM | 1 | <a href="#">43026.238.248</a> |
| 126-136MM | 2 | <a href="#">43026.126.136</a> | 186-196MM | 1 | <a href="#">43026.186.196</a> |           |   |                               |

## Rubber lined clip



### Technical data

| Type | Pipe ø | E    | Type | Pipe ø | E    | Type | Pipe ø | E    |
|------|--------|------|------|--------|------|------|--------|------|
| 300  | 3      | 14,6 | 309  | 18     | 21,8 | 318  | 32     | 29,4 |
| 301  | 5      | 15,4 | 310  | 19     | 22,6 | 319  | 33     | 30,2 |
| 302  | 6      | 16,2 | 311  | 21     | 23,4 | 320  | 35     | 31   |
| 303  | 8      | 17   | 312  | 22     | 24,2 | 321  | 37     | 31,8 |
| 304  | 10     | 17,8 | 313  | 24     | 25   | 322  | 38     | 32,6 |
| 305  | 11     | 18,6 | 314  | 25     | 25,8 | 323  | 45     | 38   |
| 306  | 13     | 19,4 | 315  | 27     | 27,1 | 325  | 54     | 45,5 |
| 307  | 14     | 20,2 | 316  | 29     | 27,9 | 326  | 41     | 34   |
| 308  | 16     | 21   | 317  | 30     | 28,6 | 329  | 60     | 43,5 |

- Special features of ABA rubber lined clips:
- With rubber (EPDM) profile
- High resistance to water, wear, temperature fluctuations and ageing
- Especially for vibration-damping suspension of pipes, cables, cable circuits and hoses etc.

### Article groups

| Material | Surface treatment | Packaging | Code  | Page  |
|----------|-------------------|-----------|-------|-------|
| St       | Hot d.g.          | Standard  | 43111 | 12-18 |
| St       | Hot d.g.          | Large     | 43110 | 12-18 |

| 43111 ABA Rubber lined clip |                    | Y03A  |
|-----------------------------|--------------------|---|
| <b>Material</b>             | Steel              |   |
| <b>Surface treatment</b>    | Hot dip galvanized |   |
| <b>Packaging</b>            | Standard           |   |
| <b>ABA</b>                  |                    |  |

| Type-pipe ø | ☒  | Art.number                    | Type-pipe ø | ☒  | Art.number                    | Type-pipe ø | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 300-3MM     | 25 | <a href="#">43111.000.300</a> | 305-11MM    | 25 | <a href="#">43111.000.305</a> | 310-19MM    | 25 | <a href="#">43111.000.310</a> |
| 301-5MM     | 25 | <a href="#">43111.000.301</a> | 306-13MM    | 25 | <a href="#">43111.000.306</a> | 311-21MM    | 25 | <a href="#">43111.000.311</a> |
| 302-6MM     | 25 | <a href="#">43111.000.302</a> | 307-14MM    | 25 | <a href="#">43111.000.307</a> | 312-22MM    | 25 | <a href="#">43111.000.312</a> |
| 303-8MM     | 25 | <a href="#">43111.000.303</a> | 308-16MM    | 25 | <a href="#">43111.000.308</a> |             |    |                               |
| 304-10MM    | 25 | <a href="#">43111.000.304</a> | 309-18MM    | 25 | <a href="#">43111.000.309</a> |             |    |                               |

| 43110 ABA Rubber lined clip |                    | Y03A  |
|-----------------------------|--------------------|---|
| <b>Material</b>             | Steel              |   |
| <b>Surface treatment</b>    | Hot dip galvanized |   |
| <b>Packaging</b>            | Large              |   |
| <b>ABA</b>                  |                    |  |

| Type-pipe ø | ☒   | Art.number                    | Type-pipe ø | ☒  | Art.number                    | Type-pipe ø | ☒  | Art.number                    |
|-------------|-----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 300-3MM     | 100 | <a href="#">43110.000.300</a> | 309-18MM    | 50 | <a href="#">43110.000.309</a> | 318-32MM    | 50 | <a href="#">43110.000.318</a> |
| 301-5MM     | 100 | <a href="#">43110.000.301</a> | 310-19MM    | 50 | <a href="#">43110.000.310</a> | 319-33MM    | 50 | <a href="#">43110.000.319</a> |
| 302-6MM     | 100 | <a href="#">43110.000.302</a> | 311-21MM    | 50 | <a href="#">43110.000.311</a> | 320-35MM    | 50 | <a href="#">43110.000.320</a> |
| 303-8MM     | 100 | <a href="#">43110.000.303</a> | 312-22MM    | 50 | <a href="#">43110.000.312</a> | 321-37MM    | 50 | <a href="#">43110.000.321</a> |
| 304-10MM    | 100 | <a href="#">43110.000.304</a> | 313-24MM    | 50 | <a href="#">43110.000.313</a> | 322-38MM    | 50 | <a href="#">43110.000.322</a> |
| 305-11MM    | 100 | <a href="#">43110.000.305</a> | 314-25MM    | 50 | <a href="#">43110.000.314</a> | 323-45MM    | 50 | <a href="#">43110.000.323</a> |
| 306-13MM    | 100 | <a href="#">43110.000.306</a> | 315-27MM    | 50 | <a href="#">43110.000.315</a> | 325-54MM    | 50 | <a href="#">43110.000.325</a> |
| 307-14MM    | 100 | <a href="#">43110.000.307</a> | 316-29MM    | 50 | <a href="#">43110.000.316</a> | 326-41MM    | 50 | <a href="#">43110.000.326</a> |
| 308-16MM    | 100 | <a href="#">43110.000.308</a> | 317-30MM    | 50 | <a href="#">43110.000.317</a> | 329-60MM    | 50 | <a href="#">43110.000.329</a> |



## Hose clamp assortment



|                  |                                  |             |
|------------------|----------------------------------|-------------|
| <b>43055</b>     | <b>ABA Hose clamp assortment</b> | <b>Y95A</b> |
| <b>Packaging</b> | Standard                         |             |
| <b>ABA</b>       |                                  |             |

| Type |   | Art.number                    |  |
|------|---|-------------------------------|--|
| 244C | 1 | <a href="#">43055.001.803</a> | <ul style="list-style-type: none"> <li>• Display rack</li> <li>• Size: 65 x 15 x 23,4 cm</li> <li>• Contents:</li> <li>• 12 x 8-14/9 W1</li> <li>• 12 x 11-17/9 W1</li> <li>• 12 x 13-20/9 W1</li> <li>• 24 x 15-24/12 W1</li> <li>• 12 x 19-28/12 W1</li> <li>• 12 x 22-32/12 W1</li> <li>• 12 x 26-38/12 W1</li> <li>• 12 x 32-44/12 W1</li> <li>• 12 x 38-50/12 W1</li> <li>• 12 x 44-56/12 W1</li> <li>• 12 x 50-65/12 W1</li> <li>• 10 x Mini 8 C</li> <li>• 10 x Mini 9 C</li> <li>• 10 x Mini 10 C</li> <li>• 10 x Mini 11 C</li> <li>• 10 x Mini 12 C</li> <li>• 10 x Mini 13 C</li> <li>• 10 x Mini 14 C</li> <li>• 10 x Mini 15 C</li> <li>• 10 x Mini 16 C</li> <li>• 10 x Mini 17 C</li> </ul> |
| 270C | 1 | <a href="#">43055.001.805</a> | <ul style="list-style-type: none"> <li>• 1 ABA flexible socket screwdriver normal model 250 mm</li> <li>• In plastic box</li> <li>• Size: 40 x 27 x 8,5 cm</li> <li>• Contents:</li> <li>• 50 x 8-14/9 W1</li> <li>• 50 x 11-17/9 W1</li> <li>• 50 x 13-20/9 W1</li> <li>• 25 x 15-24/12 W1</li> <li>• 25 x 19-28/12 W1</li> <li>• 20 x 22-32/12 W1</li> <li>• 15 x 26-38/12 W1</li> <li>• 15 x 32-44/12 W1</li> <li>• 10 x 38-50/12 W1</li> <li>• 10 x 44-56/12 W1</li> <li>• 1 ABA flexible socket screwdriver normal model 250 mm</li> </ul>  |

**Flexible socket screwdriver**

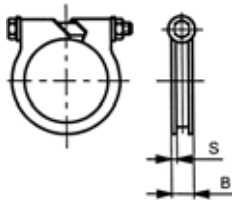


|                  |  |             |
|------------------|--|-------------|
| <b>43030</b>     | <b>ABA Flexible socket screwdriver</b> | <b>Y95A</b> |
| <b>Packaging</b> | Standard                               |             |
| <b>ABA</b>       |  |             |

| Type    | ☒ | Art.number                    |                   |
|---------|---|-------------------------------|-------------------|
| FLEX    | 1 | <a href="#">43030.001.770</a> | • Normal model    |
| FLEXLNG | 1 | <a href="#">43030.001.780</a> | Long model 600 mm |

- For areas where access is difficult
- Provided with a 7 mm hexagon socket, cannot slip out
- Bendable to 90°
- Usable for all types of ABA and AWAB hose clamps

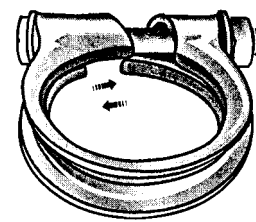
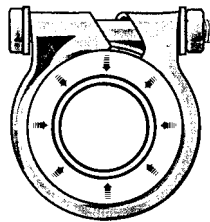
## Exhaust pipe clamp



### Technical data

| Type    | Grip range (min.) | Grip range (max.) | B    | S   | Tightening torque in Nm |
|---------|-------------------|-------------------|------|-----|-------------------------|
| R27-1,5 | 24                | 27                | 11,5 | 1,5 | 8-10                    |
| R30-1,5 | 27                | 30                | 11,5 | 1,5 | 8-10                    |
| R33-1,5 | 30                | 33                | 11,5 | 1,5 | 8-10                    |
| R42-2   | 39                | 42                | 11,5 | 2   | 8-10                    |
| R45-2,5 | 42                | 45                | 11,5 | 2,5 | 8-10                    |
| R48-2,5 | 45                | 48                | 12,5 | 2,5 | 10-15                   |
| R51-2,5 | 48                | 51                | 12,5 | 2,5 | 10-15                   |
| R55-2,5 | 52                | 55                | 12,5 | 2,5 | 10-15                   |
| R58-2,5 | 55                | 58                | 12,5 | 2,5 | 10-15                   |

### Assembly data



### 43246 AWAB Exhaust pipe clamp

Y03A

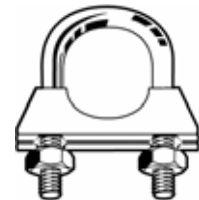
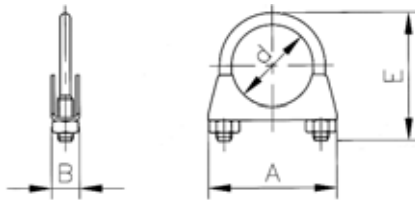
**Material** Steel  
**Packaging** Standard

**ABA**



| Type      | ✉  | Art.number                    | Type      | ✉  | Art.number                    | Type      | ✉  | Art.number                    |
|-----------|----|-------------------------------|-----------|----|-------------------------------|-----------|----|-------------------------------|
| R27-1,5MM | 10 | <a href="#">43246.270.001</a> | R42-2MM   | 10 | <a href="#">43246.420.001</a> | R51-2,5MM | 10 | <a href="#">43246.510.001</a> |
| R30-1,5MM | 10 | <a href="#">43246.300.001</a> | R45-2,5MM | 10 | <a href="#">43246.450.001</a> | R55-2,5MM | 10 | <a href="#">43246.550.001</a> |
| R33-1,5MM | 10 | <a href="#">43246.330.001</a> | R48-2,5MM | 10 | <a href="#">43246.480.001</a> | R58-2,5MM | 10 | <a href="#">43246.580.001</a> |

## Pipe clamp 8mm



### Technical data

| For nom.size d | A    | E    | B    |
|----------------|------|------|------|
| 25             | 50   | 52   | 14,5 |
| 26             | 55   | 57   | 13,5 |
| 28             | 54,5 | 56   | 13,5 |
| 32             | 59,5 | 59   | 13,5 |
| 35             | 60   | 63   | 14,5 |
| 36             | 63   | 68   | 13,5 |
| 38             | 67   | 62   | 13,5 |
| 42             | 72   | 68,5 | 13,5 |
| 45             | 75   | 70   | 13,5 |
| 48             | 79,5 | 74   | 13,5 |
| 50             | 84   | 77   | 13,5 |
| 51             | 76   | 76   | 14,5 |
| 52             | 53,5 | 77   | 13,5 |
| 54             | 88   | 78   | 13,5 |
| 57             | 82,5 | 83   | 14,5 |
| 58             | 91   | 85   | 13,5 |
| 60             | 94   | 84,5 | 13,5 |
| 65             | 99   | 89   | 13,5 |
| 70             | 107  | 94   | 13,5 |
| 75             | 115  | 102  | 13,5 |

#### 43241 Pipe clamp 8mm

Y03A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For nom. size d | ☒  | Art.number                    | For nom. size d | ☒  | Art.number                    | For nom. size d | ☒  | Art.number                    |
|-----------------|----|-------------------------------|-----------------|----|-------------------------------|-----------------|----|-------------------------------|
| 26MM            | 10 | <a href="#">43241.260.001</a> | 45MM            | 10 | <a href="#">43241.450.001</a> | 60MM            | 10 | <a href="#">43241.600.001</a> |
| 28MM            | 10 | <a href="#">43241.280.001</a> | 48MM            | 10 | <a href="#">43241.480.001</a> | 64/65MM         | 10 | <a href="#">43241.650.001</a> |
| 32MM            | 10 | <a href="#">43241.320.001</a> | 50MM            | 10 | <a href="#">43241.500.001</a> | 70MM            | 10 | <a href="#">43241.700.001</a> |
| 36MM            | 10 | <a href="#">43241.360.001</a> | 51/52MM         | 10 | <a href="#">43241.520.001</a> | 75/76MM         | 10 | <a href="#">43241.750.001</a> |
| 38MM            | 10 | <a href="#">43241.380.001</a> | 54MM            | 10 | <a href="#">43241.540.001</a> |                 |    |                               |
| 42MM            | 10 | <a href="#">43241.420.001</a> | 58MM            | 10 | <a href="#">43241.580.001</a> |                 |    |                               |

- Depending on availability the dimensions may deviate.

## BAND-IT Clamping system



- Technical brochure available on request.

|               |  | Width |      | Average breaking strength | Ear-Lok       | Clip          | Scru-Lok      | J-020         | C-001         |
|---------------|--|-------|------|---------------------------|---------------|---------------|---------------|---------------|---------------|
|               |  | IN    | mm   |                           |               |               |               |               |               |
|               |  |       |      |                           | 43272.380.xxx | 43273.380.xxx | 43274.380.xxx | 43276.385.041 | 43276.380.001 |
| 43270.380.201 |  | 1/4   | 0.51 | 500                       | 211           |               |               | X             | X             |
| 43270.380.202 |  | 3/8   | 0.64 | 900                       | 212           | 322           | 451           | X             | X             |
| 43270.380.203 |  | 1/2   | 0.76 | 1500                      | 213           | 323           | 452           |               | X             |
| 43270.380.204 |  | 5/8   | 0.76 | 1875                      | 214           | 324           | 453           |               | X             |
| 43270.380.205 |  | 3/4   | 0.76 | 2250                      | 215           | 325           | 454           |               | X             |
|               |  |       |      |                           |               |               |               |               |               |
| 43280.000.203 |  | 3/8   | 0.64 | 900                       | 212           | 322           | 451           | X             | X             |
| 43280.000.204 |  | 1/2   | 0.76 | 1500                      | 213           | 323           | 452           |               | X             |
| 43280.000.205 |  | 5/8   | 0.76 | 1875                      | 214           | 324           | 453           |               | X             |
| 43280.000.206 |  | 3/4   | 0.76 | 2250                      | 215           | 325           | 454           |               | X             |
|               |  |       |      |                           |               |               |               |               |               |
| 43271.380.302 |  | 3/8   | 0.38 | 450                       | 212           | 322           | 451           | X             | X             |
| 43271.380.303 |  | 1/2   | 0.38 | 600                       | 213           | 323           | 452           |               | X             |
| 43271.380.304 |  | 5/8   | 0.38 | 750                       | 214           | 324           | 453           |               | X             |
| 43271.380.305 |  | 3/4   | 0.38 | 900                       | 215           | 325           | 454           |               | X             |

### Article groups

| Material                            | Packaging | Code  | Page  |
|-------------------------------------|-----------|-------|-------|
| St.St. Band type 201                | Standard  | 43270 | 12-23 |
| St.St. Band type 201 with dispenser | Standard  | 43280 | 12-23 |
| St.St. Buckle Ear-Lokt              | Standard  | 43272 | 12-24 |
| St.St. Valu-strap band              | Standard  | 43271 | 12-24 |
| St.St. Valucups for valu-strap      | Standard  | 43273 | 12-24 |
| St.St. Scru-Lokt buckle             | Standard  | 43274 | 12-24 |
| St.St. Brack-its                    | Standard  | 43279 | 12-24 |
| St.St. Band clamping                | Standard  | 43275 | 12-25 |
| Tools                               | Standard  | 43276 | 12-25 |

#### 43270 Band type 201

Y63A

Material: Stainless steel  
Packaging: Standard

**BAND-IT®**



| Type                     | Art.number                    | Type                     | Art.number                    | Type                     | Art.number                    |
|--------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|
| C-202 1/4-30,5M-0,51MM 1 | <a href="#">43270.380.201</a> | C-204 1/2-30,5M-0,76MM 1 | <a href="#">43270.380.203</a> | C-206 3/4-30,5M-0,76MM 1 | <a href="#">43270.380.205</a> |
| C-203 3/8-30,5M-0,64MM 1 | <a href="#">43270.380.202</a> | C-205 5/8-30,5M-0,76MM 1 | <a href="#">43270.380.204</a> |                          |                               |

#### 43280 Band type 201 with dispenser

Y63A

Material: Stainless steel  
Packaging: Standard

**BAND-IT®**



| Type                     | Art.number                    | Type                     | Art.number                    | Type                     | Art.number                    |
|--------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|
| C203Y 3/8-30,5M-0,64MM 1 | <a href="#">43280.000.203</a> | C205G 5/8-30,5M-0,76MM 1 | <a href="#">43280.000.205</a> | C206R 3/4-30,5M-0,76MM 1 | <a href="#">43280.000.206</a> |
| C204B 1/2-30,5M-0,76MM 1 | <a href="#">43280.000.204</a> |                          |                               |                          |                               |

**43272 Buckle Ear-Lokt** Y63A

**Material** Stainless steel  
**Packaging** Standard

**BAND-IT®**



| Type             | ☒   | Art.number                    | Type             | ☒   | Art.number                    | Type             | ☒   | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|-----|-------------------------------|
| C-252 1/4-0,38MM | 100 | <a href="#">43272.380.211</a> | C-254 1/2-0,38MM | 100 | <a href="#">43272.380.213</a> | C-256 3/4-0,38MM | 100 | <a href="#">43272.380.215</a> |
| C-253 3/8-0,38MM | 100 | <a href="#">43272.380.212</a> | C-255 5/8-0,38MM | 100 | <a href="#">43272.380.214</a> |                  |     |                               |

**43271 Valu-strap band** Y63A

**Material** Stainless steel  
**Packaging** Standard

**BAND-IT®**



| Type                   | ☒ | Art.number                    | Type                   | ☒ | Art.number                    | Type | ☒ | Art.number |
|------------------------|---|-------------------------------|------------------------|---|-------------------------------|------|---|------------|
| C-133 3/8-30,5M-0,38MM | 1 | <a href="#">43271.380.302</a> | C-135 5/8-30,5M-0,38MM | 1 | <a href="#">43271.380.304</a> |      |   |            |
| C-134 1/2-30,5M-0,38MM | 1 | <a href="#">43271.380.303</a> | C-136 3/4-30,5M-0,38MM | 1 | <a href="#">43271.380.305</a> |      |   |            |

**43273 Valucups for valu-strap** Y63A

**Material** Stainless steel  
**Packaging** Standard

**BAND-IT®**



| Type      | ☒   | Art.number                    | Type      | ☒   | Art.number                    | Type | ☒ | Art.number |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|------|---|------------|
| C-153 3/8 | 100 | <a href="#">43273.380.322</a> | C-155 5/8 | 100 | <a href="#">43273.380.324</a> |      |   |            |
| C-154 1/2 | 100 | <a href="#">43273.380.323</a> | C-156 3/4 | 100 | <a href="#">43273.380.325</a> |      |   |            |

**43274 Scru-Lokt buckle** Y63A

**Material** Stainless steel  
**Packaging** Standard

**BAND-IT®**



| Type      | ☒  | Art.number                    | Type      | ☒  | Art.number                    | Type | ☒ | Art.number |
|-----------|----|-------------------------------|-----------|----|-------------------------------|------|---|------------|
| C-720 1/4 | 50 | <a href="#">43274.380.451</a> | C-724 1/2 | 25 | <a href="#">43274.380.453</a> |      |   |            |
| C-722 3/8 | 50 | <a href="#">43274.380.452</a> | C-726 3/4 | 25 | <a href="#">43274.380.454</a> |      |   |            |



**43279 Brack-its** Y63A

**Material** Stainless steel  
**Packaging** Standard

**BAND-IT®**



| Type                | ☒  | Art.number                    |
|---------------------|----|-------------------------------|
| D-007 BR-IT L MOUNT | 50 | <a href="#">43279.007.001</a> |
| D-008 BR-IT 2BOLT   | 50 | <a href="#">43279.008.001</a> |

**43279 Brack-its** ←

| Type                | Art.number                       | Type | Art.number |
|---------------------|----------------------------------|------|------------|
| D-001 1-BT STRAIGHT | 50 <a href="#">43279.380.484</a> |      |            |
| D-021 1-BT FLARED   | 50 <a href="#">43279.380.485</a> |      |            |



**43275 Band clamping** Y63A

|           |                 |                 |  |
|-----------|-----------------|-----------------|--|
| Material  | Stainless steel | <b>BAND-IT®</b> |  |
| Packaging | Standard        |                 |  |

**Type** Art.number

|                    |                                  |  |
|--------------------|----------------------------------|--|
| M-158 SCRUBND PACK | 1 <a href="#">43275.153.001</a>  |  |
| M-211 SEAL KLMM    | 10 <a href="#">43275.380.471</a> |  |
| M-210 SEAL BND     | 1 <a href="#">43275.380.473</a>  |  |

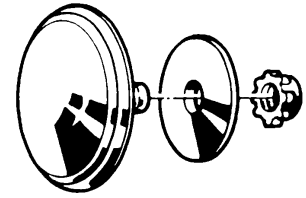
**43276 Tools** Y63A

|           |          |                 |  |
|-----------|----------|-----------------|--|
| Packaging | Standard | <b>BAND-IT®</b> |  |
|-----------|----------|-----------------|--|

**Type** Art.number

|                |                                 |   |  |
|----------------|---------------------------------|---|--|
| 380001 C-001   | 1 <a href="#">43276.380.001</a> | • TOOL TYPE C-001: for bands from 3/16" to 3/4"           |  |
| J-020 POKKITII | 1 <a href="#">43276.385.041</a> | • TOOL TYPE J-020 Pok-it II: for bands from 3/16" to 3/8" |  |

## Ornamental hood



- Mounted on carton displaycard complete with mudwing repair washer and plastic nut.

### Article groups

| Material | Surface treatment | Colour | Packaging | Code  | Page  |
|----------|-------------------|--------|-----------|-------|-------|
| Plastic  | Chr.pl.           | Beige  | Standard  | 72100 | 12-26 |
| Plastic  |                   | Black  | Standard  | 72110 | 12-26 |

| 72100 Ornamental hood    |               | Y92E |
|--------------------------|---------------|------|
| <b>Material</b>          | Plastic       |      |
| <b>Surface treatment</b> | Chrome plated |      |
| <b>Colour</b>            | Beige         |      |
| <b>Packaging</b>         | Standard      |      |

| d                   | ☒  | Art.number                    | d            | ☒  | Art.number                    | d            | ☒  | Art.number                    |
|---------------------|----|-------------------------------|--------------|----|-------------------------------|--------------|----|-------------------------------|
| 13-21-29 (6-22 ASS) | 25 | <a href="#">72100.001.770</a> | 21MM (6-21B) | 25 | <a href="#">72100.220.001</a> | 42MM (6-21D) | 12 | <a href="#">72100.400.001</a> |
| 18MM (6-21E)        | 25 | <a href="#">72100.180.001</a> | 29MM (6-21C) | 25 | <a href="#">72100.320.001</a> |              |    |                               |

- ASS (6-22), contents:
- 13mm - 10 pieces
- 21mm - 5 pieces
- 29mm - 10 pieces

| 72110 Ornamental hood |          | Y92E |
|-----------------------|----------|------|
| <b>Material</b>       | Plastic  |      |
| <b>Colour</b>         | Black    |      |
| <b>Packaging</b>      | Standard |      |

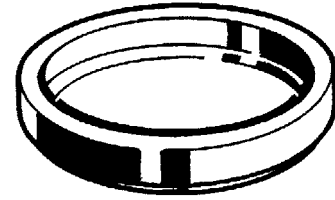
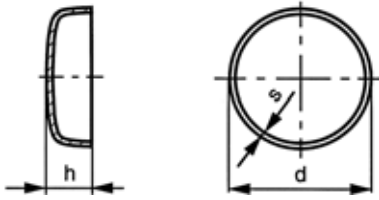
| d                     | ☒  | Art.number                    | d              | ☒  | Art.number                    | d              | ☒  | Art.number                    |
|-----------------------|----|-------------------------------|----------------|----|-------------------------------|----------------|----|-------------------------------|
| 13-21-29 (6-22 ASS/S) | 25 | <a href="#">72110.001.770</a> | 18MM (6-21E/S) | 25 | <a href="#">72110.180.001</a> | 29MM (6-21C/S) | 25 | <a href="#">72110.320.001</a> |
| 13MM (6-21/S)         | 25 | <a href="#">72110.130.001</a> | 21MM (6-21B/S) | 25 | <a href="#">72110.220.001</a> | 42MM (6-21D/S) | 12 | <a href="#">72110.400.001</a> |

- ASS/S (6-22), contents:
- 13mm - 10 pieces
- 21mm - 5 pieces
- 29mm - 10 pieces



## Sealing push-in cap

DIN ≈443



### Technical data

| d (zc10) | h (js16) | s    |
|----------|----------|------|
| 8        | 3        | 0,75 |
| 10       | 3        | 0,75 |
| 12       | 4        | 1    |
| 14       | 5        | 1    |
| 16       | 5        | 1    |
| 18       | 6        | 1    |
| 20       | 6        | 1    |

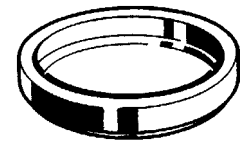
| d (zc10)  | h (js16) | s   |
|-----------|----------|-----|
| 22        | 7        | 1,6 |
| 24 (#DIN) | 7        | 1,6 |
| 25        | 8        | 1,6 |
| 28        | 9        | 1,6 |
| 30        | 9        | 1,6 |
| 36        | 11       | 1,6 |
| 38        | 12       | 1,6 |

| d (zc10) | h (js16) | s   |
|----------|----------|-----|
| 40       | 12       | 1,6 |
| 45       | 14       | 1,6 |
| 50       | 15       | 1,6 |
| 52       | 16       | 2   |
| 56       | 17       | 2   |

### 72150 Sealing push-in cap

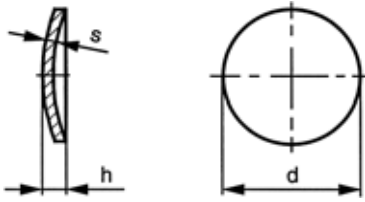
Y92D

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d    | ☒  | Art.number                    | d    | ☒  | Art.number                    | d    | ☒  | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| 8MM  | 10 | <a href="#">72150.080.001</a> | 22MM | 10 | <a href="#">72150.220.001</a> | 40MM | 10 | <a href="#">72150.400.001</a> |
| 10MM | 10 | <a href="#">72150.100.001</a> | 24MM | 10 | <a href="#">72150.240.001</a> | 45MM | 10 | <a href="#">72150.450.001</a> |
| 12MM | 10 | <a href="#">72150.120.001</a> | 25MM | 10 | <a href="#">72150.250.001</a> | 50MM | 10 | <a href="#">72150.500.001</a> |
| 14MM | 10 | <a href="#">72150.140.001</a> | 28MM | 10 | <a href="#">72150.280.001</a> | 52MM | 10 | <a href="#">72150.520.001</a> |
| 16MM | 10 | <a href="#">72150.160.001</a> | 30MM | 10 | <a href="#">72150.300.001</a> | 56MM | 10 | <a href="#">72150.560.001</a> |
| 18MM | 10 | <a href="#">72150.180.001</a> | 36MM | 10 | <a href="#">72150.360.001</a> |      |    |                               |
| 20MM | 10 | <a href="#">72150.200.001</a> | 38MM | 10 | <a href="#">72150.380.001</a> |      |    |                               |

## Sealing washer



DIN ≈470



### Technical data

| d (js11) | h    | s   |
|----------|------|-----|
| 10       | 2,67 | 1,6 |
| 12       | 2,77 | 1,6 |
| 14       | 2,94 | 1,6 |
| 16       | 3,11 | 1,6 |
| 18       | 3,28 | 1,6 |
| 20       | 3,45 | 1,6 |
| 22       | 4,09 | 2   |

| d (js11) | h    | s |
|----------|------|---|
| 25       | 4,38 | 2 |
| 28       | 4,53 | 2 |
| 30       | 4,77 | 2 |
| 32       | 4,95 | 2 |
| 34       | 5,11 | 2 |
| 36       | 5,36 | 2 |
| 38       | 5,6  | 2 |

| d (js11) | h    | s |
|----------|------|---|
| 40       | 5,7  | 2 |
| 45       | 6,15 | 2 |
| 50       | 6,62 | 2 |
| 52       | 6,66 | 2 |
| 56       | 7,06 | 2 |

### 72160 Sealing washer

Y92D

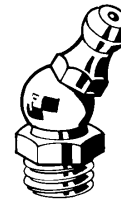
**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| d    | ☒  | Art.number                    | d    | ☒  | Art.number                    | d    | ☒  | Art.number                    |
|------|----|-------------------------------|------|----|-------------------------------|------|----|-------------------------------|
| 10MM | 20 | <a href="#">72160.100.001</a> | 25MM | 20 | <a href="#">72160.250.001</a> | 40MM | 20 | <a href="#">72160.400.001</a> |
| 12MM | 20 | <a href="#">72160.120.001</a> | 28MM | 20 | <a href="#">72160.280.001</a> | 45MM | 20 | <a href="#">72160.450.001</a> |
| 14MM | 20 | <a href="#">72160.140.001</a> | 30MM | 20 | <a href="#">72160.300.001</a> | 50MM | 20 | <a href="#">72160.500.001</a> |
| 16MM | 20 | <a href="#">72160.160.001</a> | 32MM | 20 | <a href="#">72160.320.001</a> | 52MM | 20 | <a href="#">72160.520.001</a> |
| 18MM | 20 | <a href="#">72160.180.001</a> | 34MM | 20 | <a href="#">72160.340.001</a> | 56MM | 20 | <a href="#">72160.560.001</a> |
| 20MM | 20 | <a href="#">72160.200.001</a> | 36MM | 20 | <a href="#">72160.360.001</a> |      |    |                               |
| 22MM | 20 | <a href="#">72160.220.001</a> | 38MM | 20 | <a href="#">72160.380.001</a> |      |    |                               |

## Lubricating nipple cone type

DIN ≈71412      A/B/C  
 (A=180°/B=45°/C=90°)



- Metric external taper screw thread acc. ≈ DIN 158.

### Article groups

| Thread | Material | Surface treatment | Packaging | Code  | Page  |
|--------|----------|-------------------|-----------|-------|-------|
| M      | St       | Zipl              | Standard  | 72210 | 12-29 |
| M      | St.St.   |                   | Standard  | 72213 | 12-29 |

#### 72210 Lubricating nipple cone type

Y05A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d       | ☒   | Art.number                    | d        | ☒   | Art.number                    | d        | ☒  | Art.number                    |
|---------|-----|-------------------------------|----------|-----|-------------------------------|----------|----|-------------------------------|
| M6-45°  | 100 | <a href="#">72210.060.045</a> | M8-180°  | 100 | <a href="#">72210.080.180</a> | M12-45°  | 50 | <a href="#">72210.120.045</a> |
| M6-90°  | 100 | <a href="#">72210.060.090</a> | M10-45°  | 100 | <a href="#">72210.100.045</a> | M12-90°  | 50 | <a href="#">72210.120.090</a> |
| M6-180° | 100 | <a href="#">72210.060.180</a> | M10-90°  | 100 | <a href="#">72210.100.090</a> | M12-180° | 50 | <a href="#">72210.120.180</a> |
| M8-45°  | 100 | <a href="#">72210.080.045</a> | M10-180° | 100 | <a href="#">72210.100.180</a> |          |    |                               |
| M8-90°  | 100 | <a href="#">72210.080.090</a> |          |     |                               |          |    |                               |

#### 72213 Lubricating nipple cone type

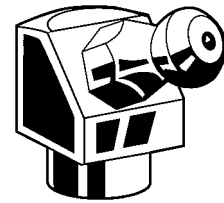
Y05A

|                  |                 |
|------------------|-----------------|
| <b>Thread</b>    | Metric thread   |
| <b>Material</b>  | Stainless steel |
| <b>Packaging</b> | Standard        |

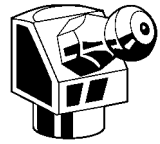


| d       | ☒  | Art.number                    | d       | ☒  | Art.number                    | d        | ☒  | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|----------|----|-------------------------------|
| M6-45°  | 50 | <a href="#">72213.060.045</a> | M8-45°  | 50 | <a href="#">72213.080.045</a> | M10-45°  | 50 | <a href="#">72213.100.045</a> |
| M6-90°  | 50 | <a href="#">72213.060.090</a> | M8-90°  | 50 | <a href="#">72213.080.090</a> | M10-90°  | 50 | <a href="#">72213.100.090</a> |
| M6-180° | 50 | <a href="#">72213.060.180</a> | M8-180° | 50 | <a href="#">72213.080.180</a> | M10-180° | 50 | <a href="#">72213.100.180</a> |

## Lubricating nipples drive-in type A/B/C (A=180°/B=45°/C=90°)

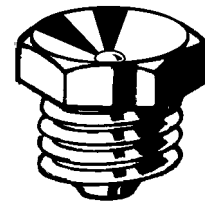



- Drill hole tolerance in steel – 0,25 to 0,3 mm, aluminium 0,15 to 0,2 mm and in castings – 0,1 mm.

| 72230 Lubricating nipples drive-in type A/B/C (A=180°/B=45°/C=90°) |             |                               |          | Y05A  |                               |           |     |                               |
|--|-------------|-------------------------------|----------|---|-------------------------------|-----------|-----|-------------------------------|
| <b>Material</b>  | Steel       |                               |          |  |                               |           |     |                               |
| <b>Surface treatment</b>   | Zinc plated |                               |          |   |                               |           |     |                               |
| <b>Packaging</b>   | Standard    |                               |          |   |                               |           |     |                               |
| d  | ☒           | Art.number                    | d        | ☒   | Art.number                    | d         | ☒   | Art.number                    |
| 6MM-45°  | 100         | <a href="#">72230.060.045</a> | 8MM-45°  | 100   | <a href="#">72230.080.045</a> | 10MM-45°  | 100 | <a href="#">72230.100.045</a> |
| 6MM-90°  | 100         | <a href="#">72230.060.090</a> | 8MM-90°  | 100   | <a href="#">72230.080.090</a> | 10MM-90°  | 100 | <a href="#">72230.100.090</a> |
| 6MM-180°   | 100         | <a href="#">72230.060.180</a> | 8MM-180° | 100   | <a href="#">72230.080.180</a> | 10MM-180° | 100 | <a href="#">72230.100.180</a> |

## Lubricating nipple cupped type

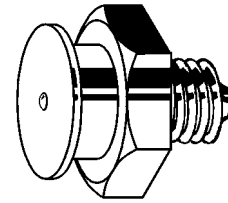
DIN ≈3405 A



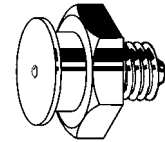
| 72170 Lubricating nipple cupped type |                    |                               |         | Y05A  |                               |          |     |                               |
|--------------------------------------|--------------------|-------------------------------|---------|---|-------------------------------|----------|-----|-------------------------------|
| <b>Thread</b>                        | Metric fine thread |                               |         |  |                               |          |     |                               |
| <b>Material</b>                      | Steel              |                               |         |   |                               |          |     |                               |
| <b>Surface treatment</b>             | Zinc plated        |                               |         |   |                               |          |     |                               |
| <b>Packaging</b>                     | Standard           |                               |         |   |                               |          |     |                               |
| d                                    | ☒                  | Art.number                    | d       | ☒   | Art.number                    | d        | ☒   | Art.number                    |
| M6X0,75                              | 100                | <a href="#">72170.060.075</a> | M8X1,00 | 100   | <a href="#">72170.080.100</a> | M10X1,00 | 100 | <a href="#">72170.100.100</a> |
| M6X1,00                              | 100                | <a href="#">72170.060.100</a> | M8X1,25 | 100   | <a href="#">72170.080.125</a> |          |     |                               |

## Lubricating nipple button head MF

DIN ≈3404 A



| 72186 Lubricating nipple button head MF |                    | Y05A |
|---|--------------------|------|
| <b>Thread</b>                           | Metric fine thread |      |
| <b>Material</b>                         | Steel              |      |
| <b>Surface treatment</b>                | Zinc plated        |      |
| <b>Packaging</b>                        | Standard           |      |



| d       | ☒   | Art.number                    | d       | ☒   | Art.number                    | d        | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|----------|-----|-------------------------------|
| M6X0,75 | 100 | <a href="#">72186.060.075</a> | M8X1,00 | 100 | <a href="#">72186.080.100</a> | M10X1,00 | 100 | <a href="#">72186.100.100</a> |
| M6X1,00 | 100 | <a href="#">72186.060.100</a> | M8X1,25 | 100 | <a href="#">72186.080.125</a> | M10X1,50 | 100 | <a href="#">72186.100.150</a> |

## Lubricating nipple cone type MF

DIN ≈71412 A/B/C  
(A=180°/B=45°/C=90°)



- Metric fine external taper screw head acc. ≈ DIN 158.

| 72220 Lubricating nipple cone type MF |                    | Y05A |
|---------------------------------------|--------------------|------|
| <b>Thread</b>                         | Metric fine thread |      |
| <b>Material</b>                       | Steel              |      |
| <b>Surface treatment</b>              | Zinc plated        |      |
| <b>Packaging</b>                      | Standard           |      |



| d            | ☒   | Art.number                    | d             | ☒  | Art.number                    | d | ☒ | Art.number |
|--------------|-----|-------------------------------|---------------|----|-------------------------------|---|---|------------|
| M8X1,00-45°  | 100 | <a href="#">72220.080.045</a> | M12X1,50-45°  | 50 | <a href="#">72220.120.045</a> |   |   |            |
| M8X1,00-90°  | 100 | <a href="#">72220.080.090</a> | M12X1,50-90°  | 50 | <a href="#">72220.120.090</a> |   |   |            |
| M8X1,00-180° | 100 | <a href="#">72220.080.180</a> | M12X1,50-180° | 50 | <a href="#">72220.120.180</a> |   |   |            |

## Lubricating nipple cone type MEF

DIN ≈71412 A/B/C  
(A=180°/B=45°/C=90°)



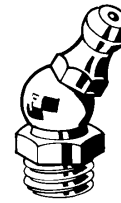
- Metric extra fine external taper screw thread acc. ≈ DIN 158.

| 72221 Lubricating nipple cone type MEF |                          | Y05A |
|--|--------------------------|------|
| <b>Thread</b>                          | Metric extra fine thread |      |
| <b>Material</b>                        | Steel                    |      |
| <b>Surface treatment</b>               | Zinc plated              |      |
| <b>Packaging</b>                       | Standard                 |      |

| d            | ☒   | Art.number                    | d             | ☒   | Art.number                    | d             | ☒  | Art.number                    |
|--------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|----|-------------------------------|
| M6X0,75-45°  | 100 | <a href="#">72221.060.045</a> | M8X0,75-180°  | 100 | <a href="#">72221.080.180</a> | M12X1,00-45°  | 50 | <a href="#">72221.120.045</a> |
| M6X0,75-90°  | 100 | <a href="#">72221.060.090</a> | M10X1,00-45°  | 100 | <a href="#">72221.100.045</a> | M12X1,00-90°  | 50 | <a href="#">72221.120.090</a> |
| M6X0,75-180° | 100 | <a href="#">72221.060.180</a> | M10X1,00-90°  | 100 | <a href="#">72221.100.090</a> | M12X1,00-180° | 50 | <a href="#">72221.120.180</a> |
| M8X0,75-45°  | 100 | <a href="#">72221.080.045</a> | M10X1,00-180° | 100 | <a href="#">72221.100.180</a> |               |    |                               |
| M8X0,75-90°  | 100 | <a href="#">72221.080.090</a> |               |     |                               |               |    |                               |

## Lubricating nipple cone R

DIN ≈71412      A/B/C  
 (A=180°/B=45°/C=90°)



- External taper pipe thread acc. ≈ DIN 3858.

### Article groups

| Thread | Material | Surface treatment | Packaging | Code  | Page  |
|--------|----------|-------------------|-----------|-------|-------|
| R      | St       | Zipl              | Standard  | 72240 | 12-33 |
| R      | St.St.   |                   | Standard  | 72243 | 12-33 |

#### 72240 Lubricating nipple cone R

Y05A

|                          |                     |
|--------------------------|---------------------|
| <b>Thread</b>            | Conical pipe thread |
| <b>Material</b>          | Steel               |
| <b>Surface treatment</b> | Zinc plated         |
| <b>Packaging</b>         | Standard            |



| d        | ☒   | Art.number                    | d        | ☒  | Art.number                    | d        | ☒  | Art.number                    |
|----------|-----|-------------------------------|----------|----|-------------------------------|----------|----|-------------------------------|
| 1/8-45°  | 100 | <a href="#">72240.031.045</a> | 1/4-180° | 50 | <a href="#">72240.063.180</a> | 1/2-45°  | 25 | <a href="#">72240.127.045</a> |
| 1/8-90°  | 100 | <a href="#">72240.031.090</a> | 3/8-45°  | 25 | <a href="#">72240.096.045</a> | 1/2-90°  | 25 | <a href="#">72240.127.090</a> |
| 1/8-180° | 100 | <a href="#">72240.031.180</a> | 3/8-90°  | 25 | <a href="#">72240.096.090</a> | 1/2-180° | 25 | <a href="#">72240.127.180</a> |
| 1/4-45°  | 50  | <a href="#">72240.063.045</a> | 3/8-180° | 25 | <a href="#">72240.096.180</a> |          |    |                               |
| 1/4-90°  | 50  | <a href="#">72240.063.090</a> |          |    |                               |          |    |                               |

#### 72243 Lubricating nipple cone R

Y05A

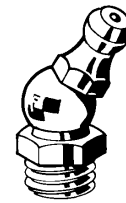
|                  |                     |
|------------------|---------------------|
| <b>Thread</b>    | Conical pipe thread |
| <b>Material</b>  | Stainless steel     |
| <b>Packaging</b> | Standard            |



| d        | ☒  | Art.number                    | d        | ☒  | Art.number                    | d | ☒ | Art.number |
|----------|----|-------------------------------|----------|----|-------------------------------|---|---|------------|
| 1/8-45°  | 50 | <a href="#">72243.031.045</a> | 1/4-45°  | 50 | <a href="#">72243.063.045</a> |   |   |            |
| 1/8-90°  | 50 | <a href="#">72243.031.090</a> | 1/4-90°  | 50 | <a href="#">72243.063.090</a> |   |   |            |
| 1/8-180° | 50 | <a href="#">72243.031.180</a> | 1/4-180° | 50 | <a href="#">72243.063.180</a> |   |   |            |

## Lubricating nipple cone type UNF

DIN ≈71412 A/B/C  
 (A=180°/B=45°/C=90°)

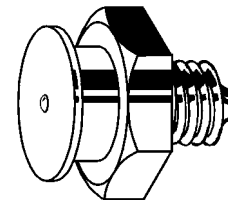


| 72260 Lubricating nipple cone type UNF |                       | Y05A  |
|--|-----------------------|---|
| <b>Thread</b>                          | Unified National Fine |  |
| <b>Material</b>                        | Steel                 |   |
| <b>Surface treatment</b>               | Zinc plated           |   |
| <b>Packaging</b>                       | Standard              |   |

| d        | ☒   | Art.number                    | d         | ☒   | Art.number                    | d        | ☒  | Art.number                    |
|----------|-----|-------------------------------|-----------|-----|-------------------------------|----------|----|-------------------------------|
| 1/4-45°  | 100 | <a href="#">72260.063.045</a> | 5/16-180° | 100 | <a href="#">72260.079.180</a> | 1/2-45°  | 50 | <a href="#">72260.127.045</a> |
| 1/4-90°  | 100 | <a href="#">72260.063.090</a> |           |     |                               | 1/2-90°  | 50 | <a href="#">72260.127.090</a> |
| 1/4-180° | 100 | <a href="#">72260.063.180</a> | 3/8-45°   | 100 | <a href="#">72260.096.045</a> | 1/2-180° | 50 | <a href="#">72260.127.180</a> |
|          |     |                               | 3/8-90°   | 100 | <a href="#">72260.096.090</a> |          |    |                               |
| 5/16-45° | 100 | <a href="#">72260.079.045</a> | 3/8-180°  | 100 | <a href="#">72260.096.180</a> |          |    |                               |
| 5/16-90° | 100 | <a href="#">72260.079.090</a> |           |     |                               |          |    |                               |

## Lubricating nipple button head G

DIN ≈3404 A



- Parallel pipe thread acc. to DIN ISO 228-1.

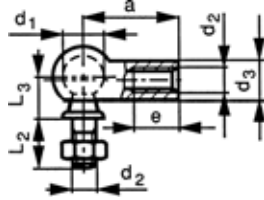
| 72185 Lubricating nipple button head G |                         | Y05A  |
|--|-------------------------|---|
| <b>Thread</b>                          | Cylindrical pipe thread |  |
| <b>Material</b>                        | Steel                   |   |
| <b>Surface treatment</b>               | Zinc plated             |   |
| <b>Packaging</b>                       | Standard                |   |

| d   | ☒   | Art.number                    | d   | ☒   | Art.number                    | d   | ☒   | Art.number                    |
|-----|-----|-------------------------------|-----|-----|-------------------------------|-----|-----|-------------------------------|
| 1/8 | 100 | <a href="#">72185.031.001</a> | 1/4 | 100 | <a href="#">72185.063.001</a> | 3/8 | 100 | <a href="#">72185.096.001</a> |



## Ball joint

DIN 71802 AS



### Technical data

| d2                | M5   | M6   | M8   | M10  | M12 (#DIN) | M14  | M16 (#DIN) |
|-------------------|------|------|------|------|------------|------|------------|
| P                 | 0,8  | 1    | 1,25 | 1,5  | 1,75       | 1,5  | 2          |
| d <sub>1</sub>    | 8    | 10   | 13   | 16   | 16         | 19   | 19         |
| d <sub>3</sub>    | 8    | 10   | 13   | 16   | 16         | 22   | 22         |
| a                 | 22   | 25   | 30   | 35   | 35         | 45   | 45         |
| e (min.)          | 10,2 | 11,5 | 14   | 15,5 | 15,5       | 21,5 | 21,5       |
| L <sub>2</sub>    | 10,2 | 12,5 | 16,5 | 20   | 20         | 28   | 28         |
| L <sub>3</sub>    | 9    | 11   | 13   | 16   | 16         | 20   | 20         |
| Static load in kN | 0,3  | 0,7  | 1,5  | 2    | 2          | 3    | 3          |

- Special features of ball joints:
- Are supplied complete with INSIDE right hand- or left hand thread
- Equipped with a screw stud acc. to DIN 71805 type B with circlip acc. to DIN 71805 type S, angle joint acc. to DIN 71803 type A and a hexagon nut acc. to DIN 934

### Article groups

| Thread | Material | Surface treatment |           | Packaging | Code  | Page  |
|--------|----------|-------------------|-----------|-----------|-------|-------|
| M      | St       | Zipl              | right     | Standard  | 57425 | 12-35 |
| MF     | St       | Zipl              | right     | Standard  | 57426 | 12-35 |
| M      | St       | Zipl              | left hand | Standard  | 57475 | 12-35 |
| MF     | St       | Zipl              | left hand | Standard  | 57476 | 12-36 |

#### 57425 Ball joint with inside right hand thread

L11A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d2 | ☒ | Art.number                    | d2  | ☒ | Art.number                    | d2  | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M5 | 5 | <a href="#">57425.050.001</a> | M8  | 5 | <a href="#">57425.080.001</a> | M12 | 5 | <a href="#">57425.120.001</a> |
| M6 | 5 | <a href="#">57425.060.001</a> | M10 | 5 | <a href="#">57425.100.001</a> | M16 | 1 | <a href="#">57425.160.001</a> |

#### 57426 Ball joint with inside right hand thread

L11A

|                          |                    |
|--------------------------|--------------------|
| <b>Thread</b>            | Metric fine thread |
| <b>Material</b>          | Steel              |
| <b>Surface treatment</b> | Zinc plated        |
| <b>Packaging</b>         | Standard           |



| d2       | ☒ | Art.number                    | d2 | ☒ | Art.number | d2 | ☒ | Art.number |
|----------|---|-------------------------------|----|---|------------|----|---|------------|
| M14X1,50 | 5 | <a href="#">57426.140.150</a> |    |   |            |    |   |            |

#### 57475 Ball joint with inside left hand thread

L11A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |

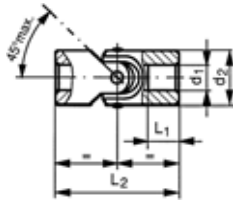


| d2 | ☒ | Art.number                    | d2  | ☒ | Art.number                    | d2  | ☒ | Art.number                    |
|----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M5 | 5 | <a href="#">57475.050.001</a> | M8  | 5 | <a href="#">57475.080.001</a> | M12 | 5 | <a href="#">57475.120.001</a> |
| M6 | 5 | <a href="#">57475.060.001</a> | M10 | 5 | <a href="#">57475.100.001</a> | M16 | 1 | <a href="#">57475.160.001</a> |

| 57476 Ball joint with inside left hand thread |                    | L11A  |              |
|---|--------------------|---|--------------|
| <b>Thread</b>                                 | Metric fine thread |  |              |
| <b>Material</b>                               | Steel              |   |              |
| <b>Surface treatment</b>                      | Zinc plated        |   |              |
| <b>Packaging</b>                              | Standard           |   |              |
| d2  | ✉ Art.number       | d2  | ✉ Art.number |
| M14X1,50                                      | 5                  | <a href="#">57476.140.150</a>   |              |

## Cardan joint single

DIN 808 E



### Technical data

| d1 (H7)  | d2 (k11) | L <sub>1</sub> | L <sub>2</sub> | Md max. in Nm |
|----------|----------|----------------|----------------|---------------|
| 8 (#DIN) | 13       | 12             | 42             | 6             |
| 10       | 16       | 15             | 52             | 8             |
| 12       | 20       | 18             | 62             | 20            |
| 16       | 25       | 22             | 74             | 30            |
| 20       | 32       | 25             | 86             | 60            |
| 25       | 40       | 32             | 108            | 160           |
| 32       | 50       | 40             | 132            | 290           |

- MD max. = maximum admissible torque.

### 57510 Cardan joint single

L11A

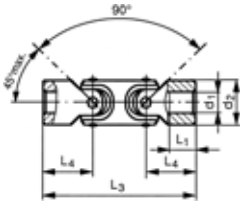
**Material** Free-cutting steel  
**Packaging** Standard



| d1 x d2 x L2 | ☒ | Art.number                    | d1 x d2 x L2 | ☒ | Art.number                    | d1 x d2 x L2 | ☒ | Art.number                    |
|--------------|---|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| 8X13X42MM    | 1 | <a href="#">57510.080.013</a> | 16X25X74MM   | 1 | <a href="#">57510.160.025</a> | 32X50X132MM  | 1 | <a href="#">57510.320.050</a> |
| 10X16X52MM   | 1 | <a href="#">57510.100.016</a> | 20X32X86MM   | 1 | <a href="#">57510.200.032</a> |              |   |                               |
| 12X20X62MM   | 1 | <a href="#">57510.120.020</a> | 25X40X108MM  | 1 | <a href="#">57510.250.040</a> |              |   |                               |

## Cardan joint double

DIN 808 D



### Technical data

| d1 (H7)  | d2 (k11) | L <sub>1</sub> | L <sub>3</sub> | L <sub>4</sub> | Md max. in Nm |
|----------|----------|----------------|----------------|----------------|---------------|
| 8 (#DIN) | 13       | 12             | 60             | 21             | 6             |
| 10       | 16       | 15             | 74             | 26             | 8             |
| 12       | 20       | 18             | 88             | 31             | 20            |
| 16       | 25       | 22             | 104            | 37             | 30            |
| 20       | 32       | 25             | 124            | 43             | 60            |
| 25       | 40       | 32             | 156            | 54             | 160           |

- MD max. = maximum admissible torque.

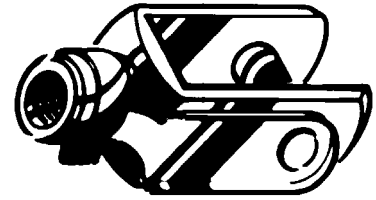
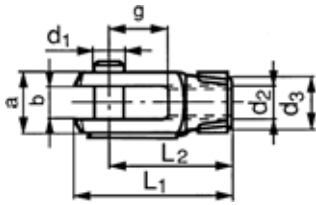
| 57560 Cardan joint double |                    | L11A |
|---------------------------|--------------------|------|
| <b>Material</b>           | Free-cutting steel |      |
| <b>Packaging</b>          | Standard           |      |



| d1 x d2 x L3 | ☒ | Art.number                    | d1 x d2 x L3 | ☒ | Art.number                    | d1 x d2 x L3 | ☒ | Art.number                    |
|--------------|---|-------------------------------|--------------|---|-------------------------------|--------------|---|-------------------------------|
| 8X13X60MM    | 1 | <a href="#">57560.080.013</a> | 12X20X88MM   | 1 | <a href="#">57560.120.020</a> | 20X32X124MM  | 1 | <a href="#">57560.200.032</a> |
| 10X16X74MM   | 1 | <a href="#">57560.100.016</a> | 16X25X104MM  | 1 | <a href="#">57560.160.025</a> | 25X40X156MM  | 1 | <a href="#">57560.250.040</a> |

## Fork joint with spring pin type ES

DIN 71752



### Technical data

| d1 x g       | d <sub>2</sub> | d <sub>3</sub> | a  | b (B13) | L <sub>1</sub> | L <sub>2</sub> |
|--------------|----------------|----------------|----|---------|----------------|----------------|
| 4x8          | M4             | 8              | 8  | 4       | 21             | 16             |
| 5x10         | M5             | 9              | 10 | 5       | 26             | 20             |
| 5x20         | M5             | 9              | 10 | 5       | 36             | 30             |
| 6x12         | M6             | 10             | 12 | 6       | 31             | 24             |
| 6x24         | M6             | 10             | 12 | 6       | 43             | 36             |
| 8x16         | M8             | 14             | 16 | 8       | 42             | 32             |
| 8x32         | M8             | 14             | 16 | 8       | 58             | 48             |
| 10x20        | M10            | 18             | 20 | 10      | 52             | 40             |
| 10x40        | M10            | 18             | 20 | 10      | 72             | 60             |
| 12x24        | M12            | 20             | 24 | 12      | 62             | 48             |
| 12x48        | M12            | 20             | 24 | 12      | 86             | 72             |
| 14x28        | M14            | 24             | 27 | 14      | 72             | 56             |
| 14x56        | M14            | 24             | 27 | 14      | 101            | 85             |
| 16x32        | M16            | 26             | 32 | 16      | 83             | 64             |
| 16x64        | M16            | 26             | 32 | 16      | 115            | 96             |
| 20x40 (#DIN) | M20            | 34             | 40 | 20      | 105            | 80             |

- Special features of fork joints:
- Are supplied complete with a spring pin type ES.
- Due to the spring catch the hinge joints can be used much faster and easier without a tool than with the traditional method by means of a clevis pin with small head acc. to DIN 1434, a split pin (cotter pin) acc. to DIN 94 and a plain washer for clevis pins acc. to DIN 1440.
- Typical applications of fork joints are windscreen wipers, brake-gas or couplingrods and transmission of linear movements.
- Tolerance d<sub>1</sub> = H9/h11.

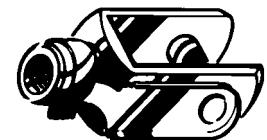
### Article groups

| Thread | Material           | Surface treatment | Packaging | Code  | Page  |
|--------|--------------------|-------------------|-----------|-------|-------|
| M      | Free-cutting steel | Zipl              | Standard  | 57580 | 12-39 |
| M      | Free-cutting steel | Zipl              | left hand | 57578 | 12-39 |

#### 57580 Fork joint with spring pin type ES

L11A

**Thread** Metric thread  
**Material** Free-cutting steel  
**Surface treatment** Zinc plated  
**Packaging** Standard

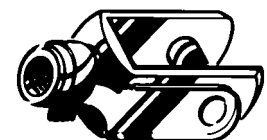


| d1 x g | ☒ | Art.number                    | d1 x g  | ☒ | Art.number                    | d1 x g  | ☒ | Art.number                    |
|--------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 5X10MM | 5 | <a href="#">57580.050.010</a> | 10X20MM | 5 | <a href="#">57580.100.020</a> | 14X56MM | 2 | <a href="#">57580.140.056</a> |
| 5X20MM | 5 | <a href="#">57580.050.020</a> | 10X40MM | 5 | <a href="#">57580.100.040</a> | 16X32MM | 2 | <a href="#">57580.160.032</a> |
| 6X12MM | 5 | <a href="#">57580.060.012</a> | 12X24MM | 2 | <a href="#">57580.120.024</a> | 16X64MM | 1 | <a href="#">57580.160.064</a> |
| 6X24MM | 5 | <a href="#">57580.060.024</a> | 12X48MM | 2 | <a href="#">57580.120.048</a> | 20X40MM | 1 | <a href="#">57580.200.040</a> |
| 8X16MM | 5 | <a href="#">57580.080.016</a> | 14X28MM | 2 | <a href="#">57580.140.028</a> |         |   |                               |
| 8X32MM | 5 | <a href="#">57580.080.032</a> |         |   |                               |         |   |                               |

#### 57578 Fork joint with spring pin type ES, left-hand thread

L11A

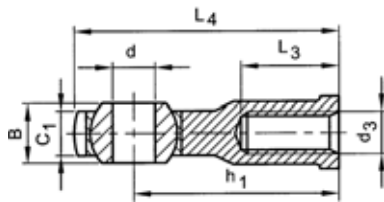
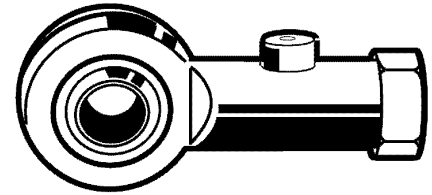
**Thread** Metric thread  
**Material** Free-cutting steel  
**Surface treatment** Zinc plated  
**Packaging** Standard  
**DIN** 71752 LH



| d1 x g | ☒ | Art.number                    | d1 x g | ☒ | Art.number                    | d1 x g | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| 5X20MM | 5 | <a href="#">57578.050.020</a> | 6X24MM | 5 | <a href="#">57578.060.024</a> | 8X16MM | 5 | <a href="#">57578.080.016</a> |
| 6X12MM | 5 | <a href="#">57578.060.012</a> |        |   |                               | 8X32MM | 5 | <a href="#">57578.080.032</a> |

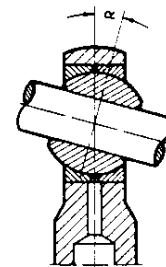
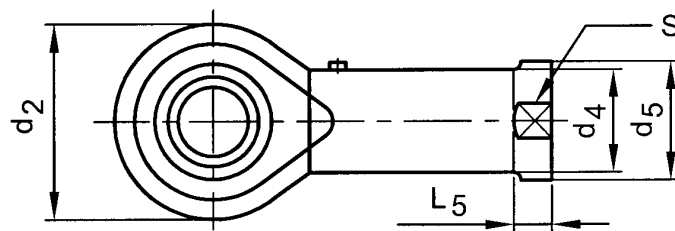
| 57578 Fork joint with spring pin type ES, left-hand thread |   |                               |         |   |                               |         |   |                               |
|--|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| d1 x g   | ☒ | Art.number                    | d1 x g  | ☒ | Art.number                    | d1 x g  | ☒ | Art.number                    |
| 10X20MM  | 5 | <a href="#">57578.100.020</a> | 12X24MM | 2 | <a href="#">57578.120.024</a> | 16X32MM | 2 | <a href="#">57578.160.032</a> |
| 10X40MM  | 5 | <a href="#">57578.100.040</a> | 12X48MM | 2 | <a href="#">57578.120.048</a> | 20X40MM | 1 | <a href="#">57578.200.040</a> |
|  |   |                               | 14X28MM | 2 | <a href="#">57578.140.028</a> |         |   |                               |

## Spherical plain bearing rod end with internal thread type SFC


 ISO 12240-4  
 DIN 648 B


### Technical data

| Type                               | SFC5 | SFC6 | SFC8  | SFC10 | SFC12 | SFC14 | SFC16 |
|------------------------------------|------|------|-------|-------|-------|-------|-------|
| d (H7)                             | 5    | 6    | 8     | 10    | 12    | 14    | 16    |
| B                                  | 8    | 9    | 12    | 14    | 16    | 19    | 21    |
| C <sub>1</sub> (max.)              | 7,5  | 7,5  | 9,5   | 11,5  | 12,5  | 14,5  | 15,5  |
| d <sub>2</sub> (max.)              | 18   | 20   | 24    | 28    | 32    | 36    | 42    |
| d <sub>3</sub>                     | M5   | M6   | M8    | M10   | M12   | M14   | M16   |
| d <sub>4</sub> (max.)              | 9    | 10   | 12,5  | 15    | 17,5  | 20    | 22    |
| d <sub>5</sub> (max.)              | 12   | 13   | 16    | 19    | 22    | 25    | 27    |
| h <sub>1</sub>                     | 27   | 30   | 36    | 43    | 50    | 57    | 64    |
| L <sub>3</sub> (min.)              | 8    | 9    | 12    | 15    | 18    | 21    | 24    |
| L <sub>4</sub> (max.)              | 37   | 41   | 49    | 58    | 67    | 76    | 86    |
| L <sub>5</sub> (max.)              | 4    | 5    | 5     | 6,5   | 6,5   | 8     | 8     |
| s                                  | 9    | 11   | 14    | 17    | 19    | 22    | 22    |
| α ° ≈                              | 13   | 13   | 13    | 13    | 13    | 15    | 15    |
| Static load (C <sub>0</sub> ) in N | 6000 | 7000 | 12000 | 14500 | 17000 | 24000 | 28500 |



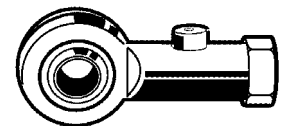
### Article groups

| Thread | Material |           | Packaging | Code  | Page  |
|--------|----------|-----------|-----------|-------|-------|
| M      | St       | right     | Standard  | 57605 | 12-41 |
| M      | St       | left hand | Standard  | 57655 | 12-41 |

#### 57605 Spherical plain bearing rod ends with internal thread type SFC right

L11A

Thread Metric thread  
 Material Steel  
 Packaging Standard

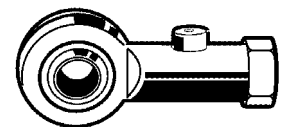


| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 5    | 1 | <a href="#">57605.050.001</a> | 10   | 1 | <a href="#">57605.100.001</a> | 16   | 1 | <a href="#">57605.160.001</a> |
| 6    | 1 | <a href="#">57605.060.001</a> | 12   | 1 | <a href="#">57605.120.001</a> |      |   |                               |
| 8    | 1 | <a href="#">57605.080.001</a> | 14   | 1 | <a href="#">57605.140.001</a> |      |   |                               |

#### 57655 Spherical plain bearing rod ends with internal thread type SFC left

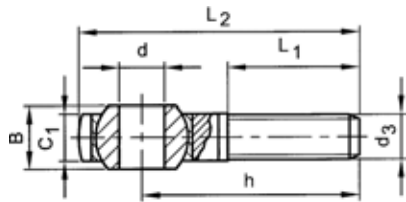
L11A

Thread Metric thread  
 Material Steel  
 Packaging Standard

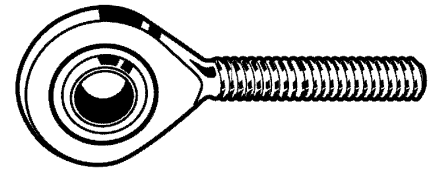


| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 5    | 1 | <a href="#">57655.050.001</a> | 10   | 1 | <a href="#">57655.100.001</a> | 16   | 1 | <a href="#">57655.160.001</a> |
| 6    | 1 | <a href="#">57655.060.001</a> | 12   | 1 | <a href="#">57655.120.001</a> |      |   |                               |
| 8    | 1 | <a href="#">57655.080.001</a> | 14   | 1 | <a href="#">57655.140.001</a> |      |   |                               |

**Spherical plain bearing rod end with external thread**

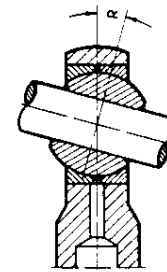
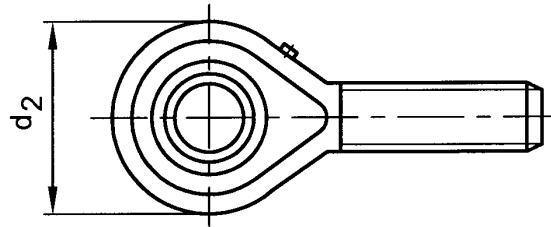


ISO 12240-4  
DIN 648 A



**Technical data**

| Type                               | SMC 5 | SMC 6 | SMC 8 | SMC 10 | SMC 12 | SMC 14 | SMC 16 |
|------------------------------------|-------|-------|-------|--------|--------|--------|--------|
| d (H7)                             | 5     | 6     | 8     | 10     | 12     | 14     | 16     |
| B                                  | 8     | 9     | 12    | 14     | 16     | 19     | 21     |
| C <sub>1</sub> (max.)              | 7,5   | 7,5   | 9,5   | 11,5   | 12,5   | 14,5   | 15,5   |
| d <sub>2</sub> (max.)              | 18    | 20    | 24    | 28     | 32     | 36     | 42     |
| d <sub>3</sub>                     | M5    | M6    | M8    | M10    | M12    | M14    | M16    |
| h                                  | 33    | 36    | 42    | 48     | 54     | 60     | 66     |
| L <sub>1</sub> (min.)              | 19    | 21    | 25    | 28     | 32     | 36     | 37     |
| L <sub>2</sub> (max.)              | 43    | 47    | 55    | 63     | 71     | 79     | 88     |
| α ° ≈                              | 13    | 13    | 13    | 13     | 13     | 15     | 15     |
| Static load (C <sup>0</sup> ) in N | 3000  | 4000  | 8000  | 13000  | 17000  | 24000  | 28500  |



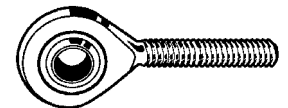
**Article groups**

| Thread | Material | Surface treatment |           | Packaging | Code  | Page  |
|--------|----------|-------------------|-----------|-----------|-------|-------|
| M      | St       | Zipl              | right     | Standard  | 57600 | 12-42 |
| M      | St       | Zipl              | left hand | Standard  | 57650 | 12-42 |

**57600 Spherical plain bearing rod end with external thread type SMC right**

L11A

Thread Metric thread  
Material Steel  
Surface treatment Zinc plated  
Packaging Standard

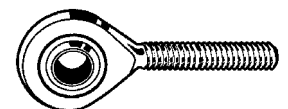


| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 5MM  | 1 | <a href="#">57600.050.001</a> | 10MM | 1 | <a href="#">57600.100.001</a> | 16MM | 1 | <a href="#">57600.160.001</a> |
| 6MM  | 1 | <a href="#">57600.060.001</a> | 12MM | 1 | <a href="#">57600.120.001</a> |      |   |                               |
| 8MM  | 1 | <a href="#">57600.080.001</a> | 14MM | 1 | <a href="#">57600.140.001</a> |      |   |                               |

**57650 Spherical plain bearing rod end with external thread type SMC left**

L11A

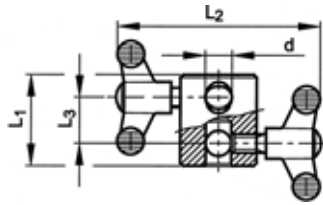
Thread Metric thread  
Material Steel  
Surface treatment Zinc plated  
Packaging Standard



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 5    | 1 | <a href="#">57650.050.001</a> | 10   | 1 | <a href="#">57650.100.001</a> | 16   | 1 | <a href="#">57650.160.001</a> |
| 6    | 1 | <a href="#">57650.060.001</a> | 12   | 1 | <a href="#">57650.120.001</a> |      |   |                               |
| 8    | 1 | <a href="#">57650.080.001</a> | 14   | 1 | <a href="#">57650.140.001</a> |      |   |                               |



**Multiple connector**



**Technical data**

|                |    |    |     |
|----------------|----|----|-----|
| d              | 10 | 12 | 16  |
| L <sub>1</sub> | 40 | 44 | 56  |
| L <sub>2</sub> | 90 | 90 | 126 |
| L <sub>3</sub> | 20 | 20 | 24  |

**57007 Multiple connector**

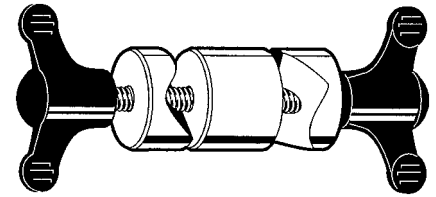
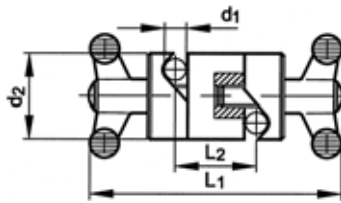
W03A

**Material** Aluminium  
**Packaging** Standard



| d    | ☒ | Art.number                    | d    | ☒ | Art.number                    | d    | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 10MM | 1 | <a href="#">57007.100.001</a> | 12MM | 1 | <a href="#">57007.120.001</a> | 16MM | 1 | <a href="#">57007.160.001</a> |

**Clamping joint individually adjustable**

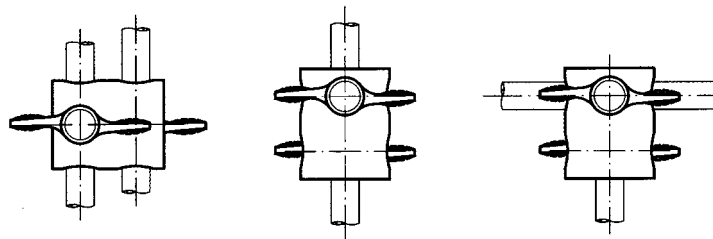


**Technical data**

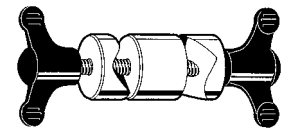
|    |     |     |     |
|----|-----|-----|-----|
| d1 | 10  | 12  | 16  |
| d2 | 32  | 36  | 45  |
| L1 | 100 | 104 | 142 |
| L2 | 32  | 34  | 44  |

- Aluminium with steel class 5.8 zinc plated, yellow passivated threaded pin and Polyamid PA 6 winged knobs.

**Assembly data**

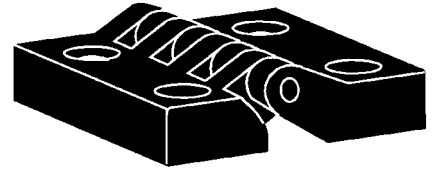
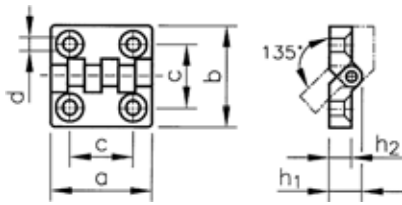


|                  |   |             |
|------------------|---|-------------|
| <b>57008</b>     | <b>Clamping joint individually adjustable</b> | <b>W03A</b> |
| <b>Material</b>  | Aluminium                                     |             |
| <b>Packaging</b> | Standard                                      |             |



| d1   | ☒ | Art.number                    | d1   | ☒ | Art.number                    | d1   | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| 10MM | 1 | <a href="#">57008.100.001</a> | 12MM | 1 | <a href="#">57008.120.001</a> | 16MM | 1 | <a href="#">57008.160.001</a> |

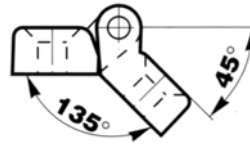
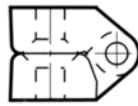
## Hinge



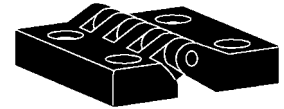
### Technical data

|                |         |         |
|----------------|---------|---------|
| a x b          | 48 x 48 | 64 x 64 |
| h <sub>1</sub> | 15,5    | 19      |
| h <sub>2</sub> | 10,5    | 13      |
| c              | 30      | 40      |
| d              | 6,5     | 6,5     |

### Assembly data

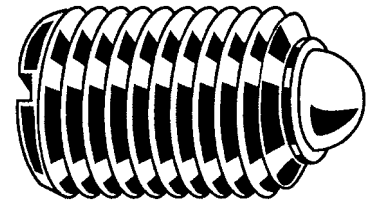
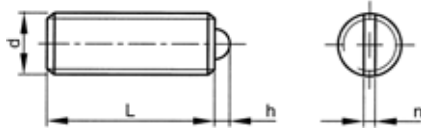


|                  |                                |  |             |
|------------------|--------------------------------|--|-------------|
| <b>57013</b>     | <b>Hinge</b>                   |  | <b>W03A</b> |
| <b>Material</b>  | Glass-fibre reinforced plastic |  |             |
| <b>Colour</b>    | Black                          |  |             |
| <b>Packaging</b> | Standard                       |  |             |



| a x b   | ☒ | Art.number                    | a x b | ☒ | Art.number | a x b | ☒ | Art.number |
|---------|---|-------------------------------|-------|---|------------|-------|---|------------|
| 48X48MM | 4 | <a href="#">57013.040.040</a> |       |   |            |       |   |            |
| 64X64MM | 4 | <a href="#">57013.064.064</a> |       |   |            |       |   |            |

## Slotted spring plunger with ball



### Technical data

| d   | P    | h   | n   | Spring pressure in N |
|-----|------|-----|-----|----------------------|
| M3  | 0,5  | 0,5 | 0,4 | 1,5-3                |
| M4  | 0,7  | 0,8 | 0,6 | 4-10                 |
| M5  | 0,8  | 0,9 | 0,8 | 6-11                 |
| M6  | 1    | 1   | 1   | 9-15                 |
| M8  | 1,25 | 1,5 | 1,2 | 15-30                |
| M10 | 1,5  | 2   | 1,6 | 20-40                |
| M12 | 1,75 | 2,5 | 2   | 30-55                |
| M16 | 2    | 3,5 | 2,5 | 65-125               |
| M20 | 2,5  | 4,5 | 2,5 | 80-160               |

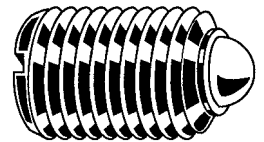
### Article groups

| Thread | Material           | Packaging | Code  | Page  |
|--------|--------------------|-----------|-------|-------|
| M      | Free-cutting steel | Standard  | 56950 | 12-46 |
| M      | St.St.             | Standard  | 56951 | 12-46 |

#### 56950 Slotted spring plunger with ball

W03A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Free-cutting steel |
| <b>Packaging</b> | Standard           |



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X7  | 50 | <a href="#">56950.030.007</a> | M6X14  | 50 | <a href="#">56950.060.014</a> | M12X22 | 10 | <a href="#">56950.120.022</a> |
| M4X9  | 50 | <a href="#">56950.040.009</a> | M8X16  | 25 | <a href="#">56950.080.016</a> | M16X24 | 10 | <a href="#">56950.160.024</a> |
| M5X12 | 50 | <a href="#">56950.050.012</a> | M10X19 | 25 | <a href="#">56950.100.019</a> | M20X30 | 10 | <a href="#">56950.200.030</a> |

#### 56951 Slotted spring plunger with ball

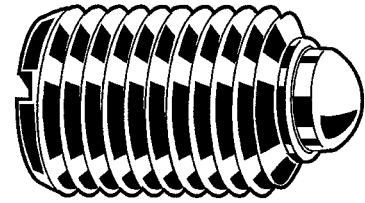
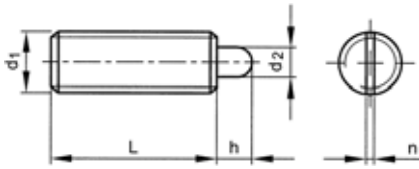
W03A

|                  |                 |
|------------------|-----------------|
| <b>Thread</b>    | Metric thread   |
| <b>Material</b>  | Stainless steel |
| <b>Packaging</b> | Standard        |



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X7  | 25 | <a href="#">56951.030.007</a> | M6X14  | 25 | <a href="#">56951.060.014</a> | M12X22 | 10 | <a href="#">56951.120.022</a> |
| M4X9  | 25 | <a href="#">56951.040.009</a> | M8X16  | 10 | <a href="#">56951.080.016</a> | M16X24 | 10 | <a href="#">56951.160.024</a> |
| M5X12 | 25 | <a href="#">56951.050.012</a> | M10X19 | 10 | <a href="#">56951.100.019</a> | M20X30 | 10 | <a href="#">56951.200.030</a> |

## Slotted spring plunger with pin



### Technical data

| d1  | P    | d2  | h   | n   | Spring pressure in N |
|-----|------|-----|-----|-----|----------------------|
| M4  | 0,7  | 1,8 | 1,5 | 0,6 | 6-20                 |
| M5  | 0,8  | 2,4 | 2   | 0,8 | 6-20                 |
| M6  | 1    | 2,7 | 2   | 1   | 7-20                 |
| M8  | 1,25 | 4   | 2   | 1,2 | 15-35                |
| M10 | 1,5  | 4,5 | 2,5 | 1,6 | 20-45                |
| M12 | 1,75 | 6   | 3,5 | 2   | 25-60                |
| M16 | 2    | 8,5 | 4,5 | 2,5 | 45-100               |

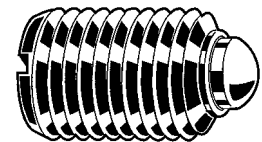
### Article groups

| Thread | Material           | Packaging | Code  | Page  |
|--------|--------------------|-----------|-------|-------|
| M      | Free-cutting steel | Standard  | 56975 | 12-47 |
| M      | St.St.             | Standard  | 56976 | 12-47 |

#### 56975 Slotted spring plunger with pin

W03A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Free-cutting steel |
| <b>Packaging</b> | Standard           |

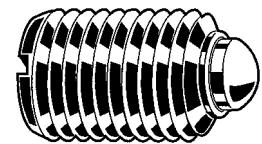


| d1    | ☒  | Art.number                    | d1     | ☒  | Art.number                    | d1     | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X9  | 50 | <a href="#">56975.040.009</a> | M8X16  | 25 | <a href="#">56975.080.016</a> | M16X24 | 10 | <a href="#">56975.160.024</a> |
| M5X12 | 50 | <a href="#">56975.050.012</a> | M10X19 | 25 | <a href="#">56975.100.019</a> |        |    |                               |
| M6X14 | 50 | <a href="#">56975.060.014</a> | M12X22 | 10 | <a href="#">56975.120.022</a> |        |    |                               |

#### 56976 Slotted spring plunger with pin

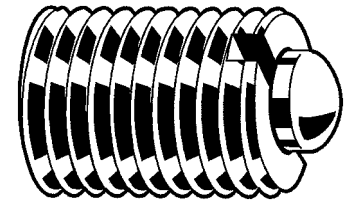
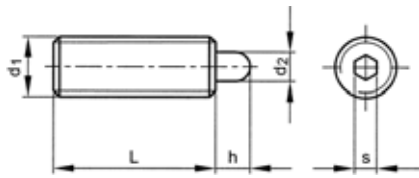
W03A

|                  |                 |
|------------------|-----------------|
| <b>Thread</b>    | Metric thread   |
| <b>Material</b>  | Stainless steel |
| <b>Packaging</b> | Standard        |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X9   | 25 | <a href="#">56976.040.009</a> | M8X16  | 10 | <a href="#">56976.080.016</a> | M16X24 | 10 | <a href="#">56976.160.024</a> |
| M5X12  | 25 | <a href="#">56976.050.012</a> | M10X19 | 10 | <a href="#">56976.100.019</a> |        |    |                               |
| M6X14  | 25 | <a href="#">56976.060.014</a> | M12X22 | 10 | <a href="#">56976.120.022</a> |        |    |                               |

## Spring plunger with pin and hexagon socket



### Technical data

| d1  | P    | d2  | h   | s   | Spring pressure in N |
|-----|------|-----|-----|-----|----------------------|
| M3  | 0,5  | 1   | 1,5 | 0,7 | 0,5-3,5              |
| M4  | 0,7  | 1,5 | 1,5 | 1,3 | 5-16                 |
| M5  | 0,8  | 2,4 | 2,3 | 1,5 | 6-20                 |
| M6  | 1    | 2,7 | 2,5 | 2   | 7-20                 |
| M8  | 1,25 | 3,5 | 3   | 2,5 | 9-35                 |
| M10 | 1,5  | 4   | 3   | 3   | 9-35                 |
| M12 | 1,75 | 6   | 4   | 4   | 10-55                |
| M16 | 2    | 7,5 | 5   | 5   | 45-100               |
| M20 | 2,5  | 10  | 7   | 6   | 60-145               |

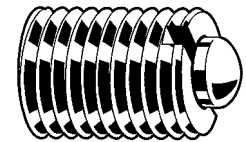
### Article groups

| Thread | Material           | Packaging | Code  | Page  |
|--------|--------------------|-----------|-------|-------|
| M      | Free-cutting steel | Standard  | 56977 | 12-48 |
| M      | St.St.             | Standard  | 56978 | 12-48 |

#### 56977 Spring plunger with pin and hexagon socket

W03A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Free-cutting steel |
| <b>Packaging</b> | Standard           |

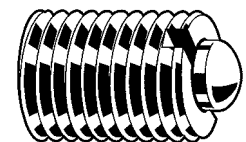


| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M3X10  | 50 | <a href="#">56977.030.010</a> | M6X20  | 50 | <a href="#">56977.060.020</a> | M12X28 | 10 | <a href="#">56977.120.028</a> |
| M4X15  | 50 | <a href="#">56977.040.015</a> | M8X22  | 25 | <a href="#">56977.080.022</a> | M16X32 | 10 | <a href="#">56977.160.032</a> |
| M5X18  | 50 | <a href="#">56977.050.018</a> | M10X22 | 25 | <a href="#">56977.100.022</a> | M20X40 | 10 | <a href="#">56977.200.040</a> |

#### 56978 Spring plunger with pin and hexagon socket

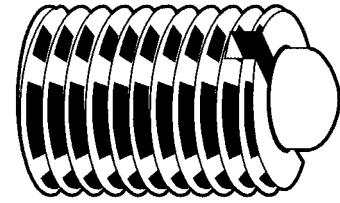
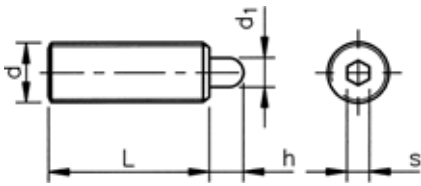
W03A

|                  |                 |
|------------------|-----------------|
| <b>Thread</b>    | Metric thread   |
| <b>Material</b>  | Stainless steel |
| <b>Packaging</b> | Standard        |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X15  | 25 | <a href="#">56978.040.015</a> | M8X22  | 10 | <a href="#">56978.080.022</a> | M16X32 | 10 | <a href="#">56978.160.032</a> |
| M5X18  | 25 | <a href="#">56978.050.018</a> | M10X22 | 10 | <a href="#">56978.100.022</a> |        |    |                               |
| M6X20  | 25 | <a href="#">56978.060.020</a> | M12X28 | 10 | <a href="#">56978.120.028</a> |        |    |                               |

## Spring plunger with plastic pin and hexagon socket



### Technical data

| d   | P    | d <sub>1</sub> | h   | s   | Spring pressure in N |
|-----|------|----------------|-----|-----|----------------------|
| M4  | 0,7  | 1,5            | 1,5 | 1,3 | 5-16                 |
| M5  | 0,8  | 2,4            | 2,3 | 1,5 | 5-20                 |
| M6  | 1    | 2,7            | 2,5 | 2   | 6-20                 |
| M8  | 1,25 | 3,5            | 3   | 2,5 | 7-35                 |
| M10 | 1,5  | 4              | 3   | 3   | 9-35                 |
| M12 | 1,75 | 6              | 4   | 4   | 10-55                |
| M16 | 2    | 7,5            | 5   | 5   | 45-100               |

### 56980 Spring plunger with plastic pin and hexagon socket

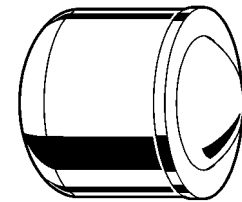
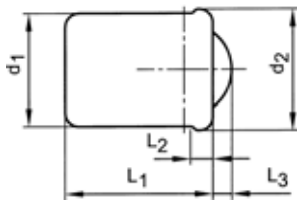
W03A

**Thread** Metric thread  
**Material** Free-cutting steel  
**Packaging** Standard



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒  | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|----|-------------------------------|
| M4X15 | 25 | <a href="#">56980.040.015</a> | M8X22  | 10 | <a href="#">56980.080.022</a> | M16X32 | 10 | <a href="#">56980.160.032</a> |
| M5X18 | 25 | <a href="#">56980.050.018</a> | M10X22 | 10 | <a href="#">56980.100.022</a> |        |    |                               |
| M6X20 | 25 | <a href="#">56980.060.020</a> | M12X28 | 10 | <a href="#">56980.120.028</a> |        |    |                               |

## Spring plunger smooth execution



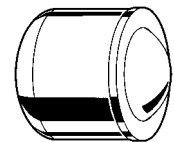
### Technical data

| d1                   | 4   | 5   | 6    | 8    |
|----------------------|-----|-----|------|------|
| d <sub>2</sub>       | 4,6 | 5,6 | 6,5  | 8,5  |
| L <sub>1</sub>       | 5   | 6   | 7    | 9    |
| L <sub>2</sub>       | 1   | 1   | 1    | 1    |
| L <sub>3</sub>       | 0,8 | 1   | 1,5  | 1,8  |
| Spring pressure in N | 3-7 | 4-7 | 6-12 | 6-12 |

### 56979 Spring plunger smooth execution

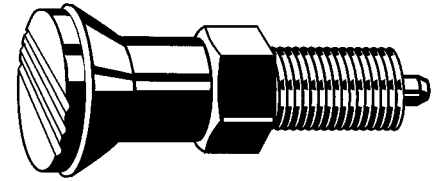
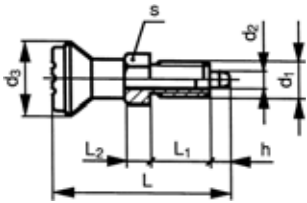
W03A

**Material** Stainless steel  
**Packaging** Standard



| d1 x L1 | ☒  | Art.number                    | d1 x L1 | ☒  | Art.number                    | d1 x L1 | ☒ | Art.number |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|------------|
| 4X5MM   | 50 | <a href="#">56979.040.005</a> | 6X7MM   | 50 | <a href="#">56979.060.007</a> |         |   |            |
| 5X6MM   | 50 | <a href="#">56979.050.006</a> | 8X9MM   | 25 | <a href="#">56979.080.009</a> |         |   |            |

## Locking bolt without locking groove



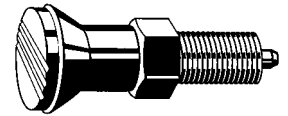
### Technical data

| d1 x P x h     | M10x1,0x5 | M12x1,5x6 | M16x1,5x8 | M16x1,5x15 |
|----------------|-----------|-----------|-----------|------------|
| d <sub>2</sub> | 5         | 6         | 8         | 8          |
| d <sub>3</sub> | 21        | 25        | 33        | 33         |
| L              | 47        | 56        | 74        | 80         |
| L <sub>2</sub> | 7         | 8         | 10        | 13         |
| h              | 5         | 6         | 8         | 15         |
| s              | 13        | 14        | 19        | 19         |

### 56952 Locking bolt without locking groove

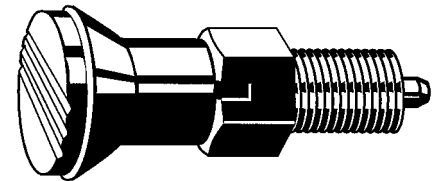
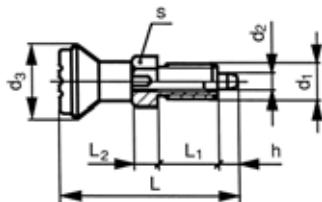
W03A

|                  |                                 |
|------------------|---------------------------------|
| <b>Thread</b>    | Metric fine thread              |
| <b>Material</b>  | Plastic Polyamide (nylon)/Steel |
| <b>Class</b>     | 6                               |
| <b>Colour</b>    | Black                           |
| <b>Packaging</b> | Standard                        |



| d1 x P x L1(h) | ☒  | Art.number                    | d1 x P x L1(h) | ☒ | Art.number                    | d1 x P x L1(h) | ☒ | Art.number                    |
|----------------|----|-------------------------------|----------------|---|-------------------------------|----------------|---|-------------------------------|
| M10X1,00X17/5  | 10 | <a href="#">56952.100.017</a> | M12X1,50X20/6  | 5 | <a href="#">56952.120.020</a> | M16X1,50X26/8  | 3 | <a href="#">56952.160.026</a> |

## Locking bolt with locking groove



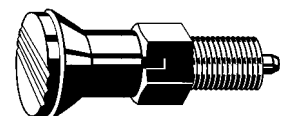
### Technical data

| d1 x P x h     | M10x1,0x5 | M12x1,5x6 | M16x1,5x8 |
|----------------|-----------|-----------|-----------|
| d <sub>2</sub> | 5         | 6         | 8         |
| d <sub>3</sub> | 21        | 25        | 33        |
| L              | 47        | 56        | 74        |
| L <sub>2</sub> | 10        | 11        | 13        |
| h              | 5         | 6         | 8         |
| s              | 13        | 14        | 19        |

### 56953 Locking bolt with locking groove

W03A

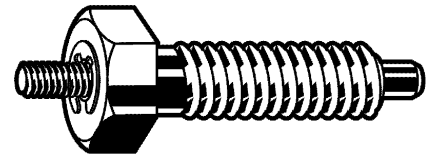
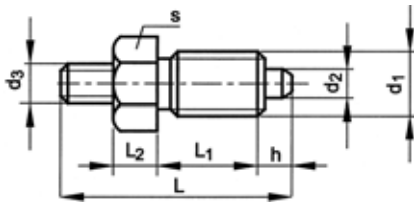
|                  |                                 |
|------------------|---------------------------------|
| <b>Thread</b>    | Metric fine thread              |
| <b>Material</b>  | Plastic Polyamide (nylon)/Steel |
| <b>Class</b>     | 6                               |
| <b>Colour</b>    | Black                           |
| <b>Packaging</b> | Standard                        |



| d1 x P x L1(h) | ☒  | Art.number                    | d1 x P x L1(h) | ☒ | Art.number                    | d1 x P x L1(h) | ☒ | Art.number                    |
|----------------|----|-------------------------------|----------------|---|-------------------------------|----------------|---|-------------------------------|
| M10X1,00X17/5  | 10 | <a href="#">56953.100.017</a> | M12X1,50X20/6  | 5 | <a href="#">56953.120.020</a> | M16X1,50X26/8  | 3 | <a href="#">56953.160.026</a> |



## Locking bolt



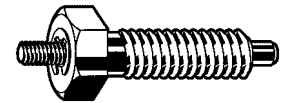
### Technical data

| d1 x P x h     | M10x1,0x5 | M12x1,5x6 | M16x1,5x8 | M20x1,5x10 |
|----------------|-----------|-----------|-----------|------------|
| d <sub>2</sub> | 5         | 6         | 8         | 10         |
| d <sub>3</sub> | M4        | M6        | M8        | M8         |
| L              | 37        | 43        | 56        | 62         |
| L <sub>2</sub> | 7         | 8         | 10        | 12         |
| h              | 5         | 6         | 8         | 10         |
| s              | 13        | 14        | 19        | 22         |

### 57001 Locking bolt

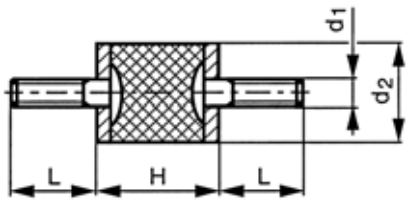
W03A

**Thread** Metric fine thread  
**Material** Steel  
**Packaging** Standard



| d1 x P x L1(h) | ☒  | Art.number                    | d1 x P x L1(h) | ☒ | Art.number                    | d1 x P x L1(h) | ☒ | Art.number |
|----------------|----|-------------------------------|----------------|---|-------------------------------|----------------|---|------------|
| M10X1,00X17/5  | 10 | <a href="#">57001.100.100</a> | M16X1,50X26/8  | 3 | <a href="#">57001.160.150</a> |                |   |            |
| M12X1,50X20/6  | 5  | <a href="#">57001.120.150</a> | M20X1,50X28/10 | 2 | <a href="#">57001.200.150</a> |                |   |            |

## Cylindrical mounting type A



### Technical data

| Type    | d <sub>1</sub> | d <sub>2</sub> | H   | L  | Max. pull-out force in N | Max. allowable shear load in N |
|---------|----------------|----------------|-----|----|--------------------------|--------------------------------|
| A10/10  | M4             | 10             | 10  | 10 | 40                       | 20                             |
| A15/08  | M4             | 15             | 8   | 10 | 60                       | 25                             |
| A15/15  | M4             | 15             | 15  | 10 | 100                      | 40                             |
| A18/8,5 | M6             | 18             | 8,5 | 16 | 180                      | 70                             |
| A20/15  | M6             | 20             | 15  | 18 | 160                      | 70                             |
| A20/20  | M6             | 20             | 20  | 18 | 160                      | 70                             |
| A20/25  | M6             | 20             | 25  | 18 | 150                      | 60                             |
| A25/10  | M6             | 25             | 10  | 18 | 300                      | 120                            |
| A25/15  | M6             | 25             | 15  | 18 | 290                      | 110                            |
| A25/20  | M6             | 25             | 20  | 18 | 280                      | 110                            |
| A25/25  | M6             | 25             | 25  | 18 | 260                      | 105                            |
| A25/30  | M6             | 25             | 30  | 18 | 250                      | 90                             |
| A30/15  | M8             | 30             | 15  | 20 | 500                      | 170                            |
| A30/20  | M8             | 30             | 20  | 20 | 440                      | 170                            |
| A30/30  | M8             | 30             | 30  | 20 | 380                      | 150                            |
| A30/40  | M8             | 30             | 40  | 20 | 300                      | 100                            |
| A40/30  | M8             | 40             | 30  | 23 | 700                      | 300                            |
| A40/40  | M8             | 40             | 40  | 23 | 650                      | 260                            |
| A50/20  | M10            | 50             | 20  | 28 | 2000                     | 500                            |
| A50/25  | M10            | 50             | 25  | 28 | 1400                     | 500                            |
| A50/30  | M10            | 50             | 30  | 28 | 1400                     | 500                            |
| A50/40  | M10            | 50             | 40  | 28 | 1100                     | 450                            |
| A50/45  | M10            | 50             | 45  | 28 | 1050                     | 450                            |
| A50/50  | M10            | 50             | 50  | 28 | 1050                     | 420                            |
| A70/45  | M10            | 70             | 45  | 28 | 2300                     | 900                            |
| A75/25  | M12            | 75             | 25  | 37 | 3400                     | 1000                           |
| A75/40  | M12            | 75             | 40  | 37 | 2900                     | 1000                           |
| A75/50  | M12            | 75             | 50  | 37 | 2800                     | 1000                           |
| A75/55  | M12            | 75             | 55  | 37 | 2500                     | 1000                           |
| A100/40 | M16            | 100            | 40  | 41 | 6600                     | 2000                           |
| A100/55 | M16            | 100            | 55  | 41 | 5100                     | 2000                           |
| A100/60 | M16            | 100            | 60  | 41 | 5100                     | 2000                           |

- Extension material natural rubber 55°/60° shore.

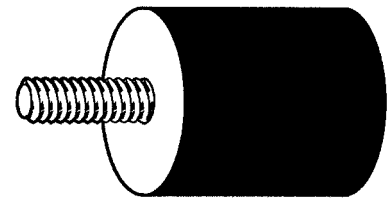
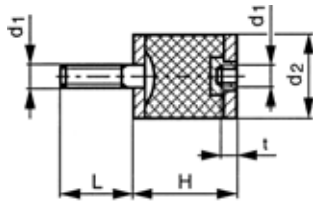
| 57770 Cylindrical mounting type A |               | S11A |
|-----------------------------------|---------------|------|
| Thread                            | Metric thread |      |
| Material                          | Steel         |      |
| Surface treatment                 | Zinc plated   |      |
| Packaging                         | Standard      |      |



| Type         | ☒  | Art.number                    | Type         | ☒  | Art.number                    | Type          | ☒ | Art.number                    |
|--------------|----|-------------------------------|--------------|----|-------------------------------|---------------|---|-------------------------------|
| 10/10 M4X10  | 10 | <a href="#">57770.010.010</a> | 25/30 M6X18  | 10 | <a href="#">57770.025.030</a> | 50/45 M10X28  | 5 | <a href="#">57770.050.045</a> |
| 15/8 M4X10   | 10 | <a href="#">57770.015.008</a> | 30/15 M8X20  | 10 | <a href="#">57770.030.015</a> | 50/50 M10X28  | 5 | <a href="#">57770.050.050</a> |
| 15/15 M4X13  | 10 | <a href="#">57770.015.015</a> | 30/20 M8X20  | 10 | <a href="#">57770.030.020</a> | 70/45 M10X28  | 5 | <a href="#">57770.070.045</a> |
| 18/8,5 M6X16 | 10 | <a href="#">57770.018.008</a> | 30/30 M8X20  | 10 | <a href="#">57770.030.030</a> | 75/25 M12X37  | 5 | <a href="#">57770.075.025</a> |
| 20/15 M6X18  | 10 | <a href="#">57770.020.015</a> | 30/40 M8X20  | 10 | <a href="#">57770.030.040</a> | 75/40 M12X37  | 5 | <a href="#">57770.075.040</a> |
| 20/20 M6X18  | 10 | <a href="#">57770.020.020</a> | 40/30 M8X23  | 10 | <a href="#">57770.040.030</a> | 75/50 M12X37  | 5 | <a href="#">57770.075.050</a> |
| 20/25 M6X18  | 10 | <a href="#">57770.020.025</a> | 40/40 M8X23  | 10 | <a href="#">57770.040.040</a> | 75/55 M12X37  | 5 | <a href="#">57770.075.055</a> |
| 25/10 M6X18  | 10 | <a href="#">57770.025.010</a> | 50/20 M10X28 | 5  | <a href="#">57770.050.020</a> | 100/40 M16X41 | 2 | <a href="#">57770.100.040</a> |
| 25/15 M6X18  | 10 | <a href="#">57770.025.015</a> | 50/25 M10X28 | 5  | <a href="#">57770.050.025</a> | 100/55 M16X41 | 2 | <a href="#">57770.100.055</a> |
| 25/20 M6X18  | 10 | <a href="#">57770.025.020</a> | 50/30 M10X28 | 5  | <a href="#">57770.050.030</a> | 100/60 M16X41 | 2 | <a href="#">57770.100.060</a> |
| 25/25 M6X18  | 10 | <a href="#">57770.025.025</a> | 50/40 M10X28 | 5  | <a href="#">57770.050.040</a> |               |   |                               |

- Technical brochure available on request.

## Cylindrical mounting type B



### Technical data

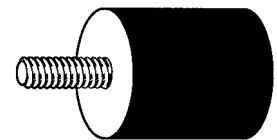
| Type    | d <sub>1</sub> | d <sub>2</sub> | H  | L  | t  | Max. pull-out force in N | Max. allowable shear load in N |
|---------|----------------|----------------|----|----|----|--------------------------|--------------------------------|
| B10/10  | M4             | 10             | 10 | 10 | 4  | 56                       | 10                             |
| B15/15  | M4             | 15             | 15 | 10 | 4  | 115                      | 50                             |
| B20/15  | M6             | 20             | 15 | 18 | 6  | 160                      | 105                            |
| B20/20  | M6             | 20             | 20 | 18 | 6  | 160                      | 90                             |
| B20/25  | M6             | 20             | 25 | 18 | 6  | 150                      | 90                             |
| B25/15  | M6             | 25             | 15 | 18 | 6  | 290                      | 160                            |
| B25/20  | M6             | 25             | 20 | 18 | 6  | 280                      | 145                            |
| B25/25  | M6             | 25             | 25 | 18 | 6  | 260                      | 135                            |
| B25/30  | M6             | 25             | 30 | 18 | 6  | 250                      | 135                            |
| B30/15  | M8             | 30             | 15 | 20 | 8  | 676                      | 208                            |
| B30/20  | M8             | 30             | 20 | 20 | 8  | 380                      | 210                            |
| B30/30  | M8             | 30             | 30 | 20 | 8  | 355                      | 190                            |
| B30/40  | M8             | 30             | 40 | 23 | 8  | 600                      | 340                            |
| B40/30  | M8             | 40             | 30 | 23 | 8  | 600                      | 340                            |
| B40/40  | M8             | 40             | 40 | 23 | 8  | 600                      | 330                            |
| B50/20  | M10            | 50             | 20 | 28 | 10 | 1300                     | 455                            |
| B50/30  | M10            | 50             | 30 | 28 | 10 | 1200                     | 500                            |
| B50/40  | M10            | 50             | 40 | 28 | 10 | 1100                     | 315                            |
| B50/45  | M10            | 50             | 45 | 28 | 10 | 1050                     | 510                            |
| B50/50  | M10            | 50             | 50 | 28 | 10 | 1050                     | 505                            |
| B70/45  | M10            | 70             | 45 | 28 | 10 | 2200                     | 995                            |
| B75/40  | M12            | 75             | 40 | 37 | 12 | 2900                     | 1215                           |
| B75/50  | M12            | 75             | 50 | 37 | 12 | 2600                     | 1185                           |
| B75/55  | M12            | 75             | 55 | 37 | 12 | 2400                     | 1170                           |
| B100/40 | M16            | 100            | 40 | 41 | 16 | 6500                     | 2310                           |
| B100/55 | M16            | 100            | 55 | 41 | 16 | 5100                     | 2180                           |
| B100/60 | M16            | 100            | 60 | 41 | 16 | 5000                     | 2125                           |

- Extension material natural rubber 55°/60° shore.
- Tolerance acc. to DIN 7715-2, class M3.

### 57771 Cylindrical mounting type B

S11A

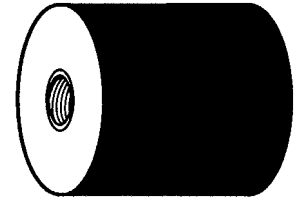
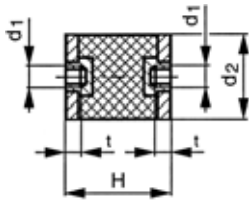
|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| Type          | ☒  | Art.number                    | Type            | ☒  | Art.number                    | Type             | ☒ | Art.number                    |
|---------------|----|-------------------------------|-----------------|----|-------------------------------|------------------|---|-------------------------------|
| 10/10 M4X10-5 | 10 | <a href="#">57771.010.010</a> | 30/15 M8X20     | 10 | <a href="#">57771.030.015</a> | 50/45 M10X28-10  | 5 | <a href="#">57771.050.045</a> |
| 15/15 M4X10-5 | 10 | <a href="#">57771.015.015</a> | 30/20 M8X20-8   | 10 | <a href="#">57771.030.020</a> | 50/50 M10X28-10  | 5 | <a href="#">57771.050.050</a> |
| 20/15 M6X18-6 | 10 | <a href="#">57771.020.015</a> | 30/30 M8X20-8   | 10 | <a href="#">57771.030.030</a> | 70/45 M10X28-10  | 5 | <a href="#">57771.070.045</a> |
| 20/20 M6X18-6 | 10 | <a href="#">57771.020.020</a> | 30/40 M8X20     | 10 | <a href="#">57771.030.040</a> | 75/40 M12X37-12  | 5 | <a href="#">57771.075.040</a> |
| 20/25 M6X18-6 | 10 | <a href="#">57771.020.025</a> | 40/30 M8X23-8   | 10 | <a href="#">57771.040.030</a> | 75/50 M12X37     | 5 | <a href="#">57771.075.050</a> |
| 25/15 M6X18-6 | 10 | <a href="#">57771.025.015</a> | 40/40 M8X23-8   | 10 | <a href="#">57771.040.040</a> | 75/55 M12X37-12  | 5 | <a href="#">57771.075.055</a> |
| 25/20 M6X18-6 | 10 | <a href="#">57771.025.020</a> | 50/20 M10X28-10 | 5  | <a href="#">57771.050.020</a> | 100/40 M16X41-16 | 2 | <a href="#">57771.100.040</a> |
| 25/25 M6X18-6 | 10 | <a href="#">57771.025.025</a> | 50/30 M10X28-10 | 5  | <a href="#">57771.050.030</a> | 100/55 M16X41-16 | 2 | <a href="#">57771.100.055</a> |
| 25/30 M6X18-6 | 10 | <a href="#">57771.025.030</a> | 50/40 M10X28-10 | 5  | <a href="#">57771.050.040</a> | 100/60 M16X41-16 | 2 | <a href="#">57771.100.060</a> |

- Technical brochure available on request.

## Cylindrical mounting type C



### Technical data

| Type    | d <sub>1</sub> | d <sub>2</sub> | H  | t  | Max. pull-out force in N | Max. allowable shear load in N |
|---------|----------------|----------------|----|----|--------------------------|--------------------------------|
| C10/10  | M4             | 10             | 10 | 5  | 96                       | 12                             |
| C15/15  | M4             | 15             | 15 | 5  | 120                      | 40                             |
| C20/20  | M6             | 20             | 20 | 6  | 170                      | 50                             |
| C20/25  | M6             | 20             | 25 | 6  | 150                      | 40                             |
| C25/20  | M6             | 25             | 20 | 6  | 280                      | 90                             |
| C25/25  | M6             | 25             | 25 | 6  | 260                      | 80                             |
| C25/30  | M6             | 25             | 30 | 6  | 250                      | 80                             |
| C30/20  | M8             | 30             | 20 | 8  | 380                      | 120                            |
| C30/30  | M8             | 30             | 30 | 8  | 355                      | 110                            |
| C30/40  | M8             | 30             | 40 | 8  | 429                      | 208                            |
| C40/30  | M8             | 40             | 30 | 8  | 700                      | 250                            |
| C40/40  | M8             | 40             | 40 | 8  | 650                      | 250                            |
| C50/30  | M10            | 50             | 30 | 10 | 1200                     | 400                            |
| C50/40  | M10            | 50             | 40 | 10 | 1100                     | 400                            |
| C50/45  | M10            | 50             | 45 | 10 | 1050                     | 400                            |
| C50/50  | M10            | 50             | 50 | 10 | 1050                     | 400                            |
| C70/45  | M12            | 70             | 45 | 10 | 2200                     | 750                            |
| C75/40  | M12            | 75             | 40 | 12 | 2900                     | 900                            |
| C75/50  | M12            | 75             | 50 | 12 | 2600                     | 900                            |
| C100/40 | M16            | 100            | 40 | 16 | 6500                     | 1500                           |
| C100/55 | M16            | 100            | 55 | 16 | 5100                     | 1500                           |
| C100/60 | M16            | 100            | 60 | 16 | 5000                     | 1500                           |

- Extension material natural rubber 55°/60° shore.
- Tolerance acc. to DIN 7715-2, class M3.

### 57780 Cylindrical mounting type C

S11A

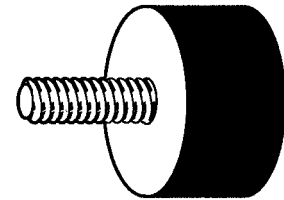
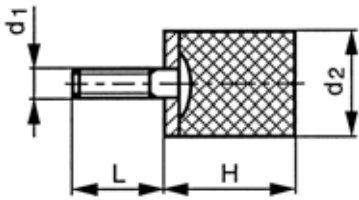
|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| Type      | ☒  | Art.number                    | Type        | ☒  | Art.number                    | Type         | ☒ | Art.number                    |
|-----------|----|-------------------------------|-------------|----|-------------------------------|--------------|---|-------------------------------|
| 10/10M4X5 | 10 | <a href="#">57780.010.010</a> | 30/30M8X8   | 10 | <a href="#">57780.030.030</a> | 70/45M10X10  | 5 | <a href="#">57780.070.045</a> |
| 15/15M4X5 | 10 | <a href="#">57780.015.015</a> | 30/40M8X8   | 10 | <a href="#">57780.030.040</a> | 75/40M12X12  | 5 | <a href="#">57780.075.040</a> |
| 20/20M6X6 | 10 | <a href="#">57780.020.020</a> | 40/30M8X8   | 10 | <a href="#">57780.040.030</a> | 75/50M12X12  | 5 | <a href="#">57780.075.050</a> |
| 20/25M6X6 | 10 | <a href="#">57780.020.025</a> | 40/40M8X8   | 10 | <a href="#">57780.040.040</a> | 100/40M16X16 | 2 | <a href="#">57780.100.040</a> |
| 25/20M6X6 | 10 | <a href="#">57780.025.020</a> | 50/30M10X10 | 5  | <a href="#">57780.050.030</a> | 100/55M16X16 | 2 | <a href="#">57780.100.055</a> |
| 25/25M6X6 | 10 | <a href="#">57780.025.025</a> | 50/40M10X10 | 5  | <a href="#">57780.050.040</a> | 100/60M16X16 | 2 | <a href="#">57780.100.060</a> |
| 25/30M6X6 | 10 | <a href="#">57780.025.030</a> | 50/45M10X10 | 5  | <a href="#">57780.050.045</a> |              |   |                               |
| 30/20M8X8 | 10 | <a href="#">57780.030.020</a> | 50/50M10X10 | 5  | <a href="#">57780.050.050</a> |              |   |                               |

- Technical brochure available on request.

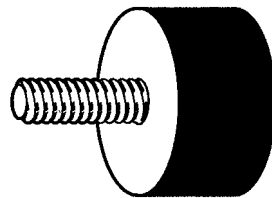
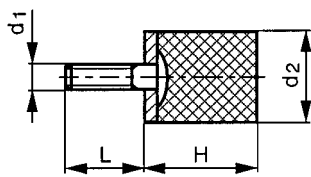
## Cylindrical mounting



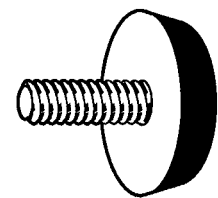
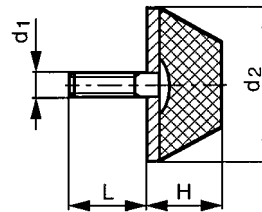
### Technical data

| Type    | d <sub>1</sub> | d <sub>2</sub> | H  | L  | Max. pull-out force in N |
|---------|----------------|----------------|----|----|--------------------------|
| D10/10  | M4             | 10             | 10 | 10 | 59                       |
| D20/15  | M6             | 20             | 15 | 18 | 160                      |
| KD25/17 | M6             | 25             | 17 | 18 | 250                      |
| D25/17  | M6             | 25             | 17 | 18 | 290                      |
| D30/17  | M8             | 30             | 17 | 20 | 380                      |
| D30/20  | M8             | 30             | 20 | 20 | 350                      |
| D40/28  | M8             | 40             | 28 | 23 | 680                      |
| D40/30  | M8             | 40             | 30 | 23 | 660                      |
| D40/38  | M8             | 40             | 38 | 23 | 660                      |
| KD50/18 | M10            | 50             | 18 | 28 | 1400                     |
| D50/20  | M10            | 50             | 20 | 28 | 1500                     |
| D50/42  | M10            | 50             | 42 | 28 | 1100                     |
| D70/42  | M10            | 70             | 42 | 30 | 2200                     |
| D75/25  | M12            | 75             | 25 | 37 | 5446                     |
| D100/40 | M16            | 100            | 40 | 41 | 6600                     |

- Extension material natural rubber 55°/60° shore.
- Tolerance acc. to DIN 7715-2, class M3.



TYPE D

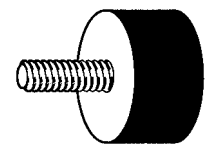


TYPE KD

### 57779 Cylindrical mounting type D en KD

S11A

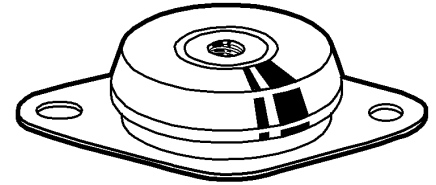
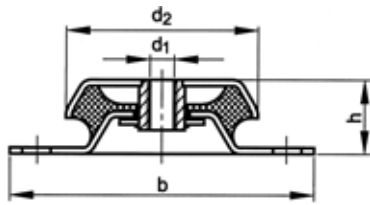
|                   |               |
|-------------------|---------------|
| Thread            | Metric thread |
| Material          | Steel         |
| Surface treatment | Zinc plated   |
| Packaging         | Standard      |



| Type          | ☒  | Art.number                    | Type         | ☒  | Art.number                    | Type           | ☒ | Art.number                    |
|---------------|----|-------------------------------|--------------|----|-------------------------------|----------------|---|-------------------------------|
| D10/10 M4X10  | 10 | <a href="#">57779.010.010</a> | D30/20 M8X20 | 10 | <a href="#">57779.030.020</a> | D50/20 M10X28  | 5 | <a href="#">57779.050.020</a> |
| D20/15 M6X18  | 10 | <a href="#">57779.020.015</a> | D40/28 M8X23 | 10 | <a href="#">57779.040.028</a> | D50/42 M10X28  | 5 | <a href="#">57779.050.042</a> |
| DK25/17 M6X18 | 10 | <a href="#">57779.025.017</a> | D40/30 M8X23 | 10 | <a href="#">57779.040.030</a> | D70/42 M10X30  | 5 | <a href="#">57779.070.042</a> |
| D25/17 M6X18  | 10 | <a href="#">57779.025.117</a> | D40/38 M8X23 | 10 | <a href="#">57779.040.038</a> | D75/25 M12X37  | 5 | <a href="#">57779.075.025</a> |
| D30/17 M8X20  | 10 | <a href="#">57779.030.017</a> | KD50/18      | 5  | <a href="#">57779.050.018</a> | D100/40 M16X41 | 2 | <a href="#">57779.100.040</a> |

- Technical brochure available on request.

## Mounting type RA



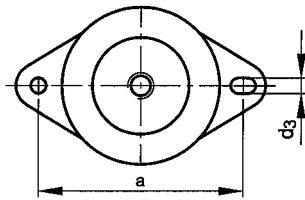
### Technical data

| Type                            | RA 100/M10 | RA 100/M12 | RA 200/M10 | RA 200/M12 | RA 350/M12 | RA 350/M16 | RA 500/M16 | RA 800/M16 |
|---------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>d<sub>1</sub></b>            | M10        | M12        | M10        | M12        | M12        | M16        | M16        | M16        |
| <b>b</b>                        | 130        | 130        | 150        | 150        | 175        | 175        | 192        | 216        |
| <b>h</b>                        | 30         | 30         | 35         | 35         | 38         | 38         | 42         | 48         |
| <b>d<sub>2</sub></b>            | 79         | 79         | 94         | 94         | 101        | 101        | 123        | 144        |
| <b>Assembly data</b>            |            |            |            |            |            |            |            |            |
| <b>a</b>                        | 110        | 110        | 124        | 124        | 140-148    | 140-148    | 158        | 182        |
| <b>d<sub>3</sub></b>            | 9          | 9          | 10         | 10         | 14         | 14         | 14         | 14         |
| <b>Max. pull-out force in N</b> | 2400       | 2400       | 2800       | 2800       | 4500       | 4500       | 7000       | 13000      |

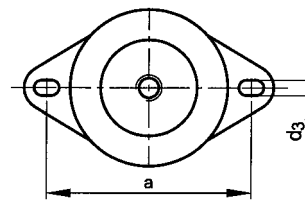
- Domed cover zinc plated, blue passivated, vibration isolation material natural rubber (NR) 60° Shore (tol. ± 5°) and footplate zinc plated, yellow passivated.

Special features FABORY mountings type RA:

- suitable for the effective isolation of vibration and noise on different machines with rotating movements, like compressors, combusting engines, generators, converters, pumps, industrial and marin gen sets, fans, for use with presses, punches and other workshop machines.
- fitted as standard with an integral fail-safe design device with resilient stop.



TYPE RA 100, RA 200, RA 500, RA 800

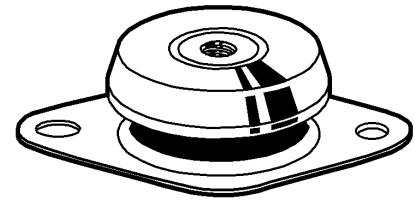
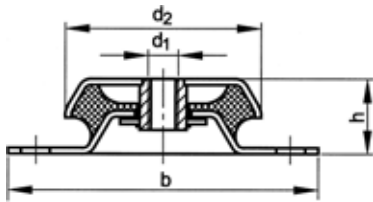


TYPE RA 350

| 57792 Mounting type RA |               | S12A |  |
|------------------------|---------------|------|--|
| <b>Thread</b>          | Metric thread |      |  |
| <b>Material</b>        | Steel         |      |  |
| <b>Packaging</b>       | Standard      |      |  |

| Type    | ☒ | Art.number                    | Type    | ☒ | Art.number                    | Type    | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 100-M10 | 2 | <a href="#">57792.100.100</a> | 200-M12 | 2 | <a href="#">57792.200.120</a> | 500-M16 | 1 | <a href="#">57792.500.160</a> |
| 100-M12 | 2 | <a href="#">57792.100.120</a> | 350-M12 | 1 | <a href="#">57792.350.120</a> | 800-M16 | 1 | <a href="#">57792.800.160</a> |
| 200-M10 | 2 | <a href="#">57792.200.100</a> | 350-M16 | 1 | <a href="#">57792.350.160</a> |         |   |                               |

## Mounting type RAEM



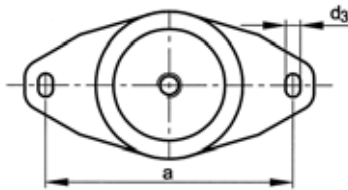
### Technical data

| Type                            | RAEM 40/M10 | RAEM 60/M12 | RAEM 125/M10 | RAEM 125/M12 | RAEM 350/M12 | RAEM 350/M16 | RAEM 800/M16 |
|---------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| d <sub>1</sub>                  | M10         | M12         | M10          | M12          | M12          | M16          | M16          |
| b                               | 110         | 120         | 135          | 135          | 175          | 175          | 216          |
| h                               | 35,5        | 35,5        | 35,5         | 35,5         | 42           | 42           | 54           |
| d <sub>2</sub>                  | 64          | 63          | 84           | 84           | 110          | 110          | 155          |
| <b>Assembly data</b>            |             |             |              |              |              |              |              |
| a                               | 88          | 100         | 110          | 110          | 140-148      | 140-148      | 182          |
| d <sub>3</sub>                  | 9           | 11          | 11           | 11           | 14           | 14           | 14           |
| <b>Max. pull-out force in N</b> | 600         | 1200        | 1800         | 1800         | 4000         | 4000         | 8000         |

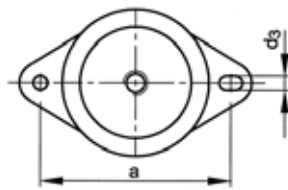
- Domed cover zinc plated, blue passivated, vibration isolation material natural rubber (NR) 60° Shore (tol. ± 5°) and footplate zinc plated, yellow passivated.

Special features of FABORY mountings type RAEM:

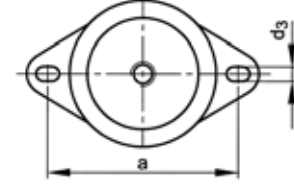
- for applications demanding maximum isolation.
- suitable for the effective isolation of vibration and noise on different machines with rotating movements, like compressors, AC units, industrial fans, generators, combusting engines, emergency power sets, large milling machinery, industrial and marine gen sets, refiners and defibrators.
- fitted as standard with an integral fail-safe design device with resilient stop.



TYPE RAEM 60



TYPE RAEM 40, RAEM 125, RAEM 800

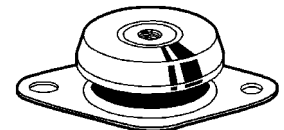


TYPE RAEM 350

### 57793 Mounting type RAEM

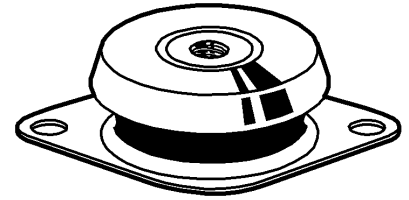
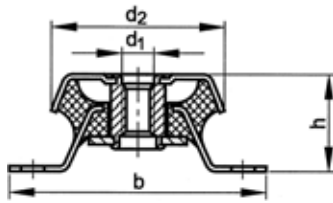
S12A

**Thread** Metric thread  
**Material** Steel  
**Packaging** Standard



| Type    | ☒ | Art.number                    | Type    | ☒ | Art.number                    | Type    | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 40-M10  | 2 | <a href="#">57793.040.100</a> | 125-M12 | 2 | <a href="#">57793.125.120</a> | 800-M16 | 1 | <a href="#">57793.800.160</a> |
| 60-M12  | 2 | <a href="#">57793.060.120</a> | 350-M12 | 1 | <a href="#">57793.350.120</a> |         |   |                               |
| 125-M10 | 2 | <a href="#">57793.125.100</a> | 350-M16 | 1 | <a href="#">57793.350.160</a> |         |   |                               |

## Mounting type RAB



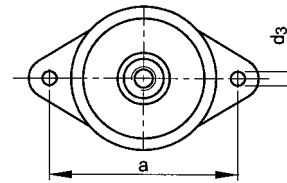
### Technical data

| Type                     | RAB-0 | RAB-2 | RAB-3 |
|--------------------------|-------|-------|-------|
| d <sub>1</sub>           | M12   | M12   | M12   |
| b                        | 93,5  | 93,5  | 93,5  |
| h                        | 35    | 35    | 35    |
| d <sub>2</sub>           | 63    | 63    | 63    |
| <b>Assembly data</b>     |       |       |       |
| a                        | 76    | 76    | 76    |
| d <sub>3</sub>           | 8,5   | 8,5   | 8,5   |
| Max. pull-out force in N | 1300  | 1050  | 700   |

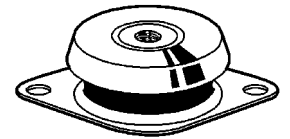
- Domed cover zinc plated, blue passivated, vibration isolation material butyl rubber (NR) 55° Shore (tol. ± 5°) and footplate zinc plated, yellow passivated.

Special features of FABORY mountings type RAB:

- optimum stiffness characteristics and horizontal stability
- especially effective on small 1, 2 and 3 cylinder diesel engines
- fitted as standard with an integral fail-safe design device with resilient stop



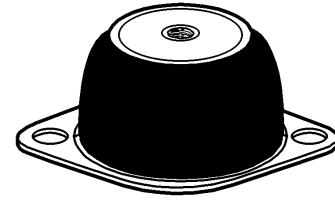
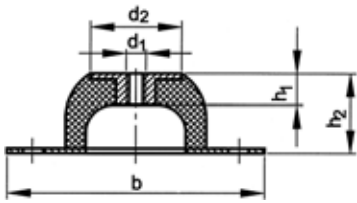
| 57794 Mounting type RAB |               | S12A |
|-------------------------|---------------|------|
| Thread                  | Metric thread |      |
| Material                | Steel         |      |
| Packaging               | Standard      |      |



| Type  | ☒ | Art.number                    | Type  | ☒ | Art.number                    | Type  | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 0-M12 | 2 | <a href="#">57794.000.120</a> | 2-M12 | 2 | <a href="#">57794.002.120</a> | 3-M12 | 2 | <a href="#">57794.003.120</a> |



## Mounting type M



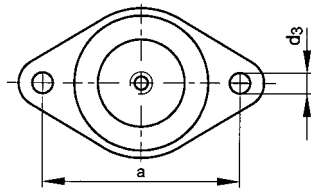
### Technical data

| Type                            | M 7 | M 25 | M 50 | M 100 | M 200 | M 400 |
|---------------------------------|-----|------|------|-------|-------|-------|
| d <sub>1</sub>                  | M6  | M8   | M10  | M10   | M10   | M12   |
| b                               | 64  | 85   | 114  | 136   | 151   | 150   |
| h <sub>1</sub>                  | 7   | 11   | 14   | 15    | 13    | 18    |
| h <sub>2</sub>                  | 20  | 25   | 35   | 40    | 45    | 63    |
| d <sub>2</sub>                  | 18  | 33   | 45   | 53    | 58    | 78    |
| <b>Assembly data</b>            |     |      |      |       |       |       |
| a                               | 50  | 66   | 92   | 110   | 124   | 120   |
| d <sub>3</sub>                  | 7   | 8    | 10   | 11,5  | 11,5  | 14,5  |
| <b>Max. pull-out force in N</b> | 90  | 500  | 800  | 1500  | 2200  | 5000  |

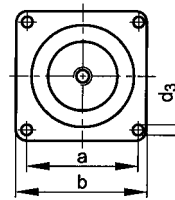
- Cover plate zinc plated, yellow passivated, vibration isolation material natural rubber (NR) 60° Shore (tol. ± 5°) and footplate zinc plated, yellow passivated.

Special features of FABORY mountings type M:

- high elastic, vertical as well as horizontal
- also suitable for shock attenuation
- the harmful effect of oil can often be avoided through the design of the mounting or by fitting a mechanical shield



TYPE M7, M25, M50, M100, M200

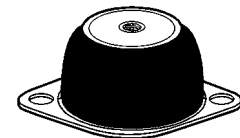


TYPE M400

### 57795 Mounting type M

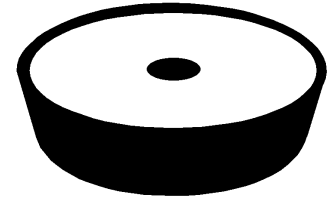
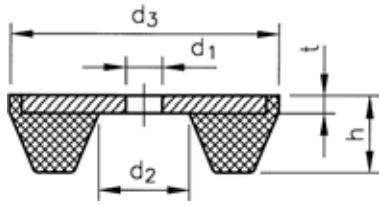
S12A

**Thread** Metric thread  
**Material** Steel  
**Packaging** Standard



| Type  | ☒ | Art.number                    | Type    | ☒ | Art.number                    | Type    | ☒ | Art.number                    |
|-------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 7-M6  | 4 | <a href="#">57795.007.060</a> | 50-M10  | 4 | <a href="#">57795.050.100</a> | 200-M10 | 2 | <a href="#">57795.200.100</a> |
| 25-M8 | 4 | <a href="#">57795.025.080</a> | 100-M10 | 2 | <a href="#">57795.100.100</a> | 400-M12 | 1 | <a href="#">57795.400.120</a> |

## Mounting type SE



### Technical data

| Type                     | SE 75 | SE 250 |
|--------------------------|-------|--------|
| $d_1$                    | 8     | 10     |
| $h$                      | 15    | 17     |
| $d_2$                    | 18    | 25     |
| $d_3$                    | 55    | 75     |
| $t$                      | 3     | 4      |
| <b>Assembly data</b>     |       |        |
| Max. pull-out force in N | 1500  | 4000   |

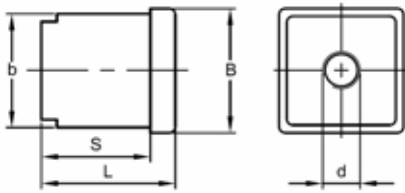
- Special features of mountings type SE:
- A simple mounting, friction is normally sufficient to prevent the suspended equipment from "walking"
- Suitable for office equipment, textile machinery, domestic appliances, electric motors, weighing equipment
- Cover plate zinc plated, yellow passivated, and vibration isolation material natural rubber (NR) 50° Shore.

| 57805 Mounting type SE   |               | S12A |
|--------------------------|---------------|------|
| <b>Thread</b>            | Metric thread |      |
| <b>Material</b>          | Steel         |      |
| <b>Surface treatment</b> | Zinc plated   |      |
| <b>Packaging</b>         | Standard      |      |

| Type | ☒ | Art.number                    | Type | ☒ | Art.number | Type | ☒ | Art.number |
|------|---|-------------------------------|------|---|------------|------|---|------------|
| 75R  | 4 | <a href="#">57805.000.075</a> |      |   |            |      |   |            |
| 250R | 4 | <a href="#">57805.000.250</a> |      |   |            |      |   |            |

- Technical brochure available on request.

## Hammer-In square cap



### Technical data

| d x B x b   | d   | B  | b    | L  | S  |
|-------------|-----|----|------|----|----|
| M10x30x27,5 | M10 | 30 | 27,5 | 33 | 27 |
| M12x40x36,5 | M12 | 40 | 36,5 | 43 | 35 |
| M12x50x45,5 | M12 | 50 | 45,5 | 55 | 44 |
| M14x40x36,5 | M14 | 40 | 36,5 | 43 | 35 |
| M16x40x36,5 | M16 | 40 | 36,5 | 43 | 35 |
| M16x40x37,5 | M16 | 40 | 37,5 | 43 | 35 |
| M16x50x45,5 | M16 | 50 | 45,5 | 55 | 44 |
| M16x50x47,5 | M16 | 50 | 47,5 | 55 | 44 |
| M16x60x56,5 | M16 | 60 | 56,5 | 55 | 45 |
| M20x50x45,5 | M20 | 50 | 45,5 | 55 | 44 |
| M20x50x46,5 | M20 | 50 | 46,5 | 55 | 44 |

### 57730 Hammer-In square cap

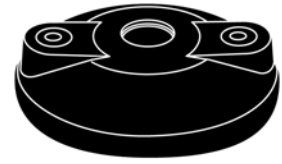
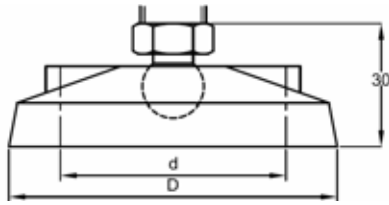
S11A

**Material** Plastic Polyamide (nylon)  
**Packaging** Standard



| d x B x b   | ☒ | Art.number                    | d x B x b   | ☒ | Art.number                    | d x B x b                  | ☒      | Art.number   |
|-------------|---|-------------------------------|-------------|---|-------------------------------|----------------------------|--------|--|
| M10X30X27,5 | 2 | <a href="#">57730.103.027</a> | M16X40X36,5 | 1 | <a href="#">57730.164.036</a> | M20X50X45,5<br>M20X50X46,5 | 1<br>1 | <a href="#">57730.205.045</a><br><a href="#">57730.205.046</a> |
| M12X40X36,5 | 2 | <a href="#">57730.124.036</a> | M16X40X37,5 | 1 | <a href="#">57730.164.037</a> |                            |        |  |
| M12X50X45,5 | 2 | <a href="#">57730.125.045</a> | M16X50X45,5 | 1 | <a href="#">57730.165.045</a> |                            |        |  |
|             |   |                               | M16X50X47,5 | 1 | <a href="#">57730.165.047</a> |                            |        |  |
| M14X40X36,5 | 2 | <a href="#">57730.144.036</a> | M16X60X56,5 | 1 | <a href="#">57730.166.056</a> |                            |        |  |

## Foot plate



### Technical data

| D   | d  |
|-----|----|
| 80  | 55 |
| 100 | 74 |
| 120 | 94 |

- Diameters 80, 100 and 120 from article group 57747 have a base plate with ground fixing holes.

### Article groups

| Material   | Packaging | Code  | Page  |
|------------|-----------|-------|-------|
| Plastic PA | Standard  | 57747 | 12-62 |
| St         | Standard  | 57748 | 12-62 |

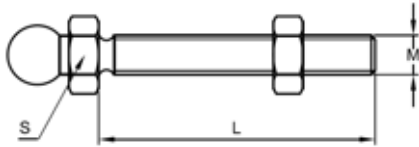
| 57747 Foot plate |                           |  |  |  |  | S11A |
|------------------|---------------------------|--|--|--|--|------|
| <b>Material</b>  | Plastic Polyamide (nylon) |  |  |  |  |      |
| <b>Packaging</b> | Standard                  |  |  |  |  |      |
|                  |                           |  |  |  |  |      |

| D    | ☒ | Art.number                    | D     | ☒ | Art.number                    | D     | ☒ | Art.number                    |
|------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 50MM | 4 | <a href="#">57747.000.050</a> | 80MM  | 4 | <a href="#">57747.000.080</a> | 120MM | 2 | <a href="#">57747.000.120</a> |
| 60MM | 4 | <a href="#">57747.000.060</a> | 100MM | 2 | <a href="#">57747.000.100</a> |       |   |                               |

| 57748 Foot plate |          |  |  |  |  | S11A |
|------------------|----------|--|--|--|--|------|
| <b>Material</b>  | Steel    |  |  |  |  |      |
| <b>Packaging</b> | Standard |  |  |  |  |      |
|                  |          |  |  |  |  |      |

| D    | ☒ | Art.number                    | D    | ☒ | Art.number                    | D     | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|-------|---|-------------------------------|
| 30MM | 4 | <a href="#">57748.000.030</a> | 60MM | 4 | <a href="#">57748.000.060</a> | 120MM | 2 | <a href="#">57748.000.120</a> |
| 40MM | 4 | <a href="#">57748.000.040</a> | 80MM | 4 | <a href="#">57748.000.080</a> |       |   |                               |

## Spindle for foot plates



### Technical data

| d    | S  |
|------|----|
| M8   | 14 |
| M10  | 14 |
| M12  | 14 |
| M16  | 17 |
| M20  | 22 |
| M24* | 17 |

\* This nut has two flat sides instead of a hexagonal shape.

### Article groups

| Thread | Driving features | Material  | Surface treatment | Packaging | Code  | Page  |
|--------|------------------|-----------|-------------------|-----------|-------|-------|
| M      | hexagon          | St        | Zipl              | Standard  | 57750 | 12-63 |
| M      | hexagon          | St.St. A2 |                   | Standard  | 57749 | 12-63 |

#### 57750 Spindle for foot plates

S11A

|                          |               |
|--------------------------|---------------|
| <b>Thread</b>            | Metric thread |
| <b>Material</b>          | Steel         |
| <b>Surface treatment</b> | Zinc plated   |
| <b>Packaging</b>         | Standard      |



| d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M10X45  | 4 | <a href="#">57750.100.045</a> | M16X66  | 4 | <a href="#">57750.160.066</a> | M24X85  | 2 | <a href="#">57750.240.085</a> |
| M10X70  | 4 | <a href="#">57750.100.070</a> | M16X100 | 4 | <a href="#">57750.160.100</a> | M24X100 | 2 | <a href="#">57750.240.100</a> |
| M10X90  | 4 | <a href="#">57750.100.090</a> | M16X125 | 4 | <a href="#">57750.160.125</a> | M24X125 | 2 | <a href="#">57750.240.125</a> |
| M10X125 | 4 | <a href="#">57750.100.125</a> | M16X150 | 4 | <a href="#">57750.160.150</a> | M24X150 | 2 | <a href="#">57750.240.150</a> |
|         |   |                               | M16X200 | 2 | <a href="#">57750.160.200</a> | M24X200 | 2 | <a href="#">57750.240.200</a> |
| M12X45  | 4 | <a href="#">57750.120.045</a> | M20X85  | 2 | <a href="#">57750.200.085</a> |         |   |                               |
| M12X66  | 4 | <a href="#">57750.120.066</a> | M20X100 | 2 | <a href="#">57750.200.100</a> |         |   |                               |
| M12X100 | 4 | <a href="#">57750.120.100</a> | M20X125 | 2 | <a href="#">57750.200.125</a> |         |   |                               |
| M12X125 | 4 | <a href="#">57750.120.125</a> | M20X150 | 2 | <a href="#">57750.200.150</a> |         |   |                               |
| M12X150 | 4 | <a href="#">57750.120.150</a> | M20X200 | 2 | <a href="#">57750.200.200</a> |         |   |                               |

#### 57749 Spindle for foot plates

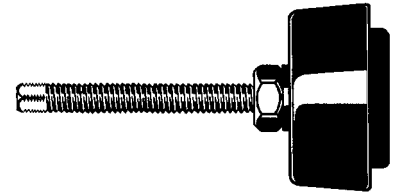
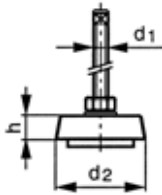
S11A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Stainless steel A2 |
| <b>Packaging</b> | Standard           |



| d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    | d x L   | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M8X40   | 4 | <a href="#">57749.080.040</a> | M12X125 | 4 | <a href="#">57749.120.125</a> | M20X125 | 2 | <a href="#">57749.200.125</a> |
| M8X80   | 4 | <a href="#">57749.080.080</a> | M12X150 | 4 | <a href="#">57749.120.150</a> | M20X150 | 2 | <a href="#">57749.200.150</a> |
|         |   |                               |         |   |                               | M20X200 | 2 | <a href="#">57749.200.200</a> |
| M10X45  | 4 | <a href="#">57749.100.045</a> | M16X66  | 4 | <a href="#">57749.160.066</a> | M20X250 | 1 | <a href="#">57749.200.250</a> |
| M10X70  | 4 | <a href="#">57749.100.070</a> | M16X100 | 4 | <a href="#">57749.160.100</a> |         |   |                               |
| M10X90  | 4 | <a href="#">57749.100.090</a> | M16X125 | 4 | <a href="#">57749.160.125</a> | M24X85  | 2 | <a href="#">57749.240.085</a> |
| M10X125 | 4 | <a href="#">57749.100.125</a> | M16X150 | 2 | <a href="#">57749.160.150</a> | M24X100 | 2 | <a href="#">57749.240.100</a> |
|         |   |                               | M16X200 | 2 | <a href="#">57749.160.200</a> | M24X125 | 2 | <a href="#">57749.240.125</a> |
| M12X45  | 4 | <a href="#">57749.120.045</a> | M20X85  | 2 | <a href="#">57749.200.085</a> | M24X150 | 2 | <a href="#">57749.240.150</a> |
| M12X66  | 4 | <a href="#">57749.120.066</a> | M20X100 | 2 | <a href="#">57749.200.100</a> | M24X200 | 2 | <a href="#">57749.240.200</a> |
| M12X100 | 4 | <a href="#">57749.120.100</a> |         |   |                               |         |   |                               |

## Flexible machine support

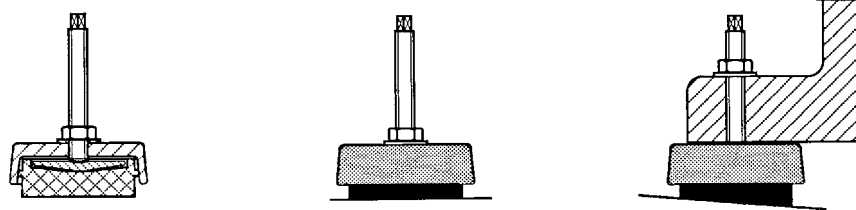


### Technical data

| Type                                      | T3       | T5       | T10     | T15     | T20     | T25     | T35     | T40     |
|---|----------|----------|---------|---------|---------|---------|---------|---------|
| <b>d<sub>1</sub> x P</b>                  | M10x1,25 | M12x1,25 | M14x1,5 | M16x1,5 | M16x1,5 | M20x1,5 | 20x1,5  | M24x1,5 |
| <b>d<sub>2</sub></b>                      | 60       | 81       | 97      | 120     | 139     | 163     | 211     | 236     |
| <b>h</b>                                  | 28       | 30       | 38      | 42      | 46      | 50      | 54      | 54      |
| <b>Length of adj. bolt</b>                | 100      | 100      | 120     | 120     | 150     | 150     | 170     | 170     |
| <b>Assembly data</b>                      |          |          |         |         |         |         |         |         |
| <b>Ext. height of rubber</b>              | 10       | 12       | 14      | 15      | 16      | 17      | 20      | 20      |
| <b>Load in kN</b>                         | 0,5-1,5  | 1,5-4,5  | 4,5-7,5 | 6-12,5  | 7,5-15  | 11-22,5 | 22,5-45 | 30-60   |
| <b>Load in kN per support for presses</b> |          |          |         |         |         |         |         |         |
| <b>Max. strokes 200/min.</b>              | -        | 0,5-1,2  | 1-2,5   | 1,7-3,8 | 2,5-5   | 3,7-6,7 | 7,5-13  | 10-17   |
| <b>Max. strokes 160/min.</b>              | -        | 0,6-1,4  | 1,2-3,5 | 2,2-4,6 | 3,5-6   | 4,8-8   | 9-16    | 13-22   |
| <b>Max. strokes 125/min.</b>              | -        | 0,7-2    | 2-4     | 3-7     | 4-10    | 7-15    | 15-30   | 20-40   |

- Steel class 8.8 with rubber NBR profile.
- The adjustent bolt is up to and including type T20 with a square head bolt, above type T20 with a hexagon head bolt.
- Static load per flexible machine support in kN.
- Dynamic load per flexible machine support in kN for presses, max. number of strokes are stated per minute.
- Other sorts of rubber and/or hardness or longer adjustment bolts are available on request.

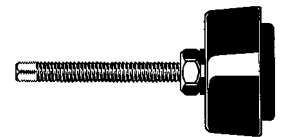
### Examples of application



### 57676 Flexible machine support

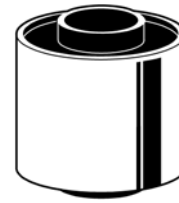
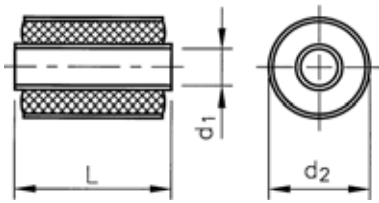
|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric fine thread |
| <b>Material</b>  | Steel              |
| <b>Class</b>     | 8.8                |
| <b>Packaging</b> | Standard           |

S11A



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| T3   | 4 | <a href="#">57676.000.003</a> | T15  | 2 | <a href="#">57676.000.015</a> | T35  | 1 | <a href="#">57676.000.035</a> |
| T5   | 4 | <a href="#">57676.000.005</a> | T20  | 2 | <a href="#">57676.000.020</a> | T40  | 1 | <a href="#">57676.000.040</a> |
| T10  | 4 | <a href="#">57676.000.010</a> | T25  | 1 | <a href="#">57676.000.025</a> |      |   |                               |

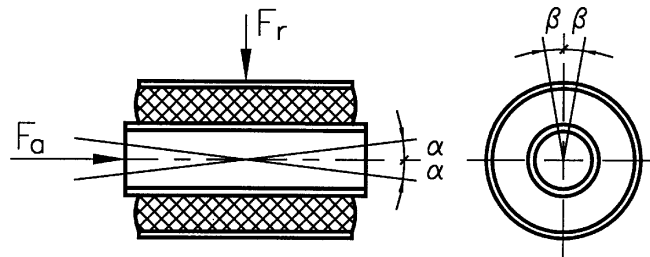
**Bush**



**Technical data**

| d1 x d2 x L          | 10x25<br>x25 | 10x25<br>x40 | 15x35<br>x30 | 15x35<br>x50 | 20x45<br>x40 | 20x45<br>x75 | 25x50<br>x45 | 25x50<br>x85 | 30x60<br>x55 | 30x60<br>x100 | 35x65<br>x60 | 35x65<br>x110 | 40x70<br>x65 | 40x70<br>x120 | 45x75<br>x70 | 45x75<br>x130 | 50x80<br>x75 | 50x80<br>x140 |
|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|
| <b>Assembly data</b> |              |              |              |              |              |              |              |              |              |               |              |               |              |               |              |               |              |               |
| $\beta$ (max.) in °  | 15           | 15           | 15           | 15           | 15           | 15           | 14           | 14           | 14           | 14            | 14           | 12            | 12           | 11            | 12           | 10            | 11           | 10            |
| $\alpha$ (max.) in ° | 8            | 8            | 8            | 8            | 8            | 8            | 8            | 8            | 8            | 8             | 8            | 7             | 7            | 6             | 7            | 6             | 7            | 6             |
| Fa (max.) in N       | 750          | 1500         | 1500         | 2500         | 2600         | 5500         | 3800         | 7500         | 5100         | 10500         | 10500        | 8300          | 8300         | 18000         | 10000        | 20000         | 12000        | 23500         |
| Fr (max.) in N       | 2300         | 3800         | 3500         | 6000         | 6800         | 13500        | 9000         | 18000        | 12000        | 25000         | 25000        | 20500         | 20500        | 40000         | 24000        | 40000         | 28500        | 49000         |

- Bush type VP designed to accommodate torsional movements and axial and radial loads.
- Consists of two concentric sleeves with rubber securely bonded between them.



**57807 Bush type VP**

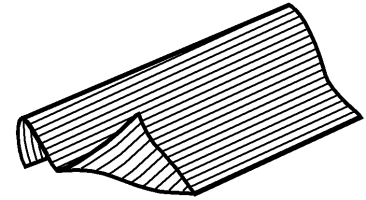
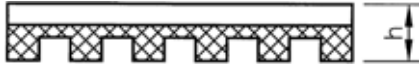
S12A

**Material** Steel  
**Packaging** Standard



| d1 x d2 x L | ☒ | Art.number                    | d1 x d2 x L | ☒ | Art.number                    | d1 x d2 x L | ☒ | Art.number                    |
|-------------|---|-------------------------------|-------------|---|-------------------------------|-------------|---|-------------------------------|
| 10X25X25MM  | 2 | <a href="#">57807.125.025</a> | 25X50X45MM  | 1 | <a href="#">57807.275.045</a> | 40X70X65MM  | 1 | <a href="#">57807.470.065</a> |
| 10X25X40MM  | 2 | <a href="#">57807.125.040</a> | 25X50X85MM  | 1 | <a href="#">57807.275.085</a> | 40X70X120MM | 1 | <a href="#">57807.470.120</a> |
| 15X35X30MM  | 2 | <a href="#">57807.185.030</a> | 30X60X55MM  | 1 | <a href="#">57807.360.055</a> | 45X75X70MM  | 1 | <a href="#">57807.525.070</a> |
| 20X45X40MM  | 2 | <a href="#">57807.245.040</a> | 35X65X60MM  | 1 | <a href="#">57807.415.060</a> | 50X80X75MM  | 1 | <a href="#">57807.580.075</a> |
| 20X45X75MM  | 1 | <a href="#">57807.245.075</a> |             |   |                               |             |   |                               |

## Anti-vibration plate



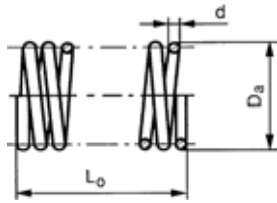
- Special features of anti-vibration plates:
- Intended, primarily, for applications with low demands on vibration isolation.
- If insufficient deflection is achieved by a single layer, multiple layers can be used
- Oil and grease resistant rubber material.
- Max. allowable compr. load in  $N/cm^2 = 50$ .

| 57802 Anti-vibration plate |              | S12A      |                               |
|----------------------------|--------------|-----------|-------------------------------|
| <b>Material</b>            | Rubber       |           |                               |
| <b>Colour</b>              | Black        |           |                               |
| <b>Packaging</b>           | Standard     |           |                               |
| L x b x h                  | ☒ Art.number | L x b x h | ☒ Art.number                  |
| 500X500X8MM                | 1            |           | <a href="#">57802.500.080</a> |



## Helical compression spring

DIN 2095



- Spring ends closed to, not grinded.

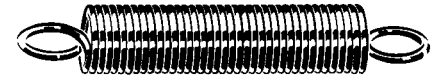
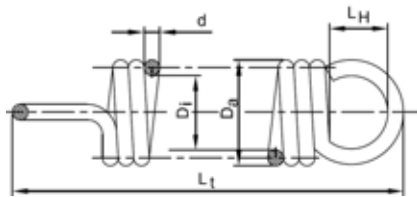
| 17912 Helical compression spring |              | Y92A |
|----------------------------------|--------------|------|
| <b>Material</b>                  | Spring steel |      |
| <b>Surface treatment</b>         | Zinc plated  |      |
| <b>Packaging</b>                 | Standard     |      |

| d x Da x Lo  | ☒   | Art.number                    | d x Da x Lo    | ☒   | Art.number                    | d x Da x Lo     | ☒   | Art.number                    |
|--------------|-----|-------------------------------|----------------|-----|-------------------------------|-----------------|-----|-------------------------------|
| 0,5X3,5X12MM | 100 | <a href="#">17912.053.012</a> | 0,8X7,7X40MM   | 100 | <a href="#">17912.077.040</a> | 1,5X12,0X75MM   | 50  | <a href="#">17912.162.075</a> |
| 0,5X3,5X15MM | 100 | <a href="#">17912.053.015</a> | 0,8X7,7X50MM   | 100 | <a href="#">17912.077.050</a> | 1,5X14,0X40MM   | 100 | <a href="#">17912.164.040</a> |
| 0,5X3,5X20MM | 100 | <a href="#">17912.053.020</a> |                |     |                               | 1,5X14,0X60MM   | 100 | <a href="#">17912.164.060</a> |
| 0,5X3,5X25MM | 100 | <a href="#">17912.053.025</a> | 1,0X6,0X20MM   | 100 | <a href="#">17912.106.020</a> | 1,5X14,0X75MM   | 50  | <a href="#">17912.164.075</a> |
| 0,5X4,5X12MM | 100 | <a href="#">17912.054.012</a> | 1,0X6,0X25MM   | 100 | <a href="#">17912.106.025</a> | 1,5X14,0X100MM  | 50  | <a href="#">17912.164.100</a> |
| 0,5X4,5X15MM | 100 | <a href="#">17912.054.015</a> | 1,0X6,0X30MM   | 100 | <a href="#">17912.106.030</a> |                 |     |                               |
| 0,5X4,5X20MM | 100 | <a href="#">17912.054.020</a> | 1,0X6,0X50MM   | 100 | <a href="#">17912.106.050</a> | 2,0X12,0X35MM   | 100 | <a href="#">17912.212.035</a> |
| 0,5X4,5X25MM | 100 | <a href="#">17912.054.025</a> | 1,0X8,0X25MM   | 100 | <a href="#">17912.108.025</a> | 2,0X12,0X50MM   | 100 | <a href="#">17912.212.050</a> |
| 0,5X6,5X20MM | 100 | <a href="#">17912.056.020</a> | 1,0X8,0X30MM   | 100 | <a href="#">17912.108.030</a> | 2,0X12,0X75MM   | 100 | <a href="#">17912.212.075</a> |
| 0,5X6,5X25MM | 100 | <a href="#">17912.056.025</a> | 1,0X8,0X35MM   | 100 | <a href="#">17912.108.035</a> | 2,0X14,0X50MM   | 100 | <a href="#">17912.214.050</a> |
| 0,5X6,5X30MM | 100 | <a href="#">17912.056.030</a> | 1,0X10,0X25MM  | 100 | <a href="#">17912.110.025</a> | 2,0X14,0X75MM   | 50  | <a href="#">17912.214.075</a> |
| 0,5X6,5X35MM | 100 | <a href="#">17912.056.035</a> | 1,0X10,0X35MM  | 100 | <a href="#">17912.110.035</a> | 2,0X14,0X100MM  | 50  | <a href="#">17912.214.100</a> |
| 0,5X6,5X40MM | 100 | <a href="#">17912.056.040</a> | 1,0X10,0X40MM  | 100 | <a href="#">17912.110.040</a> | 2,0X20,0X60MM   | 50  | <a href="#">17912.220.060</a> |
|              |     |                               | 1,0X10,0X60MM  | 100 | <a href="#">17912.110.060</a> | 2,0X20,0X75MM   | 50  | <a href="#">17912.220.075</a> |
| 0,8X4,7X15MM | 100 | <a href="#">17912.074.015</a> | 1,0X10,0X75MM  | 100 | <a href="#">17912.110.075</a> | 2,0X20,0X100MM  | 100 | <a href="#">17912.220.100</a> |
| 0,8X4,7X20MM | 100 | <a href="#">17912.074.020</a> | 1,0X10,0X100MM | 100 | <a href="#">17912.110.100</a> |                 |     |                               |
| 0,8X4,7X25MM | 100 | <a href="#">17912.074.025</a> |                |     |                               | 2,25X14,0X50MM  | 100 | <a href="#">17912.239.050</a> |
| 0,8X5,7X25MM | 100 | <a href="#">17912.075.025</a> | 1,5X8,5X25MM   | 100 | <a href="#">17912.158.025</a> | 2,25X14,0X75MM  | 100 | <a href="#">17912.239.075</a> |
| 0,8X5,7X35MM | 100 | <a href="#">17912.075.035</a> | 1,5X8,5X35MM   | 100 | <a href="#">17912.158.035</a> | 2,25X14,0X100MM | 100 | <a href="#">17912.239.100</a> |
| 0,8X6,7X20MM | 100 | <a href="#">17912.076.020</a> | 1,5X9,0X40MM   | 100 | <a href="#">17912.159.040</a> | 2,25X17,0X60MM  | 50  | <a href="#">17912.242.060</a> |
| 0,8X6,7X25MM | 100 | <a href="#">17912.076.025</a> | 1,5X9,0X75MM   | 100 | <a href="#">17912.159.075</a> | 2,25X17,0X75MM  | 50  | <a href="#">17912.242.075</a> |
| 0,8X6,7X30MM | 100 | <a href="#">17912.076.030</a> | 1,5X10,0X35MM  | 100 | <a href="#">17912.160.035</a> | 2,25X17,0X100MM | 50  | <a href="#">17912.242.100</a> |
| 0,8X6,7X35MM | 100 | <a href="#">17912.076.035</a> | 1,5X10,0X50MM  | 100 | <a href="#">17912.160.050</a> | 2,25X22,0X60MM  | 50  | <a href="#">17912.247.060</a> |
| 0,8X7,7X25MM | 100 | <a href="#">17912.077.025</a> | 1,5X10,0X75MM  | 100 | <a href="#">17912.160.075</a> | 2,25X22,0X75MM  | 50  | <a href="#">17912.247.075</a> |
| 0,8X7,7X30MM | 100 | <a href="#">17912.077.030</a> | 1,5X10,0X100MM | 50  | <a href="#">17912.160.100</a> | 2,25X22,0X100MM | 50  | <a href="#">17912.247.100</a> |
| 0,8X7,7X35MM | 100 | <a href="#">17912.077.035</a> | 1,5X12,0X40MM  | 100 | <a href="#">17912.162.040</a> |                 |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Helical tension spring with English eye

DIN 2097



- With English eye  $L_H \approx 1,1 D_i$ .

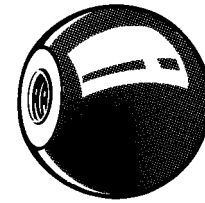
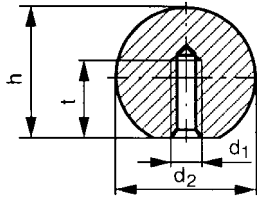
| 17902 Helical tension spring with English eye |              | Y92A  |
|---|--------------|---|
| <b>Material</b>                               | Spring steel |  |
| <b>Surface treatment</b>                      | Zinc plated  |   |
| <b>Packaging</b>                              | Standard     |   |

| d x Da x Lt  | ✉   | Art.number                    | d x Da x Lt    | ✉   | Art.number                    | d x Da x Lt     | ✉   | Art.number                    |
|--------------|-----|-------------------------------|----------------|-----|-------------------------------|-----------------|-----|-------------------------------|
| 0,5X3,5X12MM | 100 | <a href="#">17902.053.012</a> | 0,8X7,7X40MM   | 100 | <a href="#">17902.077.040</a> | 1,5X12,0X75MM   | 100 | <a href="#">17902.162.075</a> |
| 0,5X3,5X15MM | 100 | <a href="#">17902.053.015</a> | 0,8X7,7X50MM   | 100 | <a href="#">17902.077.050</a> | 1,5X14,0X40MM   | 100 | <a href="#">17902.164.040</a> |
| 0,5X3,5X20MM | 100 | <a href="#">17902.053.020</a> |                |     |                               | 1,5X14,0X60MM   | 100 | <a href="#">17902.164.060</a> |
| 0,5X3,5X25MM | 100 | <a href="#">17902.053.025</a> | 1,0X6,0X20MM   | 100 | <a href="#">17902.106.020</a> | 1,5X14,0X75MM   | 100 | <a href="#">17902.164.075</a> |
| 0,5X4,5X12MM | 100 | <a href="#">17902.054.012</a> | 1,0X6,0X25MM   | 100 | <a href="#">17902.106.025</a> | 1,5X14,0X100MM  | 50  | <a href="#">17902.164.100</a> |
| 0,5X4,5X15MM | 100 | <a href="#">17902.054.015</a> | 1,0X6,0X30MM   | 100 | <a href="#">17902.106.030</a> |                 |     |                               |
| 0,5X4,5X20MM | 100 | <a href="#">17902.054.020</a> | 1,0X6,0X44MM   | 100 | <a href="#">17902.106.044</a> | 2,0X12,0X35MM   | 100 | <a href="#">17902.212.035</a> |
| 0,5X4,5X25MM | 100 | <a href="#">17902.054.025</a> | 1,0X6,0X50MM   | 100 | <a href="#">17902.106.050</a> | 2,0X12,0X50MM   | 100 | <a href="#">17902.212.050</a> |
| 0,5X6,5X20MM | 100 | <a href="#">17902.056.020</a> | 1,0X8,0X25MM   | 100 | <a href="#">17902.108.025</a> | 2,0X12,0X75MM   | 100 | <a href="#">17902.212.075</a> |
| 0,5X6,5X25MM | 100 | <a href="#">17902.056.025</a> | 1,0X8,0X30MM   | 100 | <a href="#">17902.108.030</a> | 2,0X14,0X50MM   | 100 | <a href="#">17902.214.050</a> |
| 0,5X6,5X30MM | 100 | <a href="#">17902.056.030</a> | 1,0X8,0X35MM   | 100 | <a href="#">17902.108.035</a> | 2,0X14,0X75MM   | 100 | <a href="#">17902.214.075</a> |
| 0,5X6,5X35MM | 100 | <a href="#">17902.056.035</a> | 1,0X10,0X25MM  | 100 | <a href="#">17902.110.025</a> | 2,0X14,0X100MM  | 50  | <a href="#">17902.214.100</a> |
| 0,5X6,5X40MM | 100 | <a href="#">17902.056.040</a> | 1,0X10,0X35MM  | 100 | <a href="#">17902.110.035</a> | 2,0X20,0X60MM   | 50  | <a href="#">17902.220.060</a> |
| 0,5X6,0X46MM | 100 | <a href="#">17902.056.046</a> | 1,0X10,0X40MM  | 100 | <a href="#">17902.110.040</a> | 2,0X20,0X75MM   | 50  | <a href="#">17902.220.075</a> |
|              |     |                               | 1,0X10,0X60MM  | 100 | <a href="#">17902.110.060</a> | 2,0X20,0X100MM  | 50  | <a href="#">17902.220.100</a> |
| 0,8X4,7X15MM | 100 | <a href="#">17902.074.015</a> | 1,0X10,0X75MM  | 100 | <a href="#">17902.110.075</a> |                 |     |                               |
| 0,8X4,7X20MM | 100 | <a href="#">17902.074.020</a> | 1,0X10,0X100MM | 100 | <a href="#">17902.110.100</a> | 2,25X14,0X50MM  | 100 | <a href="#">17902.239.050</a> |
| 0,8X4,7X25MM | 100 | <a href="#">17902.074.025</a> |                |     |                               | 2,25X14,0X75MM  | 100 | <a href="#">17902.239.075</a> |
| 0,8X5,7X25MM | 100 | <a href="#">17902.075.025</a> | 1,5X8,5X25MM   | 100 | <a href="#">17902.158.025</a> | 2,25X14,0X100MM | 50  | <a href="#">17902.239.100</a> |
| 0,8X5,7X35MM | 100 | <a href="#">17902.075.035</a> | 1,5X8,5X35MM   | 100 | <a href="#">17902.158.035</a> | 2,25X17,0X60MM  | 100 | <a href="#">17902.242.060</a> |
| 0,8X6,7X20MM | 100 | <a href="#">17902.076.020</a> | 1,5X9,0X40MM   | 100 | <a href="#">17902.159.040</a> | 2,25X17,0X75MM  | 50  | <a href="#">17902.242.075</a> |
| 0,8X6,7X25MM | 100 | <a href="#">17902.076.025</a> | 1,5X9,0X75MM   | 100 | <a href="#">17902.159.075</a> | 2,25X17,0X100MM | 25  | <a href="#">17902.242.100</a> |
| 0,8X6,7X30MM | 100 | <a href="#">17902.076.030</a> | 1,5X10,0X35MM  | 100 | <a href="#">17902.160.035</a> | 2,25X22,0X60MM  | 100 | <a href="#">17902.247.060</a> |
| 0,8X6,7X35MM | 100 | <a href="#">17902.076.035</a> | 1,5X10,0X50MM  | 100 | <a href="#">17902.160.050</a> | 2,25X22,0X75MM  | 50  | <a href="#">17902.247.075</a> |
| 0,8X7,7X25MM | 100 | <a href="#">17902.077.025</a> | 1,5X10,0X75MM  | 100 | <a href="#">17902.160.075</a> | 2,25X22,0X100MM | 25  | <a href="#">17902.247.100</a> |
| 0,8X7,7X30MM | 100 | <a href="#">17902.077.030</a> | 1,5X10,0X100MM | 100 | <a href="#">17902.160.100</a> |                 |     |                               |
| 0,8X7,7X35MM | 100 | <a href="#">17902.077.035</a> | 1,5X12,0X40MM  | 100 | <a href="#">17902.162.040</a> |                 |     |                               |

- Warning: electro-galvanizing of these products may cause hydrogen embrittlement.

## Ball knob

DIN ≈319



### Technical data

| d1 x d2 | P   | h    | t    | d1 x d2 | P    | h    | t    | d1 x d2 | P    | h  | t  |
|---------|-----|------|------|---------|------|------|------|---------|------|----|----|
| M3x10   | 0,5 | 9,5  | 5    | M6x32   | 1    | 29   | 16   | M10x45  | 1,5  | 43 | 21 |
| M4x12   | 0,7 | 11   | 7,5  | M8x20   | 1,25 | 18   | 10,5 | M10x50  | 1,5  | 46 | 25 |
| M4x16   | 0,7 | 15   | 7,5  | M8x25   | 1,25 | 13,5 | 13,5 | M12x40  | 1,75 | 37 | 21 |
| M4x20   | 0,7 | 18   | 10,5 | M8x32   | 1,25 | 29   | 16   | M12x45  | 1,75 | 43 | 21 |
| M5x16   | 0,8 | 15   | 7,5  | M8x35   | 1,25 | 21   | 13,5 | M12x50  | 1,75 | 46 | 25 |
| M5x20   | 0,8 | 18   | 10,5 | M8x36   | 1,25 | 34   | 16   | M12x60  | 1,75 | 57 | 30 |
| M5x25   | 0,8 | 22,5 | 13,5 | M8x40   | 1,25 | 37   | 21   | M14x40  | 1,75 | 37 | 21 |
| M6x16   | 1   | 15   | 7,5  | M10x32  | 1,5  | 29   | 16   | M16x50  | 2    | 46 | 25 |
| M6x20   | 1   | 18   | 10,5 | M10x35  | 1,5  | 21   | 13,5 | M16x60  | 2    | 57 | 30 |
| M6x25   | 1   | 22,5 | 13,5 | M10x40  | 1,5  | 37   | 21   |         |      |    |    |

### Article groups

| Thread | Material   | Class | Colour | Packaging | Code  | Page  |
|--------|------------|-------|--------|-----------|-------|-------|
| M      | Plastic PF | FS31  | Black  | Standard  | 56914 | 12-69 |
| M      | Plastic PF | FS31  | Black  | Standard  | 56916 | 12-69 |

#### 56914 Ball knob type C

W03F

|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard<br>DIN ≈319 C               |



| d1 x d2 | ☒ | Art.number                    | d1 x d2 | ☒ | Art.number                    | d1 x d2 | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M3X10   | 5 | <a href="#">56914.030.010</a> | M6X32   | 5 | <a href="#">56914.060.032</a> | M10X50  | 5 | <a href="#">56914.100.050</a> |
| M4X12   | 5 | <a href="#">56914.040.012</a> | M8X20   | 5 | <a href="#">56914.080.020</a> | M12X40  | 5 | <a href="#">56914.120.040</a> |
| M4X16   | 5 | <a href="#">56914.040.016</a> | M8X25   | 5 | <a href="#">56914.080.025</a> | M12X45  | 5 | <a href="#">56914.120.045</a> |
| M4X20   | 5 | <a href="#">56914.040.020</a> | M8X32   | 5 | <a href="#">56914.080.032</a> | M12X50  | 5 | <a href="#">56914.120.050</a> |
| M5X16   | 5 | <a href="#">56914.050.016</a> | M8X35   | 5 | <a href="#">56914.080.035</a> | M14X40  | 5 | <a href="#">56914.140.040</a> |
| M5X20   | 5 | <a href="#">56914.050.020</a> | M8X40   | 5 | <a href="#">56914.080.040</a> | M16X50  | 5 | <a href="#">56914.160.050</a> |
| M5X25   | 5 | <a href="#">56914.050.025</a> | M10X32  | 5 | <a href="#">56914.100.032</a> | M16X60  | 5 | <a href="#">56914.160.060</a> |
| M6X16   | 5 | <a href="#">56914.060.016</a> | M10X35  | 5 | <a href="#">56914.100.035</a> |         |   |                               |
| M6X20   | 5 | <a href="#">56914.060.020</a> | M10X40  | 5 | <a href="#">56914.100.040</a> |         |   |                               |
| M6X25   | 5 | <a href="#">56914.060.025</a> | M10X45  | 5 | <a href="#">56914.100.045</a> |         |   |                               |

#### 56916 Ball knob type E

W03F

|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard<br>DIN ≈319 E               |

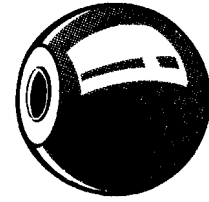
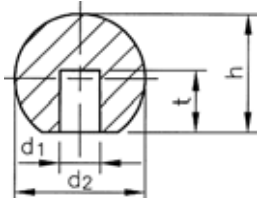


| d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒ | Art.number                    | d1 x d2 | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M4X16   | 10 | <a href="#">56916.040.016</a> | M8X32   | 5 | <a href="#">56916.080.032</a> | M12X40  | 5 | <a href="#">56916.120.040</a> |
| M5X20   | 10 | <a href="#">56916.050.020</a> | M8X36   | 5 | <a href="#">56916.080.036</a> | M12X50  | 5 | <a href="#">56916.120.050</a> |
| M5X25   | 10 | <a href="#">56916.050.025</a> | M8X40   | 5 | <a href="#">56916.080.040</a> | M12X60  | 5 | <a href="#">56916.120.060</a> |
| M6X25   | 5  | <a href="#">56916.060.025</a> | M10X40  | 5 | <a href="#">56916.100.040</a> | M16X60  | 5 | <a href="#">56916.160.060</a> |
| M6X32   | 5  | <a href="#">56916.060.032</a> | M10X45  | 5 | <a href="#">56916.100.045</a> |         |   |                               |
|         |    |                               | M10X50  | 5 | <a href="#">56916.100.050</a> |         |   |                               |

- With steel zinc plated threaded bush, sizes M4 x 16 and M16 x 60 with a brass threaded bush.

**Ball knob with conical hole**

DIN ≈319 M



**Technical data**

| d1 x d2 | h    | t  | d1 x d2 | h  | t  | d1 x d2 | h  | t  |
|---------|------|----|---------|----|----|---------|----|----|
| 4x16    | 15   | 9  | 8x32    | 29 | 15 | 12x50   | 46 | 22 |
| 5x20    | 18   | 12 | 10x32   | 29 | 15 | 16x50   | 46 | 22 |
| 6x25    | 22,5 | 15 | 10x40   | 37 | 20 |         |    |    |
| 8x25    | 22,5 | 15 | 12x40   | 37 | 20 |         |    |    |

**56915 Ball knob with conical hole type M**

W03F

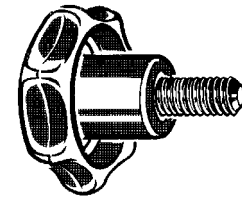
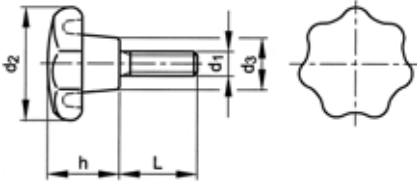
**Material** Plastic Fenolformaldehyde (bakelite)  
**Class** FS31  
**Colour** Black  
**Packaging** Standard



| d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒ | Art.number                    | d1 x d2 | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| 4X16MM  | 10 | <a href="#">56915.040.016</a> | 10X32MM | 5 | <a href="#">56915.100.032</a> | 12X50MM | 5 | <a href="#">56915.120.050</a> |
| 5X20MM  | 10 | <a href="#">56915.050.020</a> | 10X40MM | 5 | <a href="#">56915.100.040</a> | 16X50MM | 5 | <a href="#">56915.160.050</a> |
| 6X25MM  | 5  | <a href="#">56915.060.025</a> |         |   |                               |         |   |                               |
| 8X25MM  | 5  | <a href="#">56915.080.025</a> |         |   |                               |         |   |                               |
| 8X32MM  | 5  | <a href="#">56915.080.032</a> | 12X40MM | 5 | <a href="#">56915.120.040</a> |         |   |                               |

## Star grip type L

DIN ≈6336 L



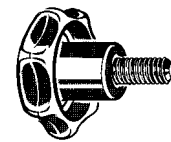
### Technical data

| d1             | M5  | M6 | M8   | M10 |
|----------------|-----|----|------|-----|
| P              | 0,8 | 1  | 1,25 | 1,5 |
| d <sub>2</sub> | 25  | 32 | 40   | 50  |
| d <sub>3</sub> | 12  | 14 | 16   | 21  |
| h              | 16  | 20 | 25   | 32  |

### 56922 Star grip type L

W03F

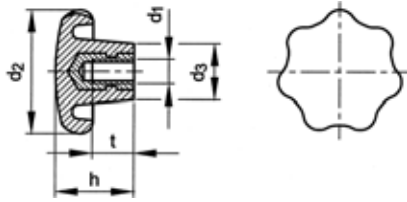
|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehide (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard                             |



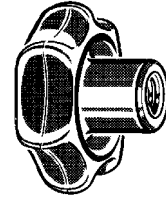
| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|---|-------------------------------|
| M5X15  | 10 | <a href="#">56922.050.015</a> | M8X15  | 10 | <a href="#">56922.080.015</a> | M10X20 | 5 | <a href="#">56922.100.020</a> |
| M5X20  | 10 | <a href="#">56922.050.020</a> | M8X20  | 10 | <a href="#">56922.080.020</a> | M10X25 | 5 | <a href="#">56922.100.025</a> |
|        |    |                               | M8X25  | 10 | <a href="#">56922.080.025</a> | M10X30 | 5 | <a href="#">56922.100.030</a> |
| M6X15  | 10 | <a href="#">56922.060.015</a> | M8X30  | 10 | <a href="#">56922.080.030</a> | M10X35 | 5 | <a href="#">56922.100.035</a> |
| M6X20  | 10 | <a href="#">56922.060.020</a> | M8X40  | 10 | <a href="#">56922.080.040</a> |        |   |                               |
| M6X25  | 10 | <a href="#">56922.060.025</a> | M8X50  | 10 | <a href="#">56922.080.050</a> |        |   |                               |
| M6X30  | 10 | <a href="#">56922.060.030</a> | M10X15 | 5  | <a href="#">56922.100.015</a> |        |   |                               |

- With steel zinc plated, yellow passivated threaded end.

## Star grip type K



DIN ≈6336 K



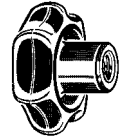
### Technical data

| d1 x d2 | P    | d <sub>2</sub> | d <sub>3</sub> | h  | t    |
|---------|------|----------------|----------------|----|------|
| M4x20   | 0,7  | 20             | 10             | 17 | 8    |
| M5x25   | 0,8  | 25             | 12             | 16 | 10,5 |
| M5x32   | 0,8  | 32             | 14             | 20 | 10,5 |
| M6x32   | 1    | 32             | 14             | 20 | 13,5 |
| M6x40   | 1    | 40             | 16             | 25 | 13,5 |
| M8x40   | 1,25 | 40             | 16             | 25 | 16   |
| M8x50   | 1,25 | 50             | 21             | 32 | 16   |
| M8x63   | 1,25 | 63             | 23             | 40 | 16   |
| M10x50  | 1,5  | 50             | 21             | 32 | 21   |
| M10x63  | 1,5  | 63             | 23             | 40 | 21   |
| M12x50  | 1,75 | 50             | 21             | 32 | 21   |
| M12x63  | 1,75 | 63             | 23             | 40 | 25   |
| M12x80  | 1,75 | 80             | 34             | 48 | 25   |
| M16x80  | 2    | 80             | 34             | 48 | 30   |

#### 56921 Star grip type K

W03F

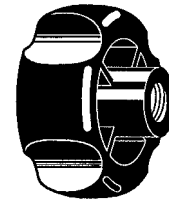
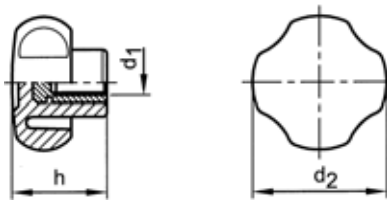
|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard                             |



| d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒  | Art.number                    | d1 x d2 | ☒ | Art.number                    |
|---------|----|-------------------------------|---------|----|-------------------------------|---------|---|-------------------------------|
| M4X20   | 10 | <a href="#">56921.040.020</a> | M8X40   | 10 | <a href="#">56921.080.040</a> | M12X50  | 5 | <a href="#">56921.120.050</a> |
| M5X25   | 10 | <a href="#">56921.050.025</a> | M8X50   | 10 | <a href="#">56921.080.050</a> | M12X63  | 5 | <a href="#">56921.120.063</a> |
| M5X32   | 10 | <a href="#">56921.050.032</a> | M8X63   | 10 | <a href="#">56921.080.063</a> | M12X80  | 5 | <a href="#">56921.120.080</a> |
| M6X32   | 10 | <a href="#">56921.060.032</a> | M10X50  | 5  | <a href="#">56921.100.050</a> | M16X80  | 5 | <a href="#">56921.160.080</a> |
| M6X40   | 10 | <a href="#">56921.060.040</a> | M10X63  | 5  | <a href="#">56921.100.063</a> |         |   |                               |

- With steel zinc plated threaded bush, size M4 x 20 with a brass threaded bush.

## Turning knob 4-grips



### Technical data

| d1  | P    | d2 | h  |
|-----|------|----|----|
| M4  | 0,7  | 20 | 13 |
| M5  | 0,8  | 20 | 13 |
| M6  | 1    | 25 | 15 |
| M8  | 1,25 | 40 | 28 |
| M10 | 1,5  | 50 | 32 |
| M12 | 1,75 | 60 | 38 |

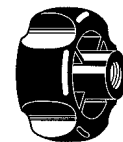
### Article groups

| Thread | Material | Colour |                   | Packaging | Code  | Page  |
|--------|----------|--------|-------------------|-----------|-------|-------|
| M      | GRP      | Black  |                   | Standard  | 57040 | 12-73 |
| M      | GRP      | Black  | open              | Standard  | 57041 | 12-73 |
| M      | GRP      | Black  | with threaded end | Standard  | 57043 | 12-73 |

#### 57040 Turning knob with brass threaded bush

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

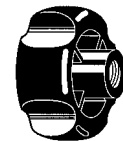


| d1 | ☒  | Art.number                    | d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|-----|---|-------------------------------|
| M4 | 10 | <a href="#">57040.040.001</a> | M6 | 10 | <a href="#">57040.060.001</a> | M10 | 5 | <a href="#">57040.100.001</a> |
| M5 | 10 | <a href="#">57040.050.001</a> | M8 | 10 | <a href="#">57040.080.001</a> | M12 | 5 | <a href="#">57040.120.001</a> |

#### 57041 Turning knob open

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

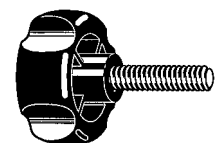


| d1 | ☒  | Art.number                    | d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|-----|---|-------------------------------|
| M4 | 10 | <a href="#">57041.040.001</a> | M6 | 10 | <a href="#">57041.060.001</a> | M10 | 5 | <a href="#">57041.100.001</a> |
| M5 | 10 | <a href="#">57041.050.001</a> | M8 | 10 | <a href="#">57041.080.001</a> | M12 | 5 | <a href="#">57041.120.001</a> |

#### 57043 Turning knob with zinc plated threaded end

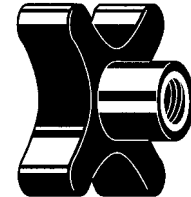
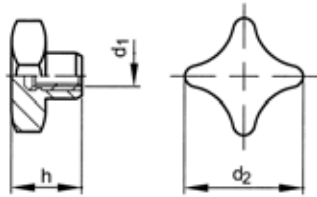
W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|---|-------------------------------|
| M4X10  | 10 | <a href="#">57043.040.010</a> | M6X15  | 10 | <a href="#">57043.060.015</a> | M10X30 | 5 | <a href="#">57043.100.030</a> |
| M5X16  | 10 | <a href="#">57043.050.015</a> | M8X30  | 10 | <a href="#">57043.080.030</a> | M12X50 | 5 | <a href="#">57043.120.050</a> |

## Turning knob 4-grips deep



### Technical data

| d1  | P    | d2 | h    |
|-----|------|----|------|
| M6  | 1    | 40 | 24   |
| M8  | 1,25 | 40 | 24   |
| M10 | 1,5  | 50 | 28,5 |
| M12 | 1,75 | 60 | 33   |

### Article groups

| Thread | Material | Colour |                   | Packaging | Code  | Page  |
|--------|----------|--------|-------------------|-----------|-------|-------|
| M      | GRP      | Black  |                   | Standard  | 57045 | 12-74 |
| M      | GRP      | Black  | with threaded end | Standard  | 57046 | 12-74 |
| M      | GRP      | Black  | open              | Standard  | 57048 | 12-74 |

#### 57045 Turning knob with brass threaded bush

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

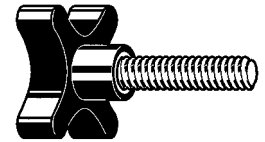


| d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1 | ☒ | Art.number |
|----|----|-------------------------------|-----|---|-------------------------------|----|---|------------|
| M6 | 10 | <a href="#">57045.060.001</a> | M10 | 5 | <a href="#">57045.100.001</a> |    |   |            |
| M8 | 10 | <a href="#">57045.080.001</a> | M12 | 5 | <a href="#">57045.120.001</a> |    |   |            |

#### 57046 Turning knob with steel plated threaded end

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number                    | d1 x L | ☒ | Art.number |
|--------|----|-------------------------------|--------|---|-------------------------------|--------|---|------------|
| M6X20  | 10 | <a href="#">57046.060.020</a> | M10X40 | 5 | <a href="#">57046.100.040</a> |        |   |            |
| M8X30  | 10 | <a href="#">57046.080.030</a> | M12X50 | 5 | <a href="#">57046.120.050</a> |        |   |            |

#### 57048 Turning knob open with brass threaded bush

W03A

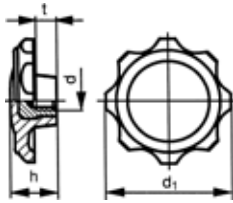
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1 | ☒ | Art.number |
|----|----|-------------------------------|-----|---|-------------------------------|----|---|------------|
| M6 | 10 | <a href="#">57048.060.001</a> | M10 | 5 | <a href="#">57048.100.001</a> |    |   |            |
| M8 | 10 | <a href="#">57048.080.001</a> | M12 | 5 | <a href="#">57048.120.001</a> |    |   |            |



## Disc knob



### Technical data

| d x d1 x h | P   | d <sub>1</sub> | d x d1 x h  | P    | d <sub>1</sub> | d x d1 x h | P    | d <sub>1</sub> |
|------------|-----|----------------|-------------|------|----------------|------------|------|----------------|
| M5x30x20   | 0,8 | 30             | M6x40x24    | 1    | 40             | M10x70x20  | 1,5  | 70             |
| M6x30x20   | 1   | 30             | M8x40x24    | 1,25 | 40             | M12x60x33  | 1,75 | 60             |
| M6x30x24   | 1   | 30             | M8x50x16    | 1,25 | 50             |            |      |                |
| M6x40x14,5 | 1   | 40             | M10x50x28,5 | 1,5  | 50             |            |      |                |

### Article groups

| Thread | Material | Colour |                   | Packaging | Code  | Page  |
|--------|----------|--------|-------------------|-----------|-------|-------|
| M      | GRP      | Black  |                   | Standard  | 57090 | 12-75 |
| M      | GRP      | Black  | open              | Standard  | 57091 | 12-75 |
| M      | GRP      | Black  | with threaded end | Standard  | 57092 | 12-75 |
| M      | GRP      | Black  |                   | Standard  | 57011 | 12-76 |
| M      | GRP      | Black  | with threaded end | Standard  | 57012 | 12-76 |

#### 57090 Disc knob with brass threaded bush

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d  | ☒  | Art.number                    | d   | ☒ | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|---|-------------------------------|---|---|------------|
| M6 | 10 | <a href="#">57090.060.001</a> | M10 | 5 | <a href="#">57090.100.001</a> |   |   |            |
| M8 | 10 | <a href="#">57090.080.001</a> | M12 | 5 | <a href="#">57090.120.001</a> |   |   |            |

#### 57091 Disc knob open

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

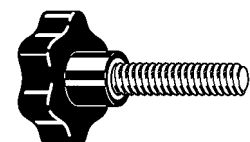


| d  | ☒  | Art.number                    | d   | ☒ | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|---|-------------------------------|---|---|------------|
| M6 | 10 | <a href="#">57091.060.001</a> | M10 | 5 | <a href="#">57091.100.001</a> |   |   |            |
| M8 | 10 | <a href="#">57091.080.001</a> | M12 | 5 | <a href="#">57091.120.001</a> |   |   |            |

#### 57092 Disc knob with zinc plated threaded end

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x L | ☒  | Art.number                    | d x L  | ☒ | Art.number                    | d x L | ☒ | Art.number |
|-------|----|-------------------------------|--------|---|-------------------------------|-------|---|------------|
| M6X20 | 10 | <a href="#">57092.060.020</a> | M10X30 | 5 | <a href="#">57092.100.030</a> |       |   |            |
| M8X30 | 10 | <a href="#">57092.080.030</a> | M12X50 | 5 | <a href="#">57092.120.050</a> |       |   |            |

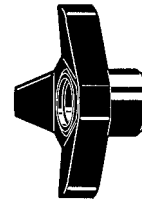
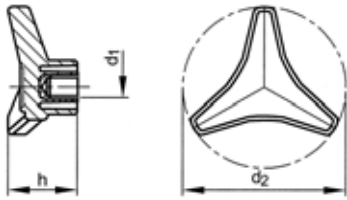
| 57011 Disc knob with stainless steel A1 threaded bush |                                | W03A  |
|---|--------------------------------|---|
| <b>Thread</b>   | Metric thread                  |  |
| <b>Material</b>                                       | Glass-fibre reinforced plastic |   |
| <b>Colour</b>   | Black                          |   |
| <b>Packaging</b>                                      | Standard                       |   |

| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M5 | 10 | <a href="#">57011.050.001</a> | M8  | 10 | <a href="#">57011.080.001</a> | M12 | 5 | <a href="#">57011.120.001</a> |
| M6 | 10 | <a href="#">57011.060.001</a> | M10 | 5  | <a href="#">57011.100.001</a> |     |   |                               |

| 57012 Disc knob with stainless steel A2 threaded end |                                | W03A  |
|--|--------------------------------|---|
| <b>Thread</b>  | Metric thread                  |  |
| <b>Material</b>                                      | Glass-fibre reinforced plastic |   |
| <b>Colour</b>  | Black                          |   |
| <b>Packaging</b>                                     | Standard                       |   |

| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒ | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|---|-------------------------------|
| M5X15 | 10 | <a href="#">57012.050.015</a> | M8X20  | 10 | <a href="#">57012.080.020</a> | M12X40 | 5 | <a href="#">57012.120.040</a> |
| M6X20 | 10 | <a href="#">57012.060.020</a> | M10X30 | 5  | <a href="#">57012.100.030</a> |        |   |                               |

## Triangular star knob



### Technical data

| d1  | P    | d2  | h  |
|-----|------|-----|----|
| M8  | 1,25 | 85  | 36 |
| M10 | 1,5  | 85  | 36 |
| M12 | 1,75 | 105 | 45 |
| M14 | 2    | 105 | 45 |

### Article groups

| Thread | Material | Colour |                   | Packaging | Code  | Page  |
|--------|----------|--------|-------------------|-----------|-------|-------|
| M      | GRP      | Black  |                   | Standard  | 57020 | 12-77 |
| M      | GRP      | Black  | with threaded end | Standard  | 57021 | 12-77 |
| M      | GRP      | Black  | open              | Standard  | 57023 | 12-77 |

#### 57020 Triangular star knob with brass threaded bush

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

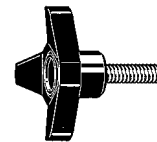


| d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1 | ☒ | Art.number |
|-----|----|-------------------------------|-----|---|-------------------------------|----|---|------------|
| M8  | 10 | <a href="#">57020.080.001</a> | M12 | 5 | <a href="#">57020.120.001</a> |    |   |            |
| M10 | 10 | <a href="#">57020.100.001</a> | M14 | 5 | <a href="#">57020.140.001</a> |    |   |            |

#### 57021 Triangular star knob with zinc plated threaded end

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number                    | d1 x L | ☒ | Art.number |
|--------|----|-------------------------------|--------|---|-------------------------------|--------|---|------------|
| M8X30  | 10 | <a href="#">57021.080.030</a> | M12X50 | 5 | <a href="#">57021.120.050</a> |        |   |            |
| M10X40 | 10 | <a href="#">57021.100.040</a> | M14X50 | 5 | <a href="#">57021.140.050</a> |        |   |            |

#### 57023 Triangular star knob open with brass threaded bush

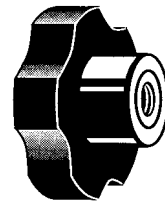
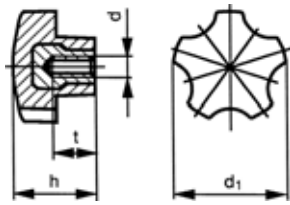
**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1  | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1 | ☒ | Art.number |
|-----|----|-------------------------------|-----|---|-------------------------------|----|---|------------|
| M8  | 10 | <a href="#">57023.080.001</a> | M12 | 5 | <a href="#">57023.120.001</a> |    |   |            |
| M10 | 10 | <a href="#">57023.100.001</a> | M14 | 5 | <a href="#">57023.140.001</a> |    |   |            |

## Five lobe grip



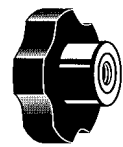
### Technical data

| d   | P    | d <sub>1</sub> | h    |
|-----|------|----------------|------|
| M5  | 0,8  | 32             | 22,4 |
| M6  | 1    | 32             | 22,4 |
| M8  | 1,25 | 40             | 28   |
| M10 | 1,5  | 40             | 28   |

### 56970 Five lobe grip

W03A

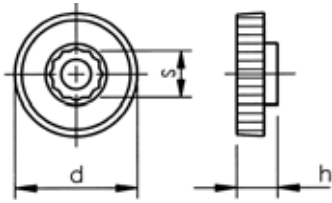
|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard                             |



| d x t | ☒  | Art.number                    | d x t  | ☒  | Art.number                    | d x t | ☒ | Art.number |
|-------|----|-------------------------------|--------|----|-------------------------------|-------|---|------------|
| M5X10 | 10 | <a href="#">56970.050.010</a> | M8X14  | 10 | <a href="#">56970.080.014</a> |       |   |            |
| M6X9  | 10 | <a href="#">56970.060.009</a> | M10X14 | 5  | <a href="#">56970.100.014</a> |       |   |            |

- With brass threaded bush, sizes M8 x 14 and M10 x 14 with steel zinc plated threaded bush.

## Knurled knob for hexagon bolts and nuts



### Technical data

| For use with x d | s | d  | For use with x d | s  | d  | For use with x d | s  | d  |
|------------------|---|----|------------------|----|----|------------------|----|----|
| M4x13            | 7 | 13 | M6x20            | 10 | 20 | M8x36            | 13 | 36 |
| M4x17            | 7 | 17 | M6x25            | 10 | 25 | M10x36           | 17 | 36 |
| M5x17            | 8 | 17 | M8x25            | 13 | 25 |                  |    |    |
| M5x20            | 8 | 20 |                  |    |    |                  |    |    |

### Article groups

| Thread | Material    | Colour |      | Packaging | Code  | Page  |
|--------|-------------|--------|------|-----------|-------|-------|
| M      | Plastic POM | Black  | thin | Standard  | 56730 | 12-79 |
| M      | Plastic POM | Black  | high | Standard  | 56735 | 12-79 |

#### 56730 Thin knurled knob for hexagon bolts and nuts

**W02A**

|                  |                          |
|------------------|--------------------------|
| <b>Thread</b>    | Metric thread            |
| <b>Material</b>  | Plastic Polyoxymethylene |
| <b>Colour</b>    | Black                    |
| <b>Packaging</b> | Standard                 |

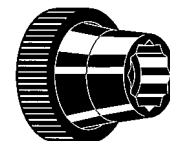


| For use with x d x h | ☒   | Art.number                    | For use with x d x h | ☒   | Art.number                    | For use with x d x h | ☒   | Art.number                    |
|----------------------|-----|-------------------------------|----------------------|-----|-------------------------------|----------------------|-----|-------------------------------|
| M4X13x4,5            | 100 | <a href="#">56730.040.013</a> | M6X20x6,5            | 100 | <a href="#">56730.060.020</a> | M8X36x10             | 100 | <a href="#">56730.080.036</a> |
| M4X17x5,5            | 100 | <a href="#">56730.040.017</a> |                      |     |                               | M10X36x10            | 100 | <a href="#">56730.100.036</a> |
| M5X17x5,5            | 100 | <a href="#">56730.050.017</a> | M6X25x8              | 100 | <a href="#">56730.060.025</a> |                      |     |                               |
| M5X20x6,5            | 100 | <a href="#">56730.050.020</a> | M8X25x8              | 100 | <a href="#">56730.080.025</a> |                      |     |                               |

#### 56735 High knurled knob for hexagon bolts and nuts

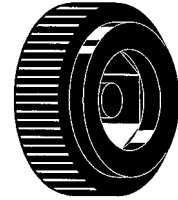
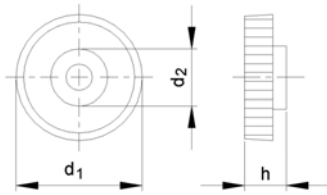
**W02A**

|                  |                          |
|------------------|--------------------------|
| <b>Thread</b>    | Metric thread            |
| <b>Material</b>  | Plastic Polyoxymethylene |
| <b>Colour</b>    | Black                    |
| <b>Packaging</b> | Standard                 |



| For use with x d x h | ☒   | Art.number                    | For use with x d x h | ☒   | Art.number                    | For use with x d x h | ☒   | Art.number                    |
|----------------------|-----|-------------------------------|----------------------|-----|-------------------------------|----------------------|-----|-------------------------------|
| M4X13x9,5            | 100 | <a href="#">56735.040.013</a> | M6X20x15             | 100 | <a href="#">56735.060.020</a> | M8X36x23             | 100 | <a href="#">56735.080.036</a> |
| M4X17x11,5           | 100 | <a href="#">56735.040.017</a> |                      |     |                               | M10X36x23            | 100 | <a href="#">56735.100.036</a> |
| M5X17x11,5           | 100 | <a href="#">56735.050.017</a> | M6X25x18             | 100 | <a href="#">56735.060.025</a> |                      |     |                               |
| M5X20x15             | 100 | <a href="#">56735.050.020</a> | M8X25x18             | 100 | <a href="#">56735.080.025</a> |                      |     |                               |

## Knurled knob for hexagon socket head cap screw



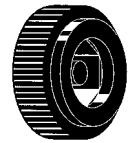
### Technical data

| For use with x d1 | d <sub>1</sub> | h   | d <sub>2</sub> =d <sub>k</sub> |
|-------------------|----------------|-----|--------------------------------|
| M3x11             | 11             | 4,5 | 5,5                            |
| M4x13             | 13             | 5,5 | 7                              |
| M4x17             | 17             | 5,5 | 7                              |
| M5x17             | 17             | 6,5 | 8,5                            |
| M5x20             | 20             | 6,5 | 8,5                            |
| M6x20             | 20             | 7,5 | 10                             |
| M6x25             | 25             | 7,5 | 10                             |
| M8x25             | 25             | 9,5 | 13                             |
| M8x36             | 36             | 9,5 | 13                             |
| M10x36            | 36             | 12  | 16                             |

### 56740 Knurled knob for hexagon socket head cap screw

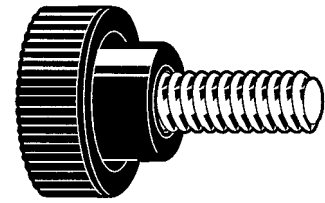
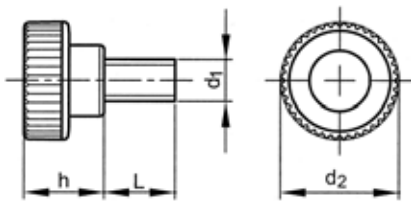
W02A

|                  |                          |
|------------------|--------------------------|
| <b>Thread</b>    | Metric thread            |
| <b>Material</b>  | Plastic Polyoxymethylene |
| <b>Colour</b>    | Black                    |
| <b>Packaging</b> | Standard                 |



| For use with nr. | ☒   | Art.number                    | For use with nr. | ☒   | Art.number                    | For use with nr. | ☒   | Art.number                    |
|------------------|-----|-------------------------------|------------------|-----|-------------------------------|------------------|-----|-------------------------------|
| M3X11            | 100 | <a href="#">56740.030.011</a> | M5X20            | 100 | <a href="#">56740.050.020</a> | M8X36            | 100 | <a href="#">56740.080.036</a> |
| M4X13            | 100 | <a href="#">56740.040.013</a> | M6X20            | 100 | <a href="#">56740.060.020</a> | M10X36           | 100 | <a href="#">56740.100.036</a> |
| M4X17            | 100 | <a href="#">56740.040.017</a> | M6X25            | 100 | <a href="#">56740.060.025</a> |                  |     |                               |
| M5X17            | 100 | <a href="#">56740.050.017</a> | M8X25            | 100 | <a href="#">56740.080.025</a> |                  |     |                               |

## Knurled knob



### Technical data

| d1  | P    | d2 | h  |
|-----|------|----|----|
| M5  | 0,8  | 21 | 15 |
| M6  | 1    | 21 | 15 |
| M8  | 1,25 | 26 | 18 |
| M10 | 1,5  | 33 | 23 |

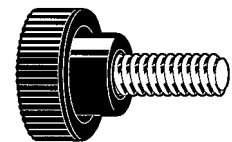
### Article groups

| Thread | Material | Colour |                         | Packaging | Code  | Page  |
|--------|----------|--------|-------------------------|-----------|-------|-------|
| M      | GRP      | Black  | with threaded end       | Standard  | 57025 | 12-81 |
| M      | GRP      | Black  | with threaded bush      | Standard  | 57027 | 12-81 |
| M      | GRP      | Black  | open with threaded bush | Standard  | 57028 | 12-81 |

#### 57025 Knurled knob with steel zinc plated threaded end

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

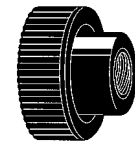


| d1 x L | ☒  | Art.number                    | d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|---|------------|
| M5X15  | 10 | <a href="#">57025.050.015</a> | M8X25  | 10 | <a href="#">57025.080.025</a> |        |   |            |
| M6X20  | 10 | <a href="#">57025.060.020</a> | M10X30 | 5  | <a href="#">57025.100.030</a> |        |   |            |

#### 57027 Knurled knob with brass threaded bush

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1 | ☒ | Art.number |
|----|----|-------------------------------|-----|----|-------------------------------|----|---|------------|
| M5 | 10 | <a href="#">57027.050.001</a> | M8  | 10 | <a href="#">57027.080.001</a> |    |   |            |
| M6 | 10 | <a href="#">57027.060.001</a> | M10 | 5  | <a href="#">57027.100.001</a> |    |   |            |

#### 57028 Knurled knob open with brass threaded bush

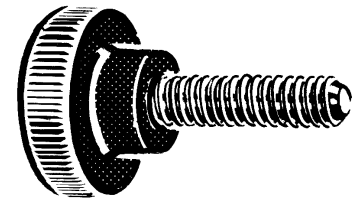
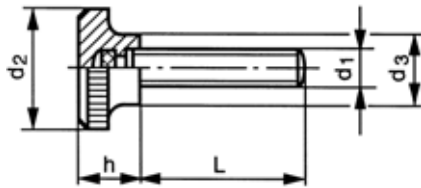
**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 | ☒  | Art.number                    | d1  | ☒  | Art.number                    | d1 | ☒ | Art.number |
|----|----|-------------------------------|-----|----|-------------------------------|----|---|------------|
| M5 | 10 | <a href="#">57028.050.001</a> | M8  | 10 | <a href="#">57028.080.001</a> |    |   |            |
| M6 | 10 | <a href="#">57028.060.001</a> | M10 | 5  | <a href="#">57028.100.001</a> |    |   |            |

## Knurled knob with zinc plated threaded end



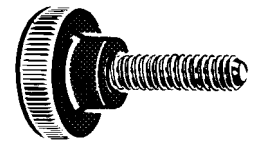
### Technical data

| Type           | 700 | 710 | 711  |
|----------------|-----|-----|------|
| d <sub>1</sub> | M5  | M6  | M8   |
| P              | 0,8 | 1   | 1,25 |
| d <sub>2</sub> | 18  | 22  | 26   |
| d <sub>3</sub> | 10  | 12  | 15   |
| h              | 12  | 13  | 13   |

### 56931 Knurled knob with zinc plated threaded end

W03F

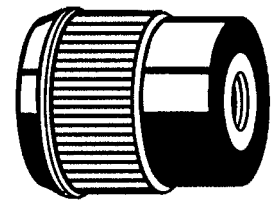
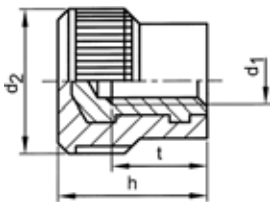
|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard                             |



| Type-d1 x L | ☒  | Art.number                    | Type-d1 x L | ☒  | Art.number                    | Type-d1 x L | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 700-M5X20   | 10 | <a href="#">56931.050.020</a> | 710-M6X30   | 10 | <a href="#">56931.060.030</a> | 711-M8X40   | 10 | <a href="#">56931.080.040</a> |
| 700-M5X30   | 10 | <a href="#">56931.050.030</a> |             |    |                               |             |    |                               |
|             |    |                               | 711-M8X20   | 10 | <a href="#">56931.080.020</a> |             |    |                               |
| 710-M6X20   | 10 | <a href="#">56931.060.020</a> | M8X30       | 10 | <a href="#">56931.080.030</a> |             |    |                               |

- Depending on availability the threaded end can be supplied zinc plated as well as zinc plated, yellow passivated.

## Knurled knob



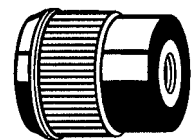
### Technical data

| d1 | P   | d <sub>2</sub> | h    |
|----|-----|----------------|------|
| M3 | 0,5 | 12             | 13,5 |
| M4 | 0,7 | 12             | 13,5 |
| M5 | 0,8 | 15             | 15,5 |
| M6 | 1   | 15             | 15,5 |

### 56972 Knurled knob with brass threaded bush

W03A

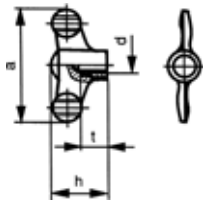
|                  |                                      |
|------------------|--------------------------------------|
| <b>Thread</b>    | Metric thread                        |
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard                             |



| d1 x t | ☒  | Art.number                    | d1 x t | ☒  | Art.number                    | d1 x t | ☒ | Art.number |
|--------|----|-------------------------------|--------|----|-------------------------------|--------|---|------------|
| M3X6,5 | 25 | <a href="#">56972.030.006</a> | M5X10  | 10 | <a href="#">56972.050.010</a> |        |   |            |
| M4X10  | 25 | <a href="#">56972.040.010</a> | M6X9   | 10 | <a href="#">56972.060.009</a> |        |   |            |



## Wing grip



### Technical data

|   | M5  | M6 | M8   | M10 |
|---|-----|----|------|-----|
| d | M5  | M6 | M8   | M10 |
| P | 0,8 | 1  | 1,25 | 1,5 |
| a | 50  | 50 | 75   | 75  |
| h | 24  | 24 | 35   | 35  |
| t | 10  | 10 | 14   | 14  |

#### 56966 Wing grip

W03A

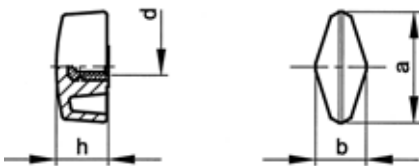
|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | 6                         |
| <b>Colour</b>    | Black                     |
| <b>Packaging</b> | Standard                  |



| d  | ☒  | Art.number                    | d   | ☒ | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|---|-------------------------------|---|---|------------|
| M5 | 10 | <a href="#">56966.050.001</a> | M8  | 5 | <a href="#">56966.080.001</a> |   |   |            |
| M6 | 10 | <a href="#">56966.060.001</a> | M10 | 5 | <a href="#">56966.100.001</a> |   |   |            |

- With steel zinc plated, yellow passivated threaded bush.

## Wing nut



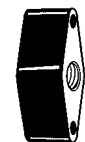
### Technical data

|   | M5   | M6   | M8   | M10 |
|---|------|------|------|-----|
| d | M5   | M6   | M8   | M10 |
| P | 0,8  | 1    | 1,25 | 1,5 |
| h | 16,5 | 16,5 | 16,5 | 17  |
| a | 33   | 33   | 33   | 45  |
| b | 15   | 15   | 15   | 19  |

#### 57051 Wing nut with brass threaded bush

W03A

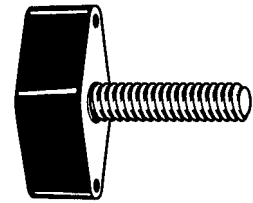
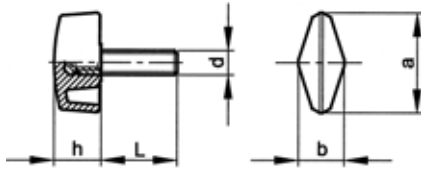
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M5 | 10 | <a href="#">57051.050.001</a> | M8  | 10 | <a href="#">57051.080.001</a> |   |   |            |
| M6 | 10 | <a href="#">57051.060.001</a> | M10 | 5  | <a href="#">57051.100.001</a> |   |   |            |

- The shape of size M10 deviates.

## Wing screw



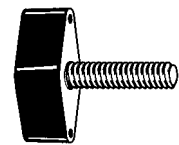
### Technical data

|   | M5   | M6   | M8   | M10 |
|---|------|------|------|-----|
| d | M5   | M6   | M8   | M10 |
| P | 0,8  | 1    | 1,25 | 1,5 |
| h | 16,5 | 16,5 | 16,5 | 17  |
| a | 33   | 33   | 33   | 45  |
| b | 15   | 15   | 15   | 19  |

### 57050 Wing screw with zinc plated threaded end

W03A

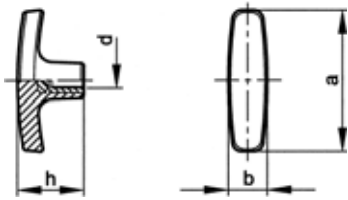
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L | ☒ | Art.number |
|-------|----|-------------------------------|--------|----|-------------------------------|-------|---|------------|
| M5X15 | 10 | <a href="#">57050.050.015</a> | M8X25  | 10 | <a href="#">57050.080.025</a> |       |   |            |
| M6X20 | 10 | <a href="#">57050.060.020</a> | M10X30 | 5  | <a href="#">57050.100.030</a> |       |   |            |

- The shape of size M10 deviates.

## T-grip



### Technical data

| d | M5  | M6 | M8   | M10 |
|---|-----|----|------|-----|
| P | 0,8 | 1  | 1,25 | 1,5 |
| h | 24  | 33 | 33   | 35  |
| a | 50  | 60 | 60   | 72  |
| b | 15  | 17 | 17   | 18  |

### Article groups

| Thread | Material | Colour |                    | Packaging | Code  | Page  |
|--------|----------|--------|--------------------|-----------|-------|-------|
| M      | GRP      | Black  | with threaded bush | Standard  | 57053 | 12-85 |
| M      | GRP      | Black  | with threaded end  | Standard  | 57054 | 12-85 |

#### 57053 T-grip with brass threaded bush

**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

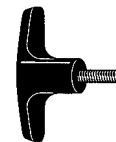


| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M5 | 10 | <a href="#">57053.050.001</a> | M8  | 10 | <a href="#">57053.080.001</a> |   |   |            |
| M6 | 10 | <a href="#">57053.060.001</a> | M10 | 5  | <a href="#">57053.100.001</a> |   |   |            |

#### 57054 T-grip with steel zinc plated threaded end

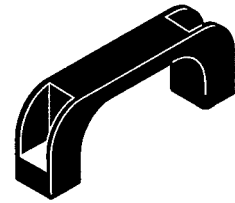
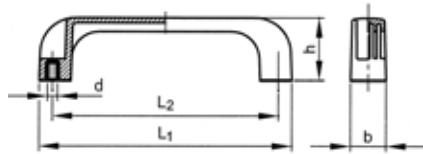
**W03A**

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L | ☒ | Art.number |
|-------|----|-------------------------------|--------|----|-------------------------------|-------|---|------------|
| M5X20 | 10 | <a href="#">57054.050.020</a> | M8X20  | 10 | <a href="#">57054.080.020</a> |       |   |            |
| M6X20 | 10 | <a href="#">57054.060.020</a> | M10X30 | 5  | <a href="#">57054.100.030</a> |       |   |            |

## Bridge handle (Bowgrip) with threaded bushes



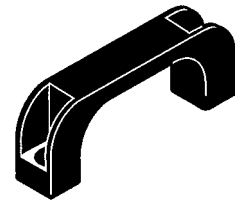
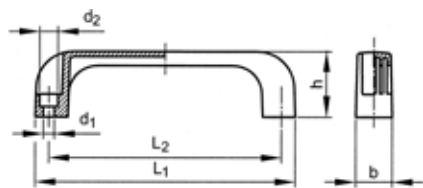
### Technical data

| d x L1  | P    | h  | b  | L <sub>2</sub> |
|---------|------|----|----|----------------|
| M5x110  | 0,8  | 37 | 21 | 94             |
| M6x139  | 1    | 40 | 24 | 120            |
| M6x151  | 1    | 43 | 26 | 132            |
| M8x200  | 1,25 | 50 | 28 | 180            |
| M10x260 | 1,5  | 53 | 32 | 235            |

| 57067 Bridge handle (Bowgrip) with threaded bushes |                                | W03A |
|--|--------------------------------|------|
| <b>Thread</b>                                      | Metric thread                  |      |
| <b>Material</b>                                    | Glass-fibre reinforced plastic |      |
| <b>Packaging</b>                                   | Standard                       |      |

| d x L1 | ☒ | Art.number                    | d x L1 | ☒ | Art.number                    | d x L1  | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|---------|---|-------------------------------|
| M5X110 | 5 | <a href="#">57067.050.110</a> | M6X151 | 5 | <a href="#">57067.060.151</a> | M8X200  | 2 | <a href="#">57067.080.200</a> |
| M6X139 | 5 | <a href="#">57067.060.139</a> |        |   |                               | M10X260 | 2 | <a href="#">57067.100.260</a> |

## Bridge handle (Bowgrip)



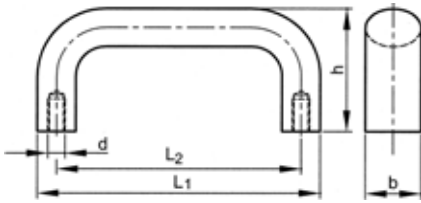
### Technical data

| d1 x L1  | d <sub>2</sub> | h  | b  | L <sub>2</sub> |
|----------|----------------|----|----|----------------|
| 6,5x110  | 11             | 37 | 21 | 94             |
| 6,5x139  | 14             | 40 | 24 | 120            |
| 8,5x151  | 14             | 43 | 26 | 132            |
| 8,5x200  | 14,5           | 50 | 28 | 180            |
| 10,5x260 | 17             | 53 | 32 | 235            |

| 57066 Bridge handle (Bowgrip) |                                | W03A |
|-------------------------------|--------------------------------|------|
| <b>Material</b>               | Glass-fibre reinforced plastic |      |
| <b>Colour</b>                 | Black                          |      |
| <b>Packaging</b>              | Standard                       |      |

| d1 x L1   | ☒ | Art.number                    | d1 x L1   | ☒ | Art.number                    | d1 x L1    | ☒ | Art.number                    |
|-----------|---|-------------------------------|-----------|---|-------------------------------|------------|---|-------------------------------|
| 6,5X110MM | 5 | <a href="#">57066.065.110</a> | 8,5X151MM | 5 | <a href="#">57066.085.151</a> | 10,5X260MM | 2 | <a href="#">57066.105.260</a> |
| 6,5X139MM | 5 | <a href="#">57066.065.139</a> | 8,5X200MM | 2 | <a href="#">57066.085.200</a> |            |   |                               |

## Solid bridge handle (Bowgrip)



### Technical data

| d x L1   | P    | h    | b  | L <sub>2</sub> |
|----------|------|------|----|----------------|
| M5x106,5 | 0,8  | 40,5 | 20 | 94             |
| M6x134   | 1    | 50   | 25 | 117            |
| M6x148   | 1    | 50   | 25 | 132            |
| M8x168   | 1,25 | 58   | 29 | 150            |
| M8x197   | 1,25 | 58   | 29 | 179            |

### 57014 Solid bridge handle (Bowgrip) with brass threaded bushes

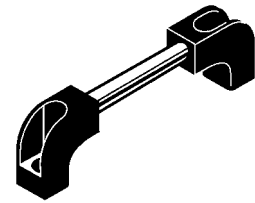
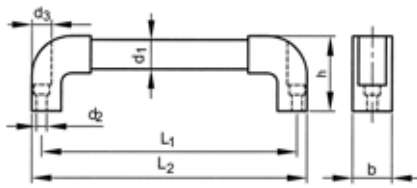
W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x L1 | ☒ | Art.number                    | d x L1 | ☒ | Art.number                    | d x L1 | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M5X106 | 5 | <a href="#">57014.050.106</a> | M8X168 | 2 | <a href="#">57014.080.168</a> | M8X197 | 2 | <a href="#">57014.080.197</a> |
| M6X134 | 5 | <a href="#">57014.060.134</a> |        |   |                               |        |   |                               |
| M6X148 | 5 | <a href="#">57014.060.148</a> |        |   |                               |        |   |                               |

## Tubular bridge handle (Bowgrip)



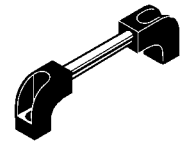
### Technical data

| d1 x L1 | d2   | d3 | h  | b  | L2  |
|---------|------|----|----|----|-----|
| 20x200  | 8,5  | 14 | 62 | 30 | 220 |
| 20x250  | 8,5  | 14 | 62 | 30 | 270 |
| 20x300  | 8,5  | 14 | 62 | 30 | 320 |
| 30x350  | 10,5 | 16 | 77 | 40 | 374 |
| 30x400  | 10,5 | 16 | 77 | 40 | 424 |
| 30x500  | 10,5 | 16 | 77 | 40 | 524 |

### 57015 Tubular bridge handle (Bowgrip)

W03A

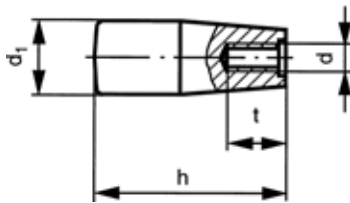
**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d1 x L1  | ☒ | Art.number                    | d1 x L1  | ☒ | Art.number                    | d1 x L1 | ☒ | Art.number |
|----------|---|-------------------------------|----------|---|-------------------------------|---------|---|------------|
| 20X200MM | 2 | <a href="#">57015.020.200</a> | 30X350MM | 2 | <a href="#">57015.030.350</a> |         |   |            |
| 20X250MM | 2 | <a href="#">57015.020.250</a> | 30X400MM | 2 | <a href="#">57015.030.400</a> |         |   |            |
| 20X300MM | 2 | <a href="#">57015.020.300</a> | 30X500MM | 2 | <a href="#">57015.030.500</a> |         |   |            |

- With anodised aluminium tube handle.

## Handle



### Technical data

| d  | M6 | M8   | M10 |
|----|----|------|-----|
| P  | 1  | 1,25 | 1,5 |
| d1 | 17 | 17   | 28  |
| h  | 45 | 45   | 70  |

### 56955 Handle

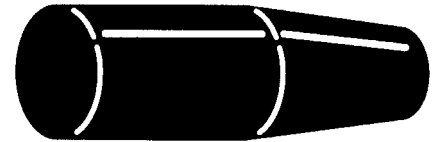
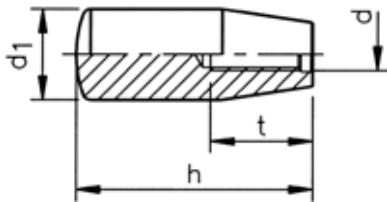
W03A

**Thread** Metric thread  
**Material** Plastic Fenolformaldehyde (bakelite)  
**Class** FS31  
**Colour** Black  
**Packaging** Standard



| d x t | ☒  | Art.number                    | d x t | ☒  | Art.number                    | d x t  | ☒ | Art.number                    |
|-------|----|-------------------------------|-------|----|-------------------------------|--------|---|-------------------------------|
| M6X14 | 10 | <a href="#">56955.060.014</a> | M8X16 | 10 | <a href="#">56955.080.016</a> | M10X28 | 5 | <a href="#">56955.100.028</a> |

## Handle



### Technical data

| d   | P    | d <sub>1</sub> | h  | t  |
|-----|------|----------------|----|----|
| M5  | 0,8  | 18             | 40 | 20 |
| M6  | 1    | 20             | 50 | 20 |
| M8  | 1,25 | 23             | 60 | 27 |
| M10 | 1,5  | 27             | 80 | 34 |
| M12 | 1,75 | 29             | 90 | 42 |

### 57030 Handle

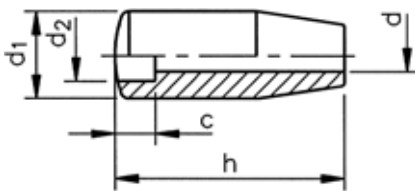
W03A

**Thread** Metric thread  
**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M5 | 10 | <a href="#">57030.050.001</a> | M8  | 10 | <a href="#">57030.080.001</a> | M12 | 5 | <a href="#">57030.120.001</a> |
| M6 | 10 | <a href="#">57030.060.001</a> | M10 | 5  | <a href="#">57030.100.001</a> |     |   |                               |

## Spinner handle



### Technical data

| d              | 6,5  | 8,5  | 10,5 | 12,5 |
|----------------|------|------|------|------|
| d <sub>1</sub> | 20   | 23   | 27   | 29   |
| h              | 50   | 60   | 80   | 90   |
| d <sub>2</sub> | 10,5 | 13,5 | 16,5 | 19,5 |
| c              | 6,5  | 8,5  | 10,5 | 12,5 |

### 57031 Spinner handle

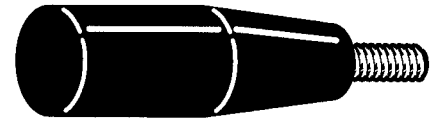
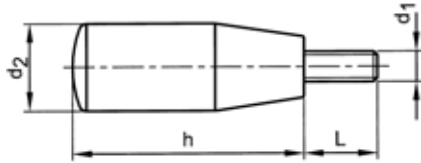
W03A

**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d     | ☒  | Art.number                    | d      | ☒ | Art.number                    | d | ☒ | Art.number |
|-------|----|-------------------------------|--------|---|-------------------------------|---|---|------------|
| 6,5MM | 10 | <a href="#">57031.065.001</a> | 10,5MM | 5 | <a href="#">57031.105.001</a> |   |   |            |
| 8,5MM | 10 | <a href="#">57031.085.001</a> | 12,5MM | 5 | <a href="#">57031.125.001</a> |   |   |            |

**Handle not revolvable**



**Technical data**

| d1  | P    | d2 | h  |
|-----|------|----|----|
| M6  | 1    | 20 | 50 |
| M8  | 1,25 | 23 | 60 |
| M10 | 1,5  | 27 | 80 |
| M12 | 1,75 | 29 | 90 |

**57033 Handle with steel zinc plated not revolvable threaded end**

**W03A**

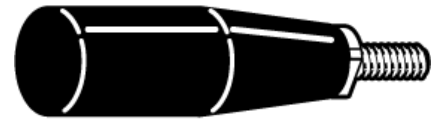
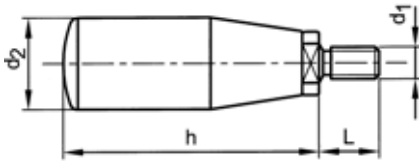
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 x L | ☒  | Art.number                    | d1 x L | ☒ | Art.number                    | d1 x L | ☒ | Art.number |
|--------|----|-------------------------------|--------|---|-------------------------------|--------|---|------------|
| M6X20  | 10 | <a href="#">57033.060.020</a> | M10X30 | 5 | <a href="#">57033.100.030</a> |        |   |            |
| M8X30  | 10 | <a href="#">57033.080.030</a> | M12X30 | 5 | <a href="#">57033.120.030</a> |        |   |            |



## Handle revolvable



### Technical data

| d1 x h  | P    | d2 | L  |
|---------|------|----|----|
| M6x55   | 1    | 20 | 12 |
| M8x67   | 1,25 | 23 | 15 |
| M8x73   | 1,25 | 23 | 12 |
| M10x87  | 1,5  | 25 | 15 |
| M10x100 | 1,5  | 30 | 16 |
| M12x97  | 1,75 | 29 | 15 |
| M12x104 | 1,75 | 31 | 23 |

### Article groups

| Thread | Material   | Class | Colour | Packaging | Code  | Page  |
|--------|------------|-------|--------|-----------|-------|-------|
| M      | Plastic PF | FS31  | Black  | Standard  | 56988 | 12-91 |
| M      | GRP        |       | Black  | Standard  | 57035 | 12-91 |

| 56988 Handle revolvable |                                      | W03F |
|-------------------------|--------------------------------------|------|
| <b>Thread</b>           | Metric thread                        |      |
| <b>Material</b>         | Plastic Fenolformaldehyde (bakelite) |      |
| <b>Class</b>            | FS31                                 |      |
| <b>Colour</b>           | Black                                |      |
| <b>Packaging</b>        | Standard                             |      |



| d1 x h | ☒  | Art.number                    | d1 x h  | ☒ | Art.number                    | d1 x h  | ☒ | Art.number                    |
|--------|----|-------------------------------|---------|---|-------------------------------|---------|---|-------------------------------|
| M8x73  | 10 | <a href="#">56988.080.001</a> | M10x100 | 5 | <a href="#">56988.100.001</a> | M12x104 | 5 | <a href="#">56988.120.001</a> |

- With steel zinc plated revolvable threaded end.

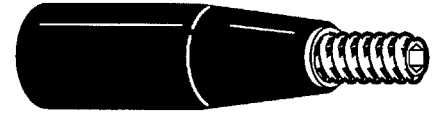
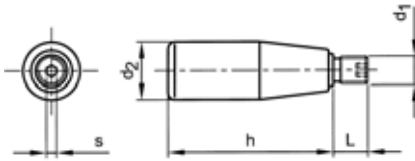
| 57035 Handle revolvable |                                | W03A |
|-------------------------|--------------------------------|------|
| <b>Thread</b>           | Metric thread                  |      |
| <b>Material</b>         | Glass-fibre reinforced plastic |      |
| <b>Colour</b>           | Black                          |      |
| <b>Packaging</b>        | Standard                       |      |



| d1 x h | ☒  | Art.number                    | d1 x h | ☒ | Art.number                    | d1 x h | ☒ | Art.number |
|--------|----|-------------------------------|--------|---|-------------------------------|--------|---|------------|
| M6x55  | 10 | <a href="#">57035.060.001</a> | M10x87 | 5 | <a href="#">57035.100.001</a> |        |   |            |
| M8x67  | 10 | <a href="#">57035.080.001</a> | M12x97 | 5 | <a href="#">57035.120.001</a> |        |   |            |

- With steel zinc plated revolvable threaded end.

## Handle revolvable



### Technical data

| d1             | M6 | M8   | M10 | M12  |
|----------------|----|------|-----|------|
| P              | 1  | 1,25 | 1,5 | 1,75 |
| d <sub>2</sub> | 23 | 23   | 26  | 26   |
| h              | 62 | 62   | 82  | 82   |
| L              | 15 | 15   | 15  | 15   |
| s              | 4  | 4    | 5   | 5    |

#### 57049 Handle revolvable

W03A

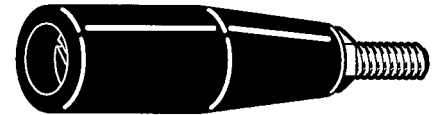
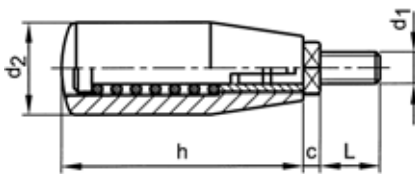
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    | d1 | ☒ | Art.number |
|----|----|-------------------------------|-----|---|-------------------------------|----|---|------------|
| M6 | 10 | <a href="#">57049.060.001</a> | M10 | 5 | <a href="#">57049.100.001</a> |    |   |            |
| M8 | 10 | <a href="#">57049.080.001</a> | M12 | 5 | <a href="#">57049.120.001</a> |    |   |            |

- With steel zinc plated revolvable threaded end with hexagon socket.

## Foldaway handle revolvable



### Technical data

| d1             | M6 | M8   | M10 |
|----------------|----|------|-----|
| P              | 1  | 1,25 | 1,5 |
| d <sub>2</sub> | 20 | 25   | 25  |
| h              | 50 | 78   | 82  |
| c              | 6  | 6,5  | 7,5 |
| L              | 9  | 16   | 17  |

#### 57037 Foldaway handle revolvable

W03A

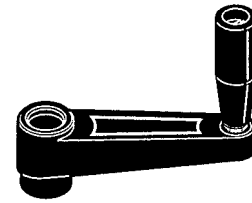
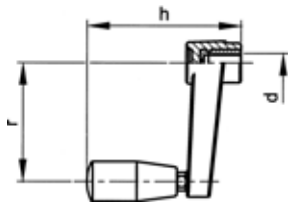
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d1 | ☒  | Art.number                    | d1 | ☒  | Art.number                    | d1  | ☒ | Art.number                    |
|----|----|-------------------------------|----|----|-------------------------------|-----|---|-------------------------------|
| M6 | 10 | <a href="#">57037.060.001</a> | M8 | 10 | <a href="#">57037.080.001</a> | M10 | 5 | <a href="#">57037.100.001</a> |

- With steel zinc plated revolvable threaded end
- The shape of size M10 deviates

## Crank handle with handle



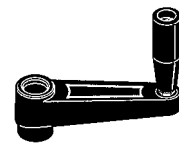
### Technical data

| d   | P    | h   | r   |
|-----|------|-----|-----|
| M8  | 1,25 | 86  | 65  |
| M10 | 1,5  | 87  | 80  |
| M12 | 1,75 | 105 | 110 |
| M14 | 2    | 127 | 140 |
| M16 | 2    | 141 | 185 |

#### 57063 Crank handle with handle with brass threaded bush

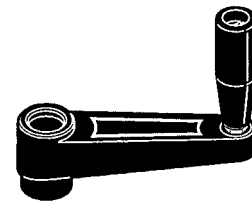
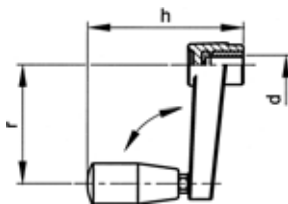
W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M8  | 2 | <a href="#">57063.080.001</a> | M12 | 2 | <a href="#">57063.120.001</a> | M16 | 1 | <a href="#">57063.160.001</a> |
| M10 | 2 | <a href="#">57063.100.001</a> | M14 | 1 | <a href="#">57063.140.001</a> |     |   |                               |

## Crank handle with foldaway handle



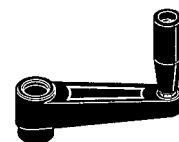
### Technical data

| d   | P    | h   | r   |
|-----|------|-----|-----|
| M8  | 1,25 | 86  | 65  |
| M10 | 1,5  | 87  | 80  |
| M12 | 1,75 | 115 | 110 |
| M14 | 2    | 137 | 140 |
| M16 | 2    | 151 | 185 |

#### 57064 Crank handle with foldaway handle with brass threaded bush

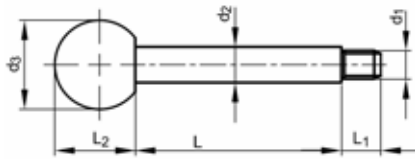
W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d   | ☒ | Art.number                    | d   | ☒ | Art.number                    | d   | ☒ | Art.number                    |
|-----|---|-------------------------------|-----|---|-------------------------------|-----|---|-------------------------------|
| M8  | 2 | <a href="#">57064.080.001</a> | M12 | 2 | <a href="#">57064.120.001</a> | M16 | 1 | <a href="#">57064.160.001</a> |
| M10 | 2 | <a href="#">57064.100.001</a> | M14 | 1 | <a href="#">57064.140.001</a> |     |   |                               |

## Gear lever handle with ball knob



### Technical data

|                | M6 | M8   | M10 |
|----------------|----|------|-----|
| d1             | M6 | M8   | M10 |
| P              | 1  | 1,25 | 1,5 |
| d <sub>2</sub> | 8  | 10   | 12  |
| d <sub>3</sub> | 20 | 25   | 32  |
| L <sub>1</sub> | 9  | 13   | 15  |
| L <sub>2</sub> | 18 | 22,5 | 29  |

### 57003 Gear lever handle with ball knob type A W03A

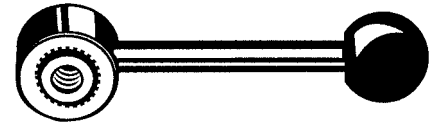
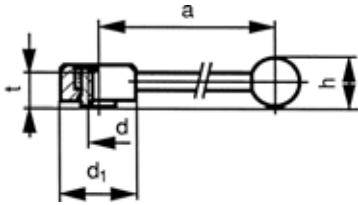
**Thread** Metric thread  
**Material** Free-cutting steel  
**Packaging** Standard



| d1 x L | ☒ | Art.number                    | d1 x L | ☒ | Art.number                    | d1 x L | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M6X65  | 5 | <a href="#">57003.060.065</a> | M8X80  | 5 | <a href="#">57003.080.080</a> | M10X80 | 5 | <a href="#">57003.100.080</a> |

- With plastic (FS31) ball knob.

## Flat tension lever liftable



### Technical data


| d1 x a  | P    | d2 | a   | h  |
|---------|------|----|-----|----|
| M8x97   | 1,25 | 33 | 97  | 25 |
| M8x102  | 1,25 | 33 | 102 | 25 |
| M10x118 | 1,5  | 41 | 118 | 32 |
| M10x130 | 1,5  | 41 | 130 | 30 |
| M12x118 | 1,75 | 41 | 11  | 8  |
| M12x130 | 1,75 | 41 | 130 | 30 |
| M16x143 | 2    | 45 | 143 | 32 |
| M16x148 | 2    | 45 | 148 | 37 |

- With plastic (FS31) ball knob.

### Article groups

| Thread | Material                             | Packaging | Code  | Page  |
|--------|--------------------------------------|-----------|-------|-------|
| M      | Free-cutting steel                   | Standard  | 56958 | 12-95 |
| M      | Free-cutting steel with threaded end | Standard  | 56959 | 12-95 |

| 56958 Flat tension lever liftable |                    | W03A |
|-----------------------------------|--------------------|------|
| <b>Thread</b>                     | Metric thread      |      |
| <b>Material</b>                   | Free-cutting steel |      |
| <b>Packaging</b>                  | Standard           |      |



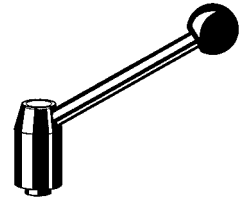
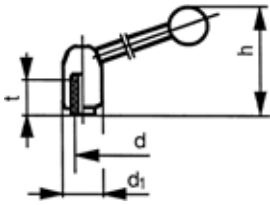
|            | ✉ | Art.number                    | ✉          | Art.number | ✉                             | Art.number |
|------------|---|-------------------------------|------------|------------|-------------------------------|------------|
| M8x97x18   | 3 | <a href="#">56958.080.018</a> | M12x118x21 | 3          | <a href="#">56958.120.021</a> |            |
| M10x118x21 | 3 | <a href="#">56958.100.021</a> | M16x143x27 | 2          | <a href="#">56958.160.027</a> |            |

| 56959 Flat tension lever liftable with threaded end |                    | W03A |
|---|--------------------|------|
| <b>Thread</b>                                       | Metric thread      |      |
| <b>Material</b>                                     | Free-cutting steel |      |
| <b>Packaging</b>                                    | Standard           |      |



| d1 x a x L | ✉ | Art.number                    | d1 x a x L | ✉ | Art.number                    | d1 x a x L | ✉ | Art.number |
|------------|---|-------------------------------|------------|---|-------------------------------|------------|---|------------|
| M8x102x30  | 3 | <a href="#">56959.080.030</a> | M12x130x40 | 2 | <a href="#">56959.120.040</a> |            |   |            |
| M10x130x30 | 3 | <a href="#">56959.100.030</a> | M16x148x40 | 2 | <a href="#">56959.160.040</a> |            |   |            |

## Tension lever liftable



### Technical data

|                | M8   | M10  | M12  | M16 |
|----------------|------|------|------|-----|
| d              | M8   | M10  | M12  | M16 |
| P              | 1,25 | 1,5  | 1,75 | 2   |
| d <sub>2</sub> | 24   | 24   | 28   | 33  |
| a              | 87   | 87   | 106  | 128 |
| h              | 70,5 | 70,5 | 84   | 96  |

- With plastic (FS31) ball knob.

### Article groups

| Thread | Material           | Packaging         | Code  | Page  |
|--------|--------------------|-------------------|-------|-------|
| M      | Free-cutting steel | Standard          | 56956 | 12-96 |
| M      | Free-cutting steel | with threaded end | 56957 | 12-96 |

| 56956 Tension lever liftable |                    |  |  | W03A |  |
|------------------------------|--------------------|--|--|------|--|
| <b>Thread</b>                | Metric thread      |  |  |      |  |
| <b>Material</b>              | Free-cutting steel |  |  |      |  |
| <b>Packaging</b>             | Standard           |  |  |      |  |



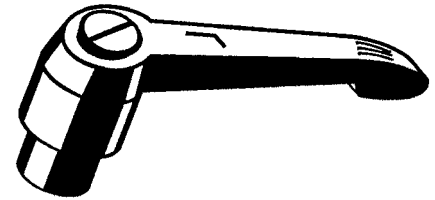
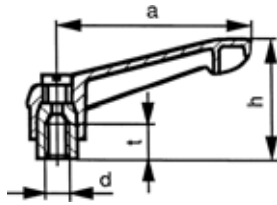
| d x t  | ☒ | Art.number                    | d x t  | ☒ | Art.number                    | d x t | ☒ | Art.number |
|--------|---|-------------------------------|--------|---|-------------------------------|-------|---|------------|
| M8X14  | 3 | <a href="#">56956.080.023</a> | M12X17 | 2 | <a href="#">56956.120.026</a> |       |   |            |
| M10X14 | 3 | <a href="#">56956.100.023</a> | M16X23 | 1 | <a href="#">56956.160.030</a> |       |   |            |

| 56957 Tension lever liftable with threaded end |                    |  |  | W03A |  |
|--|--------------------|--|--|------|--|
| <b>Thread</b>                                  | Metric thread      |  |  |      |  |
| <b>Material</b>                                | Free-cutting steel |  |  |      |  |
| <b>Packaging</b>                               | Standard           |  |  |      |  |



| d x L  | ☒ | Art.number                    | d x L  | ☒ | Art.number                    | d x L | ☒ | Art.number |
|--------|---|-------------------------------|--------|---|-------------------------------|-------|---|------------|
| M8X30  | 3 | <a href="#">56957.080.030</a> | M12X40 | 2 | <a href="#">56957.120.040</a> |       |   |            |
| M10X30 | 3 | <a href="#">56957.100.030</a> | M16X50 | 1 | <a href="#">56957.160.050</a> |       |   |            |

## Clamp lever steel



### Technical data

| d   | P    | a   | h    |
|-----|------|-----|------|
| M4  | 0,7  | 30  | 30   |
| M5  | 0,8  | 40  | 31   |
| M6  | 1    | 40  | 31   |
| M8  | 1,25 | 65  | 42,5 |
| M10 | 1,5  | 65  | 42,5 |
| M12 | 1,75 | 95  | 63   |
| M16 | 2    | 110 | 73   |

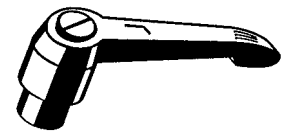
### Article groups

| Thread | Material           | Class | Colour | Packaging          | Code  | Page  |
|--------|--------------------|-------|--------|--------------------|-------|-------|
| M      | Free-cutting steel |       | Black  | with threaded bush | 56960 | 12-97 |
| M      | Free-cutting steel |       | Black  |                    | 56961 | 12-97 |
| M      | GRP                | 6.6   | Black  | with threaded bush | 56964 | 12-97 |
| M      | GRP                | 6.6   | Black  |                    | 56965 | 12-98 |
| M      | GRP                | 6.6   | Orange | with threaded bush | 56973 | 12-98 |
| M      | GRP                | 6.6   | Orange |                    | 56974 | 12-98 |

#### 56960 Clamp lever steel

W03A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Free-cutting steel |
| <b>Colour</b>    | Black              |
| <b>Packaging</b> | Standard           |



| d x t | ☒ | Art.number                    | d x t  | ☒ | Art.number                    | d x t  | ☒ | Art.number                    |
|-------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M4X9  | 5 | <a href="#">56960.040.009</a> | M8X12  | 5 | <a href="#">56960.080.012</a> | M16X23 | 1 | <a href="#">56960.160.023</a> |
| M5X9  | 5 | <a href="#">56960.050.009</a> | M10X14 | 3 | <a href="#">56960.100.014</a> |        |   |                               |
| M6X9  | 5 | <a href="#">56960.060.009</a> | M12X17 | 3 | <a href="#">56960.120.017</a> |        |   |                               |

- Free cutting steel with threaded bush and handle of pressure die-cast zinc (acc. to DIN 1743) colour black.

#### 56961 Clamp lever steel

W03A

|                  |                    |
|------------------|--------------------|
| <b>Thread</b>    | Metric thread      |
| <b>Material</b>  | Free-cutting steel |
| <b>Colour</b>    | Black              |
| <b>Packaging</b> | Standard           |



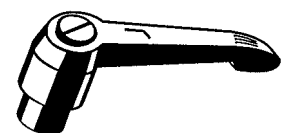
| d x L | ☒ | Art.number                    | d x L  | ☒ | Art.number                    | d x L  | ☒ | Art.number                    |
|-------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M5X30 | 5 | <a href="#">56961.050.030</a> | M8X40  | 5 | <a href="#">56961.080.040</a> | M12X50 | 3 | <a href="#">56961.120.050</a> |
| M6X30 | 5 | <a href="#">56961.060.030</a> | M10X50 | 3 | <a href="#">56961.100.050</a> | M16X60 | 1 | <a href="#">56961.160.060</a> |

- Free cutting steel with threaded end and handle of pressure die-cast zinc (acc. to DIN 1743) colour black.

#### 56964 Clamp lever steel

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Class-fibre reinforced plastic |
| <b>Class</b>     | 6.6                            |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x t | ☒  | Art.number                    | d x t  | ☒ | Art.number                    | d x t  | ☒ | Art.number                    |
|-------|----|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M4X9  | 10 | <a href="#">56964.040.009</a> | M8X12  | 5 | <a href="#">56964.080.012</a> | M16X23 | 1 | <a href="#">56964.160.023</a> |
| M5X9  | 10 | <a href="#">56964.050.009</a> | M10X14 | 3 | <a href="#">56964.100.014</a> |        |   |                               |
| M6X9  | 10 | <a href="#">56964.060.009</a> | M12X17 | 3 | <a href="#">56964.120.017</a> |        |   |                               |

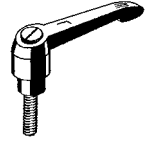
**56964 Clamp lever steel** ←

| d x L | ☒ | Art.number | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

- With glass-fibre reinforced knob and a steel threaded bush
- Colour black RAL 7021

**56965 Clamp lever steel** W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Class</b>     | 6.6                            |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



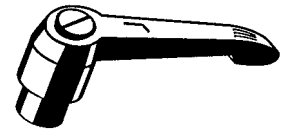
| d x L | ☒ | Art.number | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

|       |   |                               |        |   |                               |        |   |                               |
|-------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M5X30 | 5 | <a href="#">56965.050.030</a> | M8X40  | 5 | <a href="#">56965.080.040</a> | M12X50 | 3 | <a href="#">56965.120.050</a> |
| M6X30 | 5 | <a href="#">56965.060.030</a> | M10X50 | 3 | <a href="#">56965.100.050</a> | M16X60 | 1 | <a href="#">56965.160.060</a> |

- With glass-fibre reinforced knob and a steel threaded end
- Colour black RAL 7021

**56973 Clamp lever steel** W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Class</b>     | 6.6                            |
| <b>Colour</b>    | Orange                         |
| <b>Packaging</b> | Standard                       |



| d x t | ☒ | Art.number | d x t | ☒ | Art.number | d x t | ☒ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

|      |    |                               |        |   |                               |        |   |                               |
|------|----|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M4X9 | 10 | <a href="#">56973.040.009</a> | M8X12  | 5 | <a href="#">56973.080.012</a> | M16X23 | 1 | <a href="#">56973.160.023</a> |
| M5X9 | 10 | <a href="#">56973.050.009</a> | M10X14 | 3 | <a href="#">56973.100.014</a> |        |   |                               |
| M6X9 | 10 | <a href="#">56973.060.009</a> | M12X17 | 3 | <a href="#">56973.120.017</a> |        |   |                               |

- With glass-fibre reinforced knob and a steel threaded bush
- Orange = RAL 2004

**56974 Clamp lever steel** W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Class</b>     | 6.6                            |
| <b>Colour</b>    | Orange                         |
| <b>Packaging</b> | Standard                       |



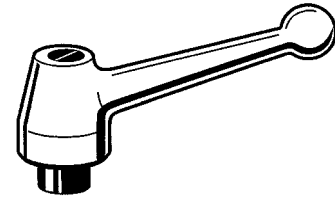
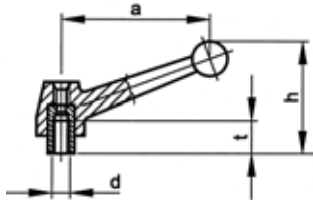
| d x L | ☒ | Art.number | d x L | ☒ | Art.number | d x L | ☒ | Art.number |
|-------|---|------------|-------|---|------------|-------|---|------------|
|-------|---|------------|-------|---|------------|-------|---|------------|

|       |   |                               |        |   |                               |        |   |                               |
|-------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M5X30 | 5 | <a href="#">56974.050.030</a> | M8X40  | 5 | <a href="#">56974.080.040</a> | M12X50 | 3 | <a href="#">56974.120.050</a> |
| M6X30 | 5 | <a href="#">56974.060.030</a> | M10X50 | 3 | <a href="#">56974.100.050</a> | M16X60 | 1 | <a href="#">56974.160.060</a> |

- With glass-fibre reinforced knob and a steel threaded end
- Colour orange = RAL 2004



## Clamp lever liftable steel



### Technical data

| d   | P    | a   | h    |
|-----|------|-----|------|
| M8  | 1,25 | 83  | 64   |
| M10 | 1,5  | 83  | 64   |
| M12 | 1,75 | 108 | 81,5 |
| M16 | 2    | 132 | 93   |

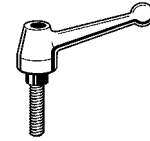
### Article groups

| Thread | Material         | Colour      | Packaging          | Code  | Page  |
|--------|------------------|-------------|--------------------|-------|-------|
| M      | Forged steel C35 | Silver grey | Standard           | 57004 | 12-99 |
| M      | Forged steel C35 | Silver grey | with threaded bush | 57005 | 12-99 |

#### 57004 Clamp lever liftable steel

**W03A**

|                  |                  |
|------------------|------------------|
| <b>Thread</b>    | Metric thread    |
| <b>Material</b>  | Forged steel C35 |
| <b>Colour</b>    | Silver grey      |
| <b>Packaging</b> | Standard         |



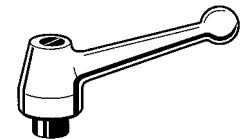
| d x L  | ☒ | Art.number                    | d x L  | ☒ | Art.number                    | d x L  | ☒ | Art.number                    |
|--------|---|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M10X30 | 2 | <a href="#">57004.100.030</a> | M12X40 | 2 | <a href="#">57004.120.040</a> | M16X50 | 1 | <a href="#">57004.160.050</a> |

- With steel class 5.8 threaded end.

#### 57005 Steel clamp lever liftable with threaded bush

**W03A**

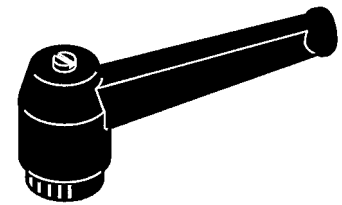
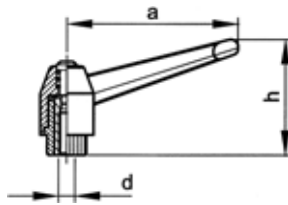
|                  |                  |
|------------------|------------------|
| <b>Thread</b>    | Metric thread    |
| <b>Material</b>  | Forged steel C35 |
| <b>Colour</b>    | Silver grey      |
| <b>Packaging</b> | Standard         |



| d x t  | ☒ | Art.number                    | d x t  | ☒ | Art.number                    | d x t | ☒ | Art.number |
|--------|---|-------------------------------|--------|---|-------------------------------|-------|---|------------|
| M8X17  | 2 | <a href="#">57005.080.017</a> | M12X23 | 2 | <a href="#">57005.120.023</a> |       |   |            |
| M10X17 | 2 | <a href="#">57005.100.017</a> | M16X27 | 1 | <a href="#">57005.160.027</a> |       |   |            |

- With steel class 5.8 threaded bush.

## Clamp lever liftable



### Technical data

| d   | P    | a   | h  |
|-----|------|-----|----|
| M4  | 0,7  | 43  | 35 |
| M5  | 0,8  | 43  | 35 |
| M6  | 1    | 43  | 35 |
| M8  | 1,25 | 65  | 46 |
| M10 | 1,5  | 83  | 57 |
| M12 | 1,75 | 104 | 70 |
| M16 | 2    | 104 | 70 |

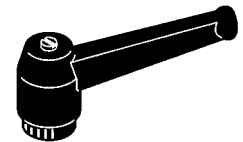
### Article groups

| Thread | Material | Colour | Packaging         | Code  | Page   |
|--------|----------|--------|-------------------|-------|--------|
| M      | GRP      | Black  | Standard          | 57070 | 12-100 |
| M      | GRP      | Black  | with threaded end | 57071 | 12-100 |

#### 57070 Clamp lever liftable with zinc plated threaded bush

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d   | ☒ | Art.number                    |
|----|----|-------------------------------|-----|----|-------------------------------|-----|---|-------------------------------|
| M4 | 10 | <a href="#">57070.040.001</a> | M8  | 10 | <a href="#">57070.080.001</a> | M16 | 5 | <a href="#">57070.160.001</a> |
| M5 | 10 | <a href="#">57070.050.001</a> | M10 | 5  | <a href="#">57070.100.001</a> |     |   |                               |
| M6 | 10 | <a href="#">57070.060.001</a> | M12 | 5  | <a href="#">57070.120.001</a> |     |   |                               |

#### 57071 Clamp lever liftable with zinc plated threaded end

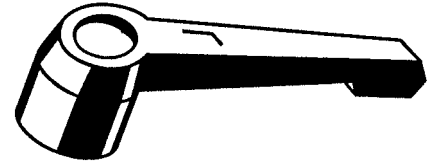
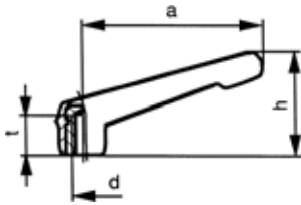
W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L  | ☒ | Art.number                    |
|-------|----|-------------------------------|--------|----|-------------------------------|--------|---|-------------------------------|
| M4X15 | 10 | <a href="#">57071.040.015</a> | M8X30  | 10 | <a href="#">57071.080.030</a> | M16X50 | 5 | <a href="#">57071.160.050</a> |
| M5X20 | 10 | <a href="#">57071.050.020</a> | M10X40 | 5  | <a href="#">57071.100.040</a> |        |   |                               |
| M6X25 | 10 | <a href="#">57071.060.025</a> | M12X50 | 5  | <a href="#">57071.120.050</a> |        |   |                               |

## Clamp lever firm high



### Technical data

| d   | P    | a   | h    |
|-----|------|-----|------|
| M4  | 0,7  | 40  | 27   |
| M5  | 0,8  | 40  | 27   |
| M6  | 1    | 40  | 27   |
| M8  | 1,25 | 65  | 36,5 |
| M10 | 1,5  | 80  | 45   |
| M12 | 1,75 | 95  | 54   |
| M16 | 2    | 110 | 63   |

### 56971 Clamp lever firm high

W03A

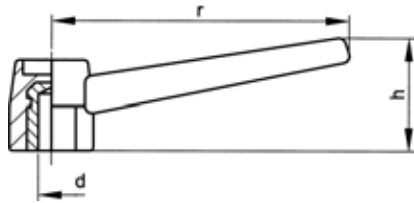
|                  |                           |
|------------------|---------------------------|
| <b>Thread</b>    | Metric thread             |
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | Black                     |
| <b>Packaging</b> | Standard                  |



| d x t | ☒  | Art.number                    | d x t  | ☒ | Art.number                    | d x t  | ☒ | Art.number                    |
|-------|----|-------------------------------|--------|---|-------------------------------|--------|---|-------------------------------|
| M4X11 | 10 | <a href="#">56971.040.011</a> | M8X12  | 5 | <a href="#">56971.080.012</a> | M16X24 | 1 | <a href="#">56971.160.024</a> |
| M5X11 | 10 | <a href="#">56971.050.011</a> | M10X16 | 3 | <a href="#">56971.100.016</a> |        |   |                               |
| M6X11 | 10 | <a href="#">56971.060.011</a> | M12X20 | 3 | <a href="#">56971.120.020</a> |        |   |                               |

- With a steel zinc plated, yellow passivated threaded bush.

## Clamp lever firm



### Technical data

| d   | P    | r  | h  |
|-----|------|----|----|
| M5  | 0,8  | 43 | 21 |
| M6  | 1    | 43 | 21 |
| M8  | 1,25 | 68 | 26 |
| M10 | 1,5  | 83 | 39 |

### Article groups

| Thread | Material | Colour |                   | Packaging | Code  | Page   |
|--------|----------|--------|-------------------|-----------|-------|--------|
| M      | GRP      | Black  |                   | Standard  | 57076 | 12-102 |
| M      | GRP      | Black  | with threaded end | Standard  | 57077 | 12-102 |

#### 57076 Clamp lever firm with brass threaded bush

W03A

|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |

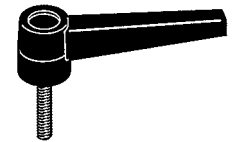


| d  | ☒  | Art.number                    | d   | ☒  | Art.number                    | d | ☒ | Art.number |
|----|----|-------------------------------|-----|----|-------------------------------|---|---|------------|
| M5 | 10 | <a href="#">57076.050.001</a> | M8  | 10 | <a href="#">57076.080.001</a> |   |   |            |
| M6 | 10 | <a href="#">57076.060.001</a> | M10 | 5  | <a href="#">57076.100.001</a> |   |   |            |

#### 57077 Clamp lever firm with zinc plated threaded end

W03A

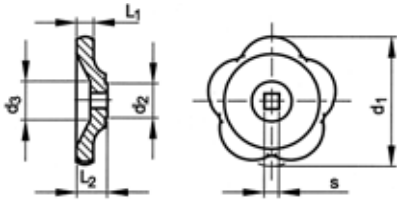
|                  |                                |
|------------------|--------------------------------|
| <b>Thread</b>    | Metric thread                  |
| <b>Material</b>  | Glass-fibre reinforced plastic |
| <b>Colour</b>    | Black                          |
| <b>Packaging</b> | Standard                       |



| d x L | ☒  | Art.number                    | d x L  | ☒  | Art.number                    | d x L | ☒ | Art.number |
|-------|----|-------------------------------|--------|----|-------------------------------|-------|---|------------|
| M5X20 | 10 | <a href="#">57077.050.020</a> | M8X30  | 10 | <a href="#">57077.080.030</a> |       |   |            |
| M6X20 | 10 | <a href="#">57077.060.020</a> | M10X40 | 5  | <a href="#">57077.100.040</a> |       |   |            |

## Handwheel with ripple ring

DIN 388-1C



### Technical data

| s (H11)     | d <sub>2</sub> | d <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> |
|-------------|----------------|----------------|----------------|----------------|
| 5x50 (#DIN) | 22             | 21             | 12             | 18             |
| 5x63 (#DIN) | 22             | 24             | 12             | 20             |
| 6x50 (#DIN) | 22             | 22             | 12             | 18             |
| 6x63 (#DIN) | 22             | 24             | 12             | 20             |
| 7x63        | 22             | 24             | 12             | 20             |
| 7x80 (#DIN) | 28             | 30             | 12             | 22             |
| 8x63 (#DIN) | 22             | 24             | 14             | 20             |
| 8x80        | 28             | 28             | 14             | 22             |
| 9x100       | 28             | 30             | 14             | 25             |

### 56901 Handwheel with ripple ring

W03F

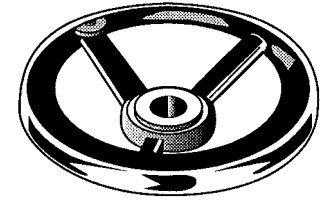
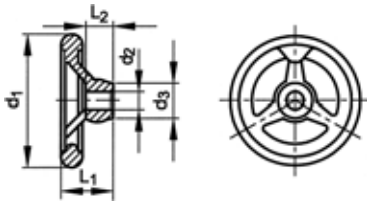
|                  |                                      |
|------------------|--------------------------------------|
| <b>Material</b>  | Plastic Fenolformaldehyde (bakelite) |
| <b>Class</b>     | FS31                                 |
| <b>Colour</b>    | Black                                |
| <b>Packaging</b> | Standard                             |



| s x d1 | ☒  | Art.number                    | s x d1 | ☒  | Art.number                    | s x d1  | ☒  | Art.number                    |
|--------|----|-------------------------------|--------|----|-------------------------------|---------|----|-------------------------------|
| 5X50MM | 10 | <a href="#">56901.050.050</a> | 6X63MM | 10 | <a href="#">56901.060.063</a> | 8X63MM  | 10 | <a href="#">56901.080.063</a> |
| 5X63MM | 10 | <a href="#">56901.050.063</a> | 7X63MM | 10 | <a href="#">56901.070.063</a> | 8X80MM  | 10 | <a href="#">56901.080.080</a> |
| 6X50MM | 10 | <a href="#">56901.060.050</a> | 7X80MM | 10 | <a href="#">56901.070.080</a> | 9X100MM | 5  | <a href="#">56901.090.100</a> |

## Handwheel AL

DIN 950



### Technical data

| d2 (H7) x d1  | d <sub>3</sub> | L <sub>1</sub> ≈ | L <sub>2</sub> | Spokes |
|---------------|----------------|------------------|----------------|--------|
| 10x80         | 24             | 29               | 16             | 3      |
| 10x100        | 26             | 36               | 18             | 3      |
| 12x125        | 28             | 36               | 18             | 3      |
| 14x140        | 30             | 39               | 19             | 3      |
| 16x160        | 32             | 40               | 20             | 3      |
| 18x180 (≠DIN) | 35             | 43               | 22             | 3      |
| 20x200 (≠DIN) | 38             | 45               | 24             | 3      |
| 20x225 (≠DIN) | 42             | 48               | 26             | 5      |
| 24x250 (≠DIN) | 45             | 50               | 28             | 5      |
| 24x280 (≠DIN) | 50             | 53               | 30             | 5      |
| 26x315        | 53             | 56               | 33             | 5      |
| 28x360 (≠DIN) | 60             | 59               | 35             | 5      |
| 30x400        | 65             | 63               | 38             | 5      |
| 34x500        | 78             | 72               | 45             | 5      |

### 56940 Handwheel type A4

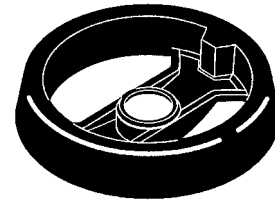
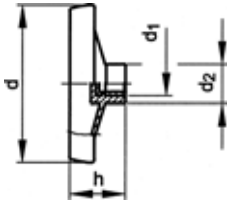
W03F

**Material** Aluminium  
**Packaging** Standard



| d2 x d1           | ☒ | Art.number                    | d2 x d1           | ☒ | Art.number                    | d2 x d1           | ☒ | Art.number                    |
|-------------------|---|-------------------------------|-------------------|---|-------------------------------|-------------------|---|-------------------------------|
| 10X80MM 3-SPOKES  | 1 | <a href="#">56940.100.080</a> | 18X180MM 3-SPOKES | 1 | <a href="#">56940.180.001</a> | 26X315MM 5-SPOKES | 1 | <a href="#">56940.315.001</a> |
| 10X100MM 3-SPOKES | 1 | <a href="#">56940.100.100</a> | 20X200MM 3-SPOKES | 1 | <a href="#">56940.200.001</a> | 28X360MM 5-SPOKES | 1 | <a href="#">56940.360.001</a> |
| 12X125MM 3-SPOKES | 1 | <a href="#">56940.120.125</a> | 20X225MM 5-SPOKES | 1 | <a href="#">56940.225.001</a> | 30X400MM 5-SPOKES | 1 | <a href="#">56940.400.001</a> |
| 14X140MM 3-SPOKES | 1 | <a href="#">56940.140.140</a> | 24X250MM 5-SPOKES | 1 | <a href="#">56940.250.001</a> | 34X500MM 5-SPOKES | 1 | <a href="#">56940.500.001</a> |
| 16X160MM 3-SPOKES | 1 | <a href="#">56940.160.001</a> | 24X280MM 5-SPOKES | 1 | <a href="#">56940.280.001</a> |                   |   |                               |

## Handwheel two spokes



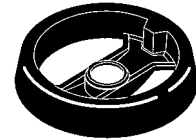
### Technical data

| d   | d <sub>1</sub> (H7) | d <sub>2</sub> | h  |
|-----|---------------------|----------------|----|
| 80  | 8                   | 24             | 34 |
| 100 | 10                  | 28             | 42 |
| 130 | 12                  | 32             | 50 |
| 164 | 14                  | 40             | 56 |
| 200 | 16                  | 50             | 61 |
| 255 | 20                  | 56             | 71 |

### 57060 Handwheel two spokes

W03A

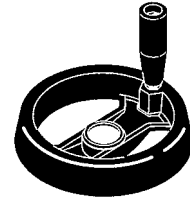
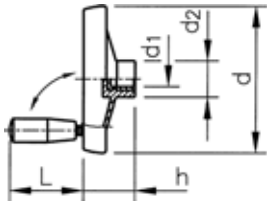
**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 80MM  | 2 | <a href="#">57060.080.001</a> | 130MM | 2 | <a href="#">57060.130.001</a> | 200MM | 1 | <a href="#">57060.200.001</a> |
| 100MM | 2 | <a href="#">57060.100.001</a> | 164MM | 2 | <a href="#">57060.160.001</a> | 255MM | 1 | <a href="#">57060.250.001</a> |

- With steel zinc plated insert.

## Handwheel with foldaway handle two spokes



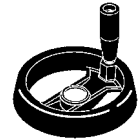
### Technical data

| d   | d <sub>1</sub> (H7) | d <sub>2</sub> | h  | L  |
|-----|---------------------|----------------|----|----|
| 80  | 8                   | 24             | 34 | 56 |
| 100 | 10                  | 28             | 43 | 56 |
| 130 | 12                  | 32             | 50 | 76 |
| 164 | 14                  | 40             | 56 | 76 |
| 200 | 16                  | 50             | 61 | 76 |
| 255 | 20                  | 56             | 71 | 98 |

### 57061 Handwheel with foldaway handle two spokes

W03A

**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard

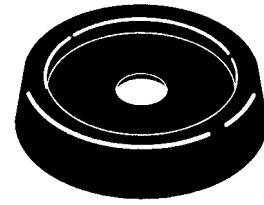
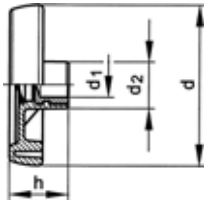


| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 80MM  | 2 | <a href="#">57061.080.001</a> | 130MM | 2 | <a href="#">57061.130.001</a> | 200MM | 1 | <a href="#">57061.200.001</a> |
| 100MM | 2 | <a href="#">57061.100.001</a> | 164MM | 2 | <a href="#">57061.160.001</a> | 255MM | 1 | <a href="#">57061.250.001</a> |

- With steel zinc plated insert.



## Handwheel solid



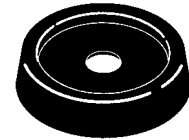
### Technical data

| d   | d <sub>1</sub> | d <sub>2</sub> | h  |
|-----|----------------|----------------|----|
| 80  | 8              | 24             | 33 |
| 100 | 10             | 30             | 39 |
| 126 | 120            | 36             | 44 |
| 150 | 14             | 38             | 53 |
| 173 | 16             | 40             | 56 |
| 203 | 18             | 44             | 59 |

### 57080 Handwheel solid

W03A

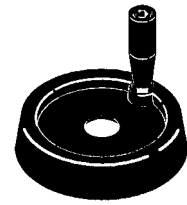
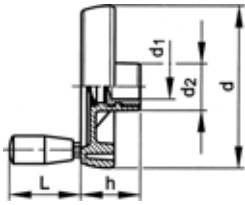
**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 80MM  | 2 | <a href="#">57080.080.001</a> | 126MM | 2 | <a href="#">57080.125.001</a> | 173MM | 1 | <a href="#">57080.175.001</a> |
| 100MM | 2 | <a href="#">57080.100.001</a> | 150MM | 2 | <a href="#">57080.150.001</a> | 203MM | 1 | <a href="#">57080.200.001</a> |

- With steel zinc plated insert.

## Handwheel with handle solid



### Technical data

| d   | d <sub>1</sub> | d <sub>2</sub> | h  | L  |
|-----|----------------|----------------|----|----|
| 80  | 8              | 24             | 33 | 55 |
| 100 | 10             | 30             | 39 | 55 |
| 126 | 12             | 36             | 44 | 66 |
| 150 | 14             | 38             | 53 | 76 |
| 173 | 16             | 40             | 56 | 86 |
| 203 | 18             | 44             | 59 | 86 |

### 57081 Handwheel with handle solid

W03A

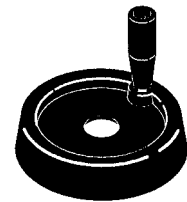
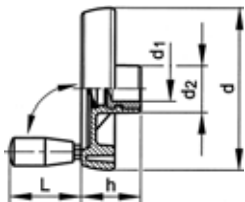
**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 80MM  | 2 | <a href="#">57081.080.001</a> | 126MM | 2 | <a href="#">57081.125.001</a> | 173MM | 1 | <a href="#">57081.175.001</a> |
| 100MM | 2 | <a href="#">57081.100.001</a> | 150MM | 2 | <a href="#">57081.150.001</a> | 203MM | 1 | <a href="#">57081.200.001</a> |

- With steel zinc plated insert.

## Handwheel with foldaway handle solid



### Technical data

|                |    |     |     |
|----------------|----|-----|-----|
| d              | 80 | 100 | 126 |
| d <sub>1</sub> | 8  | 10  | 12  |
| d <sub>2</sub> | 24 | 30  | 36  |
| h              | 33 | 39  | 44  |
| L              | 55 | 55  | 76  |

### 57083 Handwheel with foldaway handle solid

W03A

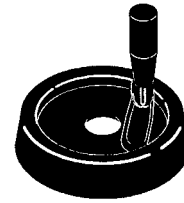
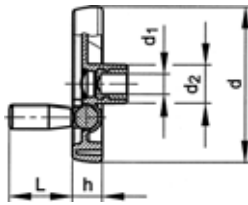
**Material** Vulcanized fibre  
**Colour** Black  
**Packaging** Standard



| d    | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 80MM | 2 | <a href="#">57083.080.001</a> | 100MM | 2 | <a href="#">57083.100.001</a> | 126MM | 2 | <a href="#">57083.125.001</a> |

- With steel zinc plated insert.

## Handwheel with recessable foldaway handle solid



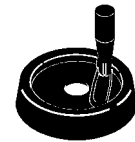
### Technical data

| d   | d <sub>1</sub> (H7) | d <sub>2</sub> | h  | L  |
|-----|---------------------|----------------|----|----|
| 80  | 8                   | 24             | 33 | 39 |
| 100 | 10                  | 30             | 42 | 49 |
| 125 | 12                  | 36             | 47 | 58 |
| 150 | 14                  | 38             | 53 | 60 |
| 175 | 16                  | 40             | 58 | 80 |
| 200 | 18                  | 44             | 63 | 90 |

#### 57084 Handwheel with recessable foldaway handle solid

W03A

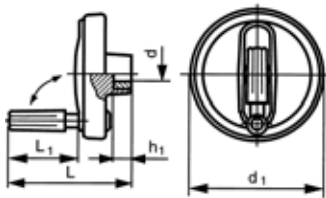
**Material** Glass-fibre reinforced plastic  
**Colour** Black  
**Packaging** Standard



| d     | ☒ | Art.number                    | d     | ☒ | Art.number                    | d     | ☒ | Art.number                    |
|-------|---|-------------------------------|-------|---|-------------------------------|-------|---|-------------------------------|
| 80MM  | 2 | <a href="#">57084.080.001</a> | 125MM | 2 | <a href="#">57084.125.001</a> | 175MM | 1 | <a href="#">57084.175.001</a> |
| 100MM | 2 | <a href="#">57084.100.001</a> | 150MM | 2 | <a href="#">57084.150.001</a> | 200MM | 1 | <a href="#">57084.200.001</a> |

- With steel zinc plated insert.

## Handwheel with fold-away handle



### Technical data

| d (H7) x d1 | L   | L <sub>1</sub> | h <sub>1</sub> |
|-------------|-----|----------------|----------------|
| 8x80        | 75  | 40             | 13             |
| 10x100      | 90  | 49             | 13             |
| 12x125      | 109 | 59,9           | 18,5           |
| 14x160      | 144 | 83,5           | 18,5           |

- d = d (H7)

#### 56954 Handwheel with fold-away handle

W03A

**Material** Plastic Polyamide (nylon)  
**Class** 6  
**Colour** Black  
**Packaging** Standard



| d x d1   | ☒ | Art.number                    | d x d1   | ☒ | Art.number                    | d x d1 | ☒ | Art.number |
|----------|---|-------------------------------|----------|---|-------------------------------|--------|---|------------|
| 8X80MM   | 1 | <a href="#">56954.080.080</a> | 12X125MM | 1 | <a href="#">56954.120.125</a> |        |   |            |
| 10X100MM | 1 | <a href="#">56954.100.100</a> | 14X160MM | 1 | <a href="#">56954.140.160</a> |        |   |            |

- With a steel insert.

## FABORY Technical balls

### Standardisation

FABORY technical balls are acc. to DIN 5401-1 and 5401-2 equal to ISO 3290 standardized. Not standardized FABORY technical balls are acc. to the highest qualities.

### Stock

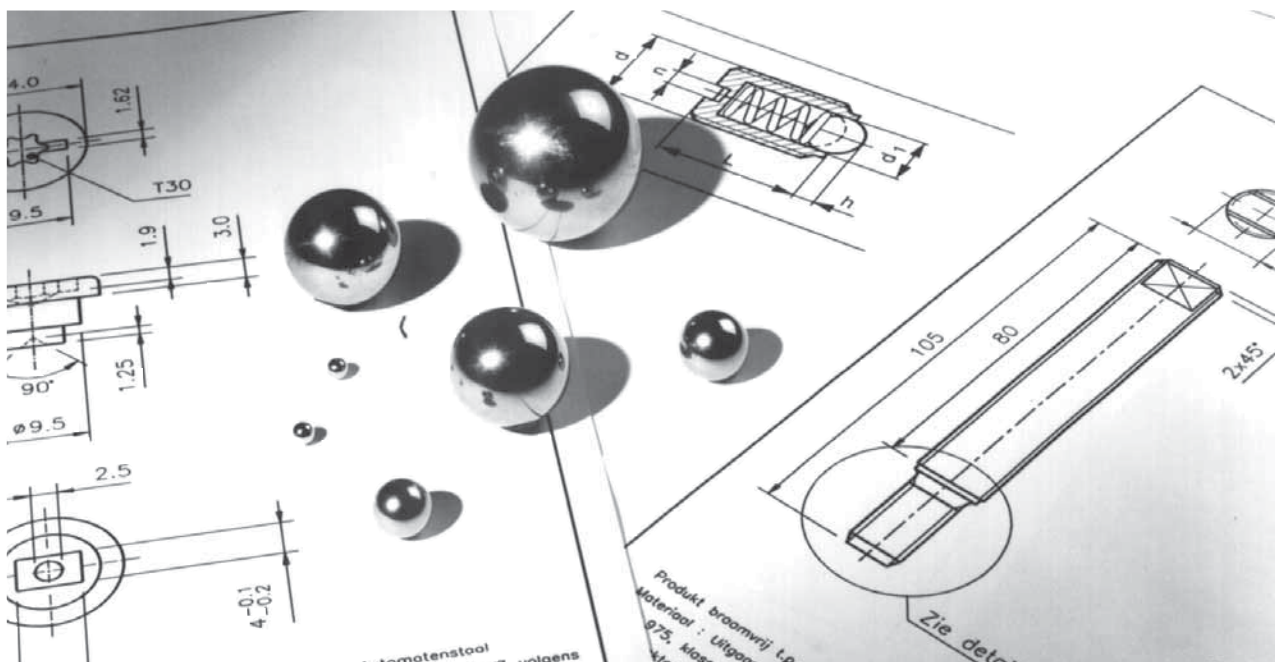
FABORY technical balls are available from stock in many diameters, tolerances and hardnesses in following materials: chrome steel, carbon steel, forged steel, stainless steel, plastic, glass etc.

### Specials

Special products are available on request.

### Applications

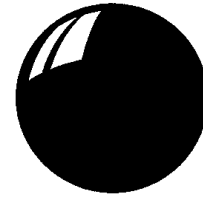
FABORY technical balls are e.g. applicable for cylindrical lockings, ballpoints, cigar lighters, drawer guidances, spray guns, forged railings and -fencings, video recorders and for grinding, bearings, sealings, deburring and polishing.



Technical brochure available on request.

## Technical ball

ISO 3290  
 DIN ≈5401



### Article groups

| Material                          | Class | Packaging | Code  | Page   |
|-----------------------------------|-------|-----------|-------|--------|
| Chrome steel                      | G20   | Each      | 66813 | 12-111 |
| Chrome steel                      | G28   | Each      | 66816 | 12-111 |
| Chrome steel                      | G40   | Each      | 66819 | 12-112 |
| Carbon steel unhardened           |       | Each      | 66860 | 12-112 |
| St.St. AISI304 not hardened       |       | Each      | 66910 | 12-112 |
| St.St. AISI316 not hardened       |       | Each      | 66920 | 12-112 |
| St.St. AISI420 hardened HRC 52-55 |       | Each      | 66930 | 12-112 |

#### 66813 Technical ball

S50A

**Material** Chrome steel  
**Class** G20  
**Packaging** Each



| d       | ☒ | Art.number                    | d        | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 1,000MM | 1 | <a href="#">66813.001.000</a> | 6,747MM  | 1 | <a href="#">66813.006.747</a> | 15,081MM | 1 | <a href="#">66813.015.081</a> |
| 1,500MM | 1 | <a href="#">66813.001.500</a> | 7,000MM  | 1 | <a href="#">66813.007.000</a> | 15,875MM | 1 | <a href="#">66813.015.875</a> |
| 1,588MM | 1 | <a href="#">66813.001.588</a> | 7,144MM  | 1 | <a href="#">66813.007.144</a> | 16,000MM | 1 | <a href="#">66813.016.000</a> |
| 1,984MM | 1 | <a href="#">66813.001.984</a> | 7,938MM  | 1 | <a href="#">66813.007.938</a> | 16,669MM | 1 | <a href="#">66813.016.669</a> |
| 2,000MM | 1 | <a href="#">66813.002.000</a> | 8,000MM  | 1 | <a href="#">66813.008.000</a> | 17,000MM | 1 | <a href="#">66813.017.000</a> |
| 2,381MM | 1 | <a href="#">66813.002.381</a> | 8,500MM  | 1 | <a href="#">66813.008.500</a> | 17,462MM | 1 | <a href="#">66813.017.462</a> |
| 2,500MM | 1 | <a href="#">66813.002.500</a> | 8,731MM  | 1 | <a href="#">66813.008.731</a> | 18,000MM | 1 | <a href="#">66813.018.000</a> |
| 2,778MM | 1 | <a href="#">66813.002.778</a> | 9,000MM  | 1 | <a href="#">66813.009.000</a> | 18,256MM | 1 | <a href="#">66813.018.256</a> |
| 3,000MM | 1 | <a href="#">66813.003.000</a> | 9,525MM  | 1 | <a href="#">66813.009.525</a> | 19,050MM | 1 | <a href="#">66813.019.050</a> |
| 3,175MM | 1 | <a href="#">66813.003.175</a> | 10,000MM | 1 | <a href="#">66813.010.000</a> | 19,844MM | 1 | <a href="#">66813.019.844</a> |
| 3,500MM | 1 | <a href="#">66813.003.500</a> | 10,319MM | 1 | <a href="#">66813.010.319</a> | 20,000MM | 1 | <a href="#">66813.020.000</a> |
| 3,969MM | 1 | <a href="#">66813.003.969</a> | 11,000MM | 1 | <a href="#">66813.011.000</a> | 20,637MM | 1 | <a href="#">66813.020.637</a> |
| 4,000MM | 1 | <a href="#">66813.004.000</a> | 11,112MM | 1 | <a href="#">66813.011.112</a> | 21,000MM | 1 | <a href="#">66813.021.000</a> |
| 4,500MM | 1 | <a href="#">66813.004.500</a> | 11,906MM | 1 | <a href="#">66813.011.906</a> | 21,431MM | 1 | <a href="#">66813.021.431</a> |
| 4,762MM | 1 | <a href="#">66813.004.762</a> | 12,000MM | 1 | <a href="#">66813.012.000</a> | 22,000MM | 1 | <a href="#">66813.022.000</a> |
| 5,000MM | 1 | <a href="#">66813.005.000</a> | 12,700MM | 1 | <a href="#">66813.012.700</a> | 22,225MM | 1 | <a href="#">66813.022.225</a> |
| 5,500MM | 1 | <a href="#">66813.005.500</a> | 13,000MM | 1 | <a href="#">66813.013.000</a> | 23,000MM | 1 | <a href="#">66813.023.000</a> |
| 5,556MM | 1 | <a href="#">66813.005.556</a> | 13,494MM | 1 | <a href="#">66813.013.494</a> | 23,019MM | 1 | <a href="#">66813.023.019</a> |
| 6,000MM | 1 | <a href="#">66813.006.000</a> | 14,000MM | 1 | <a href="#">66813.014.000</a> | 24,000MM | 1 | <a href="#">66813.024.000</a> |
| 6,350MM | 1 | <a href="#">66813.006.350</a> | 14,287MM | 1 | <a href="#">66813.014.287</a> | 24,606MM | 1 | <a href="#">66813.024.606</a> |
| 6,500MM | 1 | <a href="#">66813.006.500</a> | 15,000MM | 1 | <a href="#">66813.015.000</a> | 25,000MM | 1 | <a href="#">66813.025.000</a> |

#### 66816 Technical ball

S50A

**Material** Chrome steel  
**Class** G28  
**Packaging** Each




| d        | ☒ | Art.number                    | d        | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|----------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 25,400MM | 1 | <a href="#">66816.025.400</a> | 31,750MM | 1 | <a href="#">66816.031.750</a> | 41,275MM | 1 | <a href="#">66816.041.275</a> |
| 26,000MM | 1 | <a href="#">66816.026.000</a> | 33,337MM | 1 | <a href="#">66816.033.337</a> | 42,863MM | 1 | <a href="#">66816.042.863</a> |
| 26,988MM | 1 | <a href="#">66816.026.988</a> | 34,925MM | 1 | <a href="#">66816.034.925</a> | 44,450MM | 1 | <a href="#">66816.044.450</a> |
| 28,000MM | 1 | <a href="#">66816.028.000</a> | 35,000MM | 1 | <a href="#">66816.035.000</a> | 45,000MM | 1 | <a href="#">66816.045.000</a> |
| 28,575MM | 1 | <a href="#">66816.028.575</a> | 36,512MM | 1 | <a href="#">66816.036.512</a> | 46,038MM | 1 | <a href="#">66816.046.038</a> |
| 30,000MM | 1 | <a href="#">66816.030.000</a> | 38,100MM | 1 | <a href="#">66816.038.100</a> | 47,625MM | 1 | <a href="#">66816.047.625</a> |
| 30,162MM | 1 | <a href="#">66816.030.162</a> | 40,000MM | 1 | <a href="#">66816.040.000</a> | 50,000MM | 1 | <a href="#">66816.050.000</a> |

|                  |                       |  |  |  |  |  |   |
|------------------|-----------------------|--|--|--|--|--|---|
| <b>66819</b>     | <b>Technical ball</b> |  |  |  |  |  | <b>S50A</b>   |
| <b>Material</b>  | Chrome steel          |  |  |  |  |  |  |
| <b>Class</b>     | G40                   |  |  |  |  |  |   |
| <b>Packaging</b> | Each                  |  |  |  |  |  |   |

| d        | ☒ | Art.number                    | d        | ☒ | Art.number                    | d         | ☒ | Art.number                    |
|----------|---|-------------------------------|----------|---|-------------------------------|-----------|---|-------------------------------|
| 50,800MM | 1 | <a href="#">66819.050.800</a> | 63,500MM | 1 | <a href="#">66819.063.500</a> | 80,000MM  | 1 | <a href="#">66819.080.000</a> |
| 52,500MM | 1 | <a href="#">66819.052.500</a> | 69,850MM | 1 | <a href="#">66819.069.850</a> | 100,000MM | 1 | <a href="#">66819.100.000</a> |
| 60,000MM | 1 | <a href="#">66819.060.000</a> | 70,000MM | 1 | <a href="#">66819.070.000</a> |           |   |                               |

|                  |                         |  |  |  |  |  |   |
|------------------|-------------------------|--|--|--|--|--|---|
| <b>66860</b>     | <b>Technical ball</b>   |  |  |  |  |  | <b>S51A</b>   |
| <b>Material</b>  | Carbon steel unhardened |  |  |  |  |  |  |
| <b>Packaging</b> | Each                    |  |  |  |  |  |   |
|                  |                         |  |  |  |  |  |   |


| d       | ☒ | Art.number                    | d       | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|----------|---|-------------------------------|
| 7,144MM | 1 | <a href="#">66860.007.144</a> | 9,525MM | 1 | <a href="#">66860.009.525</a> | 15,875MM | 1 | <a href="#">66860.015.875</a> |

|                  |                                      |  |  |  |  |  |  |
|------------------|--------------------------------------|--|--|--|--|--|--|
| <b>66910</b>     | <b>Technical ball</b>                |  |  |  |  |  | <b>S52A</b>  |
| <b>Material</b>  | Stainless steel AISI304 not hardened |  |  |  |  |  |  |
| <b>Packaging</b> | Each                                 |  |  |  |  |  |  |
|                  |                                      |  |  |  |  |  |  |

| d       | ☒ | Art.number                    | d       | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|----------|---|-------------------------------|
| 2,500MM | 1 | <a href="#">66910.002.500</a> | 6,000MM | 1 | <a href="#">66910.006.000</a> | 10,000MM | 1 | <a href="#">66910.010.000</a> |
| 3,969MM | 1 | <a href="#">66910.003.969</a> | 6,350MM | 1 | <a href="#">66910.006.350</a> | 12,000MM | 1 | <a href="#">66910.012.000</a> |
| 4,000MM | 1 | <a href="#">66910.004.000</a> | 8,000MM | 1 | <a href="#">66910.008.000</a> |          |   |                               |

|                  |                                      |  |  |  |  |  |   |
|------------------|--------------------------------------|--|--|--|--|--|---|
| <b>66920</b>     | <b>Technical ball</b>                |  |  |  |  |  | <b>S52A</b>   |
| <b>Material</b>  | Stainless steel AISI316 not hardened |  |  |  |  |  |  |
| <b>Packaging</b> | Each                                 |  |  |  |  |  |   |
|                  |                                      |  |  |  |  |  |   |

| d       | ☒ | Art.number                    | d        | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 1,000MM | 1 | <a href="#">66920.001.000</a> | 6,000MM  | 1 | <a href="#">66920.006.000</a> | 12,700MM | 1 | <a href="#">66920.012.700</a> |
| 2,000MM | 1 | <a href="#">66920.002.000</a> | 6,350MM  | 1 | <a href="#">66920.006.350</a> | 14,000MM | 1 | <a href="#">66920.014.000</a> |
| 2,381MM | 1 | <a href="#">66920.002.381</a> | 7,144MM  | 1 | <a href="#">66920.007.144</a> | 15,875MM | 1 | <a href="#">66920.015.875</a> |
| 2,500MM | 1 | <a href="#">66920.002.500</a> | 7,938MM  | 1 | <a href="#">66920.007.938</a> | 19,050MM | 1 | <a href="#">66920.019.050</a> |
| 3,000MM | 1 | <a href="#">66920.003.000</a> | 8,000MM  | 1 | <a href="#">66920.008.000</a> | 20,000MM | 1 | <a href="#">66920.020.000</a> |
| 3,175MM | 1 | <a href="#">66920.003.175</a> | 9,525MM  | 1 | <a href="#">66920.009.525</a> | 25,000MM | 1 | <a href="#">66920.025.000</a> |
| 3,969MM | 1 | <a href="#">66920.003.969</a> | 10,000MM | 1 | <a href="#">66920.010.000</a> | 25,400MM | 1 | <a href="#">66920.025.400</a> |
| 4,000MM | 1 | <a href="#">66920.004.000</a> | 11,112MM | 1 | <a href="#">66920.011.112</a> |          |   |                               |
| 4,762MM | 1 | <a href="#">66920.004.762</a> | 12,000MM | 1 | <a href="#">66920.012.000</a> |          |   |                               |

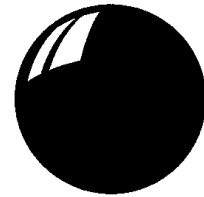
|                  |  |  |  |  |  |  |   |
|------------------|--|--|--|--|--|--|---|
| <b>66930</b>     | <b>Technical ball</b>                      |  |  |  |  |  | <b>S52A</b>   |
| <b>Material</b>  | Stainless steel AISI420 hardened HRC 52-55 |  |  |  |  |  |  |
| <b>Packaging</b> | Each                                       |  |  |  |  |  |   |
|                  |  |  |  |  |  |  |   |

| d       | ☒ | Art.number                    | d       | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|----------|---|-------------------------------|
| 1,000MM | 1 | <a href="#">66930.001.000</a> | 4,500MM | 1 | <a href="#">66930.004.500</a> | 8,731MM  | 1 | <a href="#">66930.008.731</a> |
| 1,500MM | 1 | <a href="#">66930.001.500</a> | 4,762MM | 1 | <a href="#">66930.004.762</a> | 9,000MM  | 1 | <a href="#">66930.009.000</a> |
| 2,000MM | 1 | <a href="#">66930.002.000</a> | 5,000MM | 1 | <a href="#">66930.005.000</a> | 9,525MM  | 1 | <a href="#">66930.009.525</a> |
| 2,381MM | 1 | <a href="#">66930.002.381</a> | 5,556MM | 1 | <a href="#">66930.005.556</a> | 10,000MM | 1 | <a href="#">66930.010.000</a> |
| 2,500MM | 1 | <a href="#">66930.002.500</a> | 6,000MM | 1 | <a href="#">66930.006.000</a> | 11,112MM | 1 | <a href="#">66930.011.112</a> |
| 3,000MM | 1 | <a href="#">66930.003.000</a> | 6,350MM | 1 | <a href="#">66930.006.350</a> | 12,000MM | 1 | <a href="#">66930.012.000</a> |
| 3,175MM | 1 | <a href="#">66930.003.175</a> | 7,000MM | 1 | <a href="#">66930.007.000</a> | 12,700MM | 1 | <a href="#">66930.012.700</a> |
| 3,500MM | 1 | <a href="#">66930.003.500</a> | 7,144MM | 1 | <a href="#">66930.007.144</a> | 13,000MM | 1 | <a href="#">66930.013.000</a> |
| 3,969MM | 1 | <a href="#">66930.003.969</a> | 7,938MM | 1 | <a href="#">66930.007.938</a> | 14,000MM | 1 | <a href="#">66930.014.000</a> |
| 4,000MM | 1 | <a href="#">66930.004.000</a> | 8,000MM | 1 | <a href="#">66930.008.000</a> | 14,287MM | 1 | <a href="#">66930.014.287</a> |

**66930 Technical ball** ←

| d        | ✉ | Art.number                    | d        | ✉ | Art.number                    | d        | ✉ | Art.number                    |
|----------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 15,000MM | 1 | <a href="#">66930.015.000</a> | 22,000MM | 1 | <a href="#">66930.022.000</a> | 34,925MM | 1 | <a href="#">66930.034.925</a> |
| 15,875MM | 1 | <a href="#">66930.015.875</a> | 22,225MM | 1 | <a href="#">66930.022.225</a> | 40,000MM | 1 | <a href="#">66930.040.000</a> |
| 16,000MM | 1 | <a href="#">66930.016.000</a> | 25,000MM | 1 | <a href="#">66930.025.000</a> | 50,000MM | 1 | <a href="#">66930.050.000</a> |
| 18,000MM | 1 | <a href="#">66930.018.000</a> | 25,400MM | 1 | <a href="#">66930.025.400</a> | 60,000MM | 1 | <a href="#">66930.060.000</a> |
| 19,050MM | 1 | <a href="#">66930.019.050</a> | 30,000MM | 1 | <a href="#">66930.030.000</a> |          |   |                               |
| 20,000MM | 1 | <a href="#">66930.020.000</a> | 30,162MM | 1 | <a href="#">66930.030.162</a> |          |   |                               |

## Technical ball not according to standards



### Article groups

| Material     | Class  | Packaging | Code  | Page   |
|--------------|--------|-----------|-------|--------|
| Plastic PP   |        | Each      | 66950 | 12-114 |
| Plastic PA   | PA 6.6 | Each      | 66955 | 12-114 |
| Plastic POM  |        | Each      | 66960 | 12-114 |
| Plastic PTFE |        | Each      | 66970 | 12-115 |
| Glass        |        | Each      | 66990 | 12-115 |

#### 66950 Technical ball not according to standards

S54A

**Material** Plastic Polypropylene  
**Packaging** Each



| d       | ☒ | Art.number                    | d        | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 2,000MM | 1 | <a href="#">66950.002.000</a> | 7,000MM  | 1 | <a href="#">66950.007.000</a> | 17,000MM | 1 | <a href="#">66950.017.000</a> |
| 2,381MM | 1 | <a href="#">66950.002.381</a> | 7,938MM  | 1 | <a href="#">66950.007.938</a> | 18,000MM | 1 | <a href="#">66950.018.000</a> |
| 2,500MM | 1 | <a href="#">66950.002.500</a> | 8,000MM  | 1 | <a href="#">66950.008.000</a> | 19,000MM | 1 | <a href="#">66950.019.000</a> |
| 3,000MM | 1 | <a href="#">66950.003.000</a> | 9,000MM  | 1 | <a href="#">66950.009.000</a> | 20,000MM | 1 | <a href="#">66950.020.000</a> |
| 3,175MM | 1 | <a href="#">66950.003.175</a> | 9,525MM  | 1 | <a href="#">66950.009.525</a> | 22,000MM | 1 | <a href="#">66950.022.000</a> |
| 3,500MM | 1 | <a href="#">66950.003.500</a> | 10,000MM | 1 | <a href="#">66950.010.000</a> | 24,000MM | 1 | <a href="#">66950.024.000</a> |
| 3,969MM | 1 | <a href="#">66950.003.969</a> | 11,000MM | 1 | <a href="#">66950.011.000</a> | 25,000MM | 1 | <a href="#">66950.025.000</a> |
| 4,000MM | 1 | <a href="#">66950.004.000</a> | 12,000MM | 1 | <a href="#">66950.012.000</a> | 25,400MM | 1 | <a href="#">66950.025.400</a> |
| 4,500MM | 1 | <a href="#">66950.004.500</a> | 13,000MM | 1 | <a href="#">66950.013.000</a> | 30,000MM | 1 | <a href="#">66950.030.000</a> |
| 5,000MM | 1 | <a href="#">66950.005.000</a> | 14,000MM | 1 | <a href="#">66950.014.000</a> | 35,000MM | 1 | <a href="#">66950.035.000</a> |
| 6,000MM | 1 | <a href="#">66950.006.000</a> | 15,000MM | 1 | <a href="#">66950.015.000</a> | 38,000MM | 1 | <a href="#">66950.038.000</a> |
| 6,350MM | 1 | <a href="#">66950.006.350</a> | 15,875MM | 1 | <a href="#">66950.015.875</a> |          |   |                               |
| 6,500MM | 1 | <a href="#">66950.006.500</a> | 16,000MM | 1 | <a href="#">66950.016.000</a> |          |   |                               |

#### 66955 Technical ball not according to standards

S54A

**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Packaging** Each



| d       | ☒ | Art.number                    | d        | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 2,000MM | 1 | <a href="#">66955.002.000</a> | 5,000MM  | 1 | <a href="#">66955.005.000</a> | 13,000MM | 1 | <a href="#">66955.013.000</a> |
| 2,381MM | 1 | <a href="#">66955.002.381</a> | 6,000MM  | 1 | <a href="#">66955.006.000</a> | 14,000MM | 1 | <a href="#">66955.014.000</a> |
| 2,500MM | 1 | <a href="#">66955.002.500</a> | 6,350MM  | 1 | <a href="#">66955.006.350</a> | 15,000MM | 1 | <a href="#">66955.015.000</a> |
| 3,000MM | 1 | <a href="#">66955.003.000</a> | 7,000MM  | 1 | <a href="#">66955.007.000</a> | 18,000MM | 1 | <a href="#">66955.018.000</a> |
| 3,175MM | 1 | <a href="#">66955.003.175</a> | 8,000MM  | 1 | <a href="#">66955.008.000</a> | 20,000MM | 1 | <a href="#">66955.020.000</a> |
| 3,500MM | 1 | <a href="#">66955.003.500</a> | 10,000MM | 1 | <a href="#">66955.010.000</a> | 25,400MM | 1 | <a href="#">66955.025.400</a> |
| 3,969MM | 1 | <a href="#">66955.003.969</a> | 11,112MM | 1 | <a href="#">66955.011.112</a> | 30,000MM | 1 | <a href="#">66955.030.000</a> |
| 4,000MM | 1 | <a href="#">66955.004.000</a> | 12,700MM | 1 | <a href="#">66955.012.700</a> |          |   |                               |

#### 66960 Technical ball not according to standards

S54A

**Material** Plastic Polyoxymethylene  
**Packaging** Each



| d       | ☒ | Art.number                    | d       | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|----------|---|-------------------------------|
| 2,000MM | 1 | <a href="#">66960.002.000</a> | 5,000MM | 1 | <a href="#">66960.005.000</a> | 10,000MM | 1 | <a href="#">66960.010.000</a> |
| 2,500MM | 1 | <a href="#">66960.002.500</a> | 6,000MM | 1 | <a href="#">66960.006.000</a> | 11,000MM | 1 | <a href="#">66960.011.000</a> |
| 3,000MM | 1 | <a href="#">66960.003.000</a> | 6,350MM | 1 | <a href="#">66960.006.350</a> | 12,000MM | 1 | <a href="#">66960.012.000</a> |
| 3,175MM | 1 | <a href="#">66960.003.175</a> | 6,500MM | 1 | <a href="#">66960.006.500</a> | 13,000MM | 1 | <a href="#">66960.013.000</a> |
| 3,500MM | 1 | <a href="#">66960.003.500</a> | 8,000MM | 1 | <a href="#">66960.008.000</a> | 14,000MM | 1 | <a href="#">66960.014.000</a> |
| 4,000MM | 1 | <a href="#">66960.004.000</a> | 9,000MM | 1 | <a href="#">66960.009.000</a> | 15,000MM | 1 | <a href="#">66960.015.000</a> |



| 66960 Technical ball not according to standards |   |                               |          |   |                               |   |   |            |
|---|---|-------------------------------|----------|---|-------------------------------|---|---|------------|
| d   | ☒ | Art.number                    | d        | ☒ | Art.number                    | d | ☒ | Art.number |
| 15,875MM  | 1 | <a href="#">66960.015.875</a> | 19,000MM | 1 | <a href="#">66960.019.000</a> |   |   |            |
| 16,000MM  | 1 | <a href="#">66960.016.000</a> | 20,000MM | 1 | <a href="#">66960.020.000</a> |   |   |            |

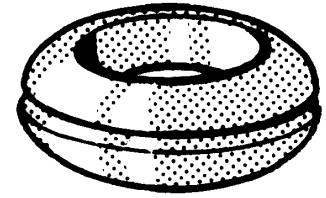
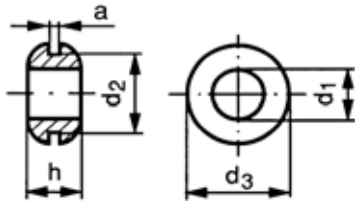
| 66970 Technical ball not according to standards |                              |  |  |  |  |  |  | S54A  |
|---|------------------------------|--|--|--|--|--|--|---|
| <b>Material</b>                                 | Plastic Polytetrafluorethene |  |  |  |  |  |  |  |
| <b>Packaging</b>                                | Each                         |  |  |  |  |  |  |   |

| d       | ☒ | Art.number                    | d        | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|----------|---|-------------------------------|----------|---|-------------------------------|
| 2,000MM | 1 | <a href="#">66970.002.000</a> | 5,000MM  | 1 | <a href="#">66970.005.000</a> | 15,000MM | 1 | <a href="#">66970.015.000</a> |
| 2,500MM | 1 | <a href="#">66970.002.500</a> | 8,000MM  | 1 | <a href="#">66970.008.000</a> | 16,000MM | 1 | <a href="#">66970.016.000</a> |
| 3,000MM | 1 | <a href="#">66970.003.000</a> | 10,000MM | 1 | <a href="#">66970.010.000</a> | 20,000MM | 1 | <a href="#">66970.020.000</a> |
| 3,175MM | 1 | <a href="#">66970.003.175</a> | 12,000MM | 1 | <a href="#">66970.012.000</a> |          |   |                               |
| 4,000MM | 1 | <a href="#">66970.004.000</a> | 12,700MM | 1 | <a href="#">66970.012.700</a> |          |   |                               |

| 66990 Technical ball not according to standards |       |  |  |  |  |  |  | S54A  |
|---|-------|--|--|--|--|--|--|---|
| <b>Material</b>                                 | Glass |  |  |  |  |  |  |  |
| <b>Packaging</b>                                | Each  |  |  |  |  |  |  |   |

| d       | ☒ | Art.number                    | d       | ☒ | Art.number                    | d        | ☒ | Art.number                    |
|---------|---|-------------------------------|---------|---|-------------------------------|----------|---|-------------------------------|
| 3,000MM | 1 | <a href="#">66990.003.000</a> | 5,000MM | 1 | <a href="#">66990.005.000</a> | 10,000MM | 1 | <a href="#">66990.010.000</a> |

## Grommet



### Technical data

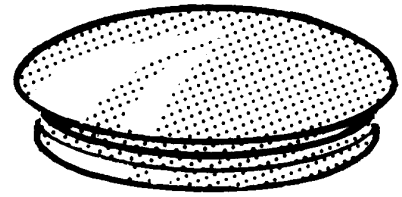
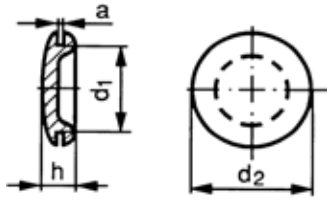
| d1 x d2  | d <sub>3</sub> | h   | a   | d1 x d2   | d <sub>3</sub> | h   | a   | d1 x d2   | d <sub>3</sub> | h   | a   |
|----------|----------------|-----|-----|-----------|----------------|-----|-----|-----------|----------------|-----|-----|
| 3,2x4,75 | 8              | 6,4 | 1,6 | 8,0x12,5  | 16             | 6,4 | 1,6 | 16,0x19   | 24             | 6   | 1,6 |
| 4,0x6,4  | 9,5            | 6,3 | 1,6 | 9,5x12,5  | 17             | 7   | 1,6 | 16,0x20   | 24             | 7,5 | 1,6 |
| 4,75x9,5 | 12,5           | 7   | 1,6 | 9,5x14,2  | 19             | 6,4 | 1,6 | 17,5x19   | 24             | 4,8 | 1,6 |
| 4,8x9,5  | 12,5           | 6,8 | 1,6 | 11,0x12,5 | 19             | 6,4 | 1,6 | 18,5x25,2 | 31,4           | 8   | 1,6 |
| 5,5x8    | 11             | 5,5 | 1,6 | 12,5x17,5 | 22             | 6,4 | 1,6 | 22,0x25,5 | 30             | 8   | 1,6 |
| 6,4x9,5  | 14,2           | 6,4 | 1,6 | 12,5x20   | 25,5           | 6,4 | 1,6 | 24,7x32   | 38             | 7,8 | 1,6 |
| 8,0x9,5  | 14,2           | 8   | 1,6 | 14,2x17,5 | 22             | 4,8 | 1,6 | 32,0x38   | 46             | 9,5 | 1,6 |
| 8,0x11   | 14,2           | 4,8 | 1,6 | 15,5x20   | 24             | 7,5 | 1,6 | 45,0x50   | 60             | 10  | 1,6 |

- Specific features of grommets:
- Protect electric wire in sheet iron.
- Excellent insulation.
- Strong and safe.
- Reducing vibration.

| 38900 Grommet    |                           | W05D  |
|------------------|---------------------------|---|
| <b>Material</b>  | Plastic Polyvinylchloride |  |
| <b>Colour</b>    | Black                     |   |
| <b>Packaging</b> | Standard                  |   |

| d1 x d2    | ☒   | Art.number                    | d1 x d2     | ☒   | Art.number                    | d1 x d2     | ☒  | Art.number                    |
|------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|----|-------------------------------|
| 3,2X4,75MM | 100 | <a href="#">38900.032.047</a> | 9,5X12,5MM  | 100 | <a href="#">38900.095.125</a> | 16,0X20,0MM | 50 | <a href="#">38900.160.200</a> |
| 4,0X6,4MM  | 100 | <a href="#">38900.040.064</a> | 9,5X14,2MM  | 100 | <a href="#">38900.095.142</a> | 17,5X19,0MM | 50 | <a href="#">38900.175.190</a> |
| 4,8X9,5MM  | 100 | <a href="#">38900.048.095</a> | 11,0X12,5MM | 100 | <a href="#">38900.110.125</a> | 18,5X25,2MM | 25 | <a href="#">38900.185.252</a> |
| 5,5X8,0MM  | 100 | <a href="#">38900.055.080</a> | 12,5X17,5MM | 100 | <a href="#">38900.125.175</a> | 22,0X25,5MM | 25 | <a href="#">38900.220.255</a> |
| 6,4X9,5MM  | 100 | <a href="#">38900.064.095</a> | 12,5X20,0MM | 100 | <a href="#">38900.125.200</a> | 24,7X32,0MM | 25 | <a href="#">38900.249.310</a> |
| 8,0X9,5MM  | 100 | <a href="#">38900.080.095</a> | 14,2X17,5MM | 50  | <a href="#">38900.142.175</a> | 32,0X38,0MM | 25 | <a href="#">38900.320.380</a> |
| 8,0X11,0MM | 100 | <a href="#">38900.080.110</a> | 16,0X19,0MM | 50  | <a href="#">38900.160.190</a> | 45,0X50,0MM | 25 | <a href="#">38900.450.500</a> |
| 8,0X12,5MM | 100 | <a href="#">38900.080.125</a> |             |     |                               |             |    |                               |

## Blanking plug



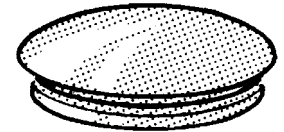
### Technical data

| d1 x d2   | h   | a   | d1 x d2   | h   | a   | d1 x d2   | h    | a   |
|-----------|-----|-----|-----------|-----|-----|-----------|------|-----|
| 4,7x9,3   | 4,6 | 1,6 | 12,5x18,7 | 5,6 | 1,6 | 25,4x32   | 9    | 1,6 |
| 6,4x9,5   | 5   | 1,6 | 15,5x22   | 7,5 | 1,6 | 31,5x38,2 | 7,5  | 1,6 |
| 8,0x14,2  | 5   | 1,6 | 19,0x25,5 | 6,5 | 1,6 | 38,2x43,3 | 8,2  | 1,6 |
| 9,5x15,4  | 7,3 | 1,6 | 20,0x25,5 | 6,7 | 1,6 | 51,5x57,5 | 11,4 | 1,6 |
| 11,2x17,7 | 6,2 | 1,6 | 22,5x28,4 | 9,3 | 1,6 |           |      |     |

### 38950 Blanking plug

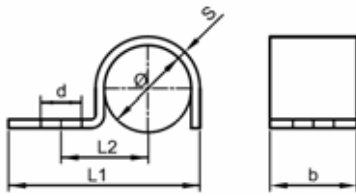
**W05D**

**Material** Plastic Polyvinylchloride  
**Colour** Black  
**Packaging** Standard



| d1 x d2     | ☒   | Art.number                    | d1 x d2     | ☒   | Art.number                    | d1 x d2     | ☒  | Art.number                    |
|-------------|-----|-------------------------------|-------------|-----|-------------------------------|-------------|----|-------------------------------|
| 4,7X9,3MM   | 100 | <a href="#">38950.047.093</a> | 12,5X18,7MM | 100 | <a href="#">38950.125.187</a> | 25,4X32,0MM | 25 | <a href="#">38950.254.320</a> |
| 6,4X9,5MM   | 100 | <a href="#">38950.064.095</a> | 15,5X22,0MM | 100 | <a href="#">38950.155.220</a> | 31,5X38,2MM | 25 | <a href="#">38950.315.382</a> |
| 8,0X14,2MM  | 100 | <a href="#">38950.080.142</a> | 19,0X25,5MM | 100 | <a href="#">38950.190.255</a> | 38,2X43,3MM | 25 | <a href="#">38950.382.433</a> |
| 9,5X15,4MM  | 100 | <a href="#">38950.095.154</a> | 20,0X25,5MM | 50  | <a href="#">38950.200.255</a> | 51,5X57,5MM | 25 | <a href="#">38950.515.575</a> |
| 11,2X17,7MM | 100 | <a href="#">38950.112.177</a> | 22,5X28,4MM | 50  | <a href="#">38950.225.284</a> |             |    |                               |

## Clip with one fixing hole



### Technical data

| For pipe $\varnothing$ | $\varnothing$ | $L_1$ | $L_2$ | $b$ | $d$ | $s$ |
|------------------------|---------------|-------|-------|-----|-----|-----|
| 1x4                    | 4             | 18    | 9     | 10  | 4,8 | 1   |
| 1x5                    | 5             | 18,5  | 9     | 10  | 4,8 | 1   |
| 1x6                    | 6             | 20    | 10    | 10  | 4,8 | 1   |
| 1x7                    | 7             | 20,5  | 10    | 10  | 4,8 | 1   |
| 1x8                    | 8             | 22    | 11    | 10  | 4,8 | 1   |
| 1x10                   | 10            | 23    | 11    | 10  | 4,8 | 1   |
| 1x12                   | 12            | 30,5  | 16    | 12  | 5,8 | 1,5 |
| 1x15                   | 15            | 34    | 18    | 12  | 5,8 | 1,5 |
| 1x16                   | 16            | 35    | 18    | 12  | 5,8 | 1,5 |
| 1x18                   | 18            | 35,5  | 18    | 12  | 7   | 1,5 |
| 1x20                   | 20            | 37,5  | 18    | 12  | 7   | 1,5 |
| 1x22                   | 22            | 39,5  | 20    | 12  | 7   | 1,5 |
| 2x6                    | 6             | 26,5  | 13    | 10  | 4,8 | 1   |
| 2x8                    | 8             | 30,5  | 15    | 10  | 4,8 | 1   |
| 2x10                   | 10            | 33,5  | 16    | 10  | 4,8 | 1   |
| 2x12                   | 12            | 43    | 22    | 12  | 5,8 | 1,5 |

### 43213 Clip with one fixing hole

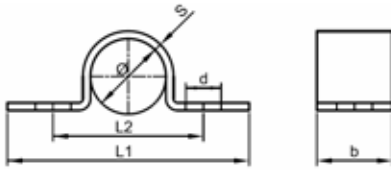
Y61A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For pipe $\varnothing$ | ☒   | Art.number                    | For pipe $\varnothing$ | ☒   | Art.number                    | For pipe $\varnothing$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 1X4                    | 100 | <a href="#">43213.010.004</a> | 1X12                   | 100 | <a href="#">43213.010.012</a> | 2X6                    | 100 | <a href="#">43213.020.006</a> |
| 1X5                    | 100 | <a href="#">43213.010.005</a> | 1X15                   | 100 | <a href="#">43213.010.015</a> | 2X8                    | 100 | <a href="#">43213.020.008</a> |
| 1X6                    | 100 | <a href="#">43213.010.006</a> | 1X16                   | 100 | <a href="#">43213.010.016</a> | 2X10                   | 100 | <a href="#">43213.020.010</a> |
| 1X7                    | 100 | <a href="#">43213.010.007</a> | 1X18                   | 100 | <a href="#">43213.010.018</a> | 2X12                   | 100 | <a href="#">43213.020.012</a> |
| 1X8                    | 100 | <a href="#">43213.010.008</a> | 1X20                   | 100 | <a href="#">43213.010.020</a> |                        |     |                               |
| 1X10                   | 100 | <a href="#">43213.010.010</a> | 1X22                   | 100 | <a href="#">43213.010.022</a> |                        |     |                               |

## Clip with two fixing holes



### Technical data

| For pipe $\varnothing$ | $\varnothing$ | $L_1$ | $L_2$ | b  | d   | s   |
|------------------------|---------------|-------|-------|----|-----|-----|
| 1x6                    | 6             | 32    | 20    | 10 | 4,8 | 1   |
| 1x8                    | 8             | 34    | 22    | 10 | 4,8 | 1   |
| 1x10                   | 10            | 34    | 22    | 10 | 4,8 | 1   |
| 1x12                   | 12            | 46    | 32    | 12 | 5,8 | 1,5 |
| 1x15                   | 15            | 50    | 36    | 12 | 5,8 | 1,5 |
| 1x18                   | 18            | 50    | 36    | 12 | 7   | 1,5 |
| 1x20                   | 20            | 52    | 38    | 12 | 7   | 1,5 |
| 1x22                   | 22            | 54    | 40    | 12 | 7   | 1,5 |
| 2x6                    | 6             | 38    | 26    | 10 | 4,8 | 1   |
| 2x8                    | 8             | 42    | 30    | 10 | 4,8 | 1   |
| 2x10                   | 10            | 44    | 32    | 10 | 4,8 | 1   |
| 2x12                   | 12            | 58    | 44    | 12 | 5,8 | 1,5 |
| 2x18                   | 18            | 69    | 55    | 12 | 7   | 1,5 |

### 43214 Clip with two fixing holes

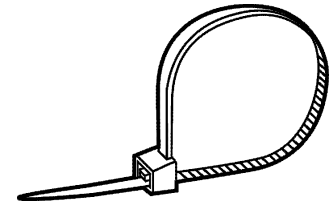
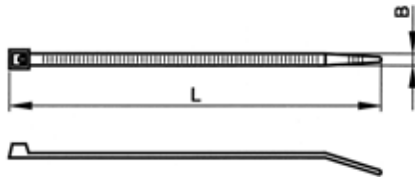
Y61A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| For pipe $\varnothing$ | ☒   | Art.number                    | For pipe $\varnothing$ | ☒   | Art.number                    | For pipe $\varnothing$ | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 1X6                    | 100 | <a href="#">43214.010.006</a> | 1X18                   | 100 | <a href="#">43214.010.018</a> | 2X10                   | 100 | <a href="#">43214.020.010</a> |
| 1X8                    | 100 | <a href="#">43214.010.008</a> | 1X20                   | 100 | <a href="#">43214.010.020</a> | 2X12                   | 100 | <a href="#">43214.020.012</a> |
| 1X10                   | 100 | <a href="#">43214.010.010</a> | 1X22                   | 100 | <a href="#">43214.010.022</a> | 2X18                   | 100 | <a href="#">43214.020.018</a> |
| 1X12                   | 100 | <a href="#">43214.010.012</a> | 2X6                    | 100 | <a href="#">43214.020.006</a> |                        |     |                               |
| 1X15                   | 100 | <a href="#">43214.010.015</a> | 2X8                    | 100 | <a href="#">43214.020.008</a> |                        |     |                               |

## Locking cable tie



### Technical data

| L x B   | Max. bundle ø | Tensile strength in N |
|---------|---------------|-----------------------|
| 100x2,5 | 20            | 80                    |
| 200x2,5 | 50            | 80                    |
| 140x3,6 | 32            | 180                   |
| 200x3,6 | 50            | 180                   |
| 160x4,8 | 38            | 220                   |
| 200x4,8 | 50            | 220                   |
| 250x4,8 | 60            | 220                   |
| 300x4,8 | 77            | 220                   |
| 368x4,8 | 102           | 220                   |
| 430x4,8 | 110           | 220                   |
| 300x7,6 | 77            | 533                   |
| 368x7,6 | 102           | 533                   |
| 450x7,6 | 105           | 533                   |
| 540x7,6 | 105           | 533                   |
| 430x9,0 | 110           | 778                   |
| 530x9,0 | 140           | 778                   |
| 710x9,0 | 190           | 778                   |
| 780x9,0 | 228           | 778                   |
| 830x9,0 | 239           | 778                   |

- Depending on availability the dimensions may deviate.

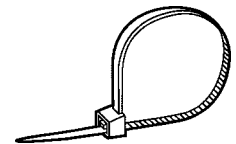
### Article groups

| Material   | Class  | Colour | Packaging | Code  | Page   |
|------------|--------|--------|-----------|-------|--------|
| Plastic PA | PA 6.6 | White  | Standard  | 43315 | 12-120 |
| Plastic PA | PA 6.6 | Black  | Standard  | 43316 | 12-120 |
| Plastic PA | PA 6.6 | Black  | Large     | 43317 | 12-121 |
| Plastic PA | PA 6.6 |        | Standard  | 43318 | 12-121 |

#### 43315 Locking cable tie white

W05H

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |

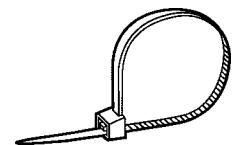


| L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| 100X2,5 | 100 | <a href="#">43315.100.025</a> | 250X4,8 | 100 | <a href="#">43315.250.048</a> | 430X9,0 | 100 | <a href="#">43315.430.090</a> |
| 140X3,6 | 100 | <a href="#">43315.140.036</a> | 300X4,8 | 100 | <a href="#">43315.300.048</a> | 450X7,6 | 100 | <a href="#">43315.450.076</a> |
| 160X4,8 | 100 | <a href="#">43315.160.048</a> | 300X7,6 | 100 | <a href="#">43315.300.076</a> | 540X7,6 | 100 | <a href="#">43315.540.076</a> |
| 200X2,5 | 100 | <a href="#">43315.200.025</a> | 368X4,8 | 100 | <a href="#">43315.368.048</a> | 780X9,0 | 100 | <a href="#">43315.780.090</a> |
| 200X3,6 | 100 | <a href="#">43315.200.036</a> | 368X7,6 | 100 | <a href="#">43315.368.076</a> |         |     |                               |
| 200X4,8 | 100 | <a href="#">43315.200.048</a> | 430X4,8 | 100 | <a href="#">43315.430.048</a> |         |     |                               |

#### 43316 Locking cable tie black

W05H

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | Black                     |
| <b>Packaging</b> | Standard                  |



| L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| 100X2,5 | 100 | <a href="#">43316.100.025</a> | 200X4,8 | 100 | <a href="#">43316.200.048</a> | 368X7,6 | 100 | <a href="#">43316.368.076</a> |
| 140X3,6 | 100 | <a href="#">43316.140.036</a> | 250X4,8 | 100 | <a href="#">43316.250.048</a> | 430X4,8 | 100 | <a href="#">43316.430.048</a> |
| 160X4,8 | 100 | <a href="#">43316.160.048</a> | 300X4,8 | 100 | <a href="#">43316.300.048</a> | 430X9,0 | 100 | <a href="#">43316.430.090</a> |
| 200X2,5 | 100 | <a href="#">43316.200.025</a> | 300X7,6 | 100 | <a href="#">43316.300.076</a> | 450X7,6 | 100 | <a href="#">43316.450.076</a> |
| 200X3,6 | 100 | <a href="#">43316.200.036</a> | 368X4,8 | 100 | <a href="#">43316.368.048</a> | 530X9,0 | 100 | <a href="#">43316.530.090</a> |

| 43316 Locking cable tie black |     |                               |         |     |                               |       |   |            |
|-------------------------------|-----|-------------------------------|---------|-----|-------------------------------|-------|---|------------|
| L x B                         | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B | ☒ | Art.number |
| 540X7,6                       | 100 | <a href="#">43316.540.076</a> | 780X9,0 | 100 | <a href="#">43316.780.090</a> |       |   |            |
| 710X9,0                       | 100 | <a href="#">43316.710.090</a> | 830X9,0 | 100 | <a href="#">43316.830.090</a> |       |   |            |

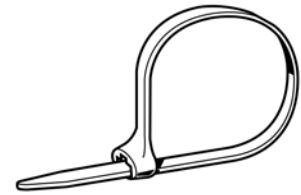
| 43317 Locking cable tie black |                           |  |  |  |  |  |  | W050  |
|-------------------------------|---------------------------|--|--|--|--|--|--|---|
| <b>Material</b>               | Plastic Polyamide (nylon) |  |  |  |  |  |  |  |
| <b>Class</b>                  | PA 6,6                    |  |  |  |  |  |  |   |
| <b>Colour</b>                 | Black                     |  |  |  |  |  |  |   |
| <b>Packaging</b>              | Large                     |  |  |  |  |  |  |   |

| L x B   | ☒    | Art.number                    | L x B   | ☒    | Art.number                    | L x B   | ☒    | Art.number                    |
|---------|------|-------------------------------|---------|------|-------------------------------|---------|------|-------------------------------|
| 100X2,5 | 1000 | <a href="#">43317.100.025</a> | 200X4,8 | 1000 | <a href="#">43317.200.048</a> | 300X4,8 | 1000 | <a href="#">43317.300.048</a> |

| 43318 Locking cable tie |                           |  |  |  |  |  |  | W051  |
|-------------------------|---------------------------|--|--|--|--|--|--|---|
| <b>Material</b>         | Plastic Polyamide (nylon) |  |  |  |  |  |  |  |
| <b>Class</b>            | PA 6,6                    |  |  |  |  |  |  |   |
| <b>Packaging</b>        | Standard                  |  |  |  |  |  |  |   |
|                         |                           |  |  |  |  |  |  |   |

| L x B          | ☒   | Art.number                    | L x B         | ☒   | Art.number                    | L x B          | ☒   | Art.number                    |
|----------------|-----|-------------------------------|---------------|-----|-------------------------------|----------------|-----|-------------------------------|
| BLUE 200X4,8   | 100 | <a href="#">43318.000.002</a> | GREEN 200X4,8 | 100 | <a href="#">43318.000.005</a> | RED 200X4,8    | 100 | <a href="#">43318.000.009</a> |
| YELLOW 200X4,8 | 100 | <a href="#">43318.000.004</a> | GREY 200X4,8  | 100 | <a href="#">43318.000.006</a> | ORANGE 200X4,8 | 100 | <a href="#">43318.000.030</a> |

## Cable tie with stainless steel clip



### Technical data

| L x B   | Max. bundle ø | Tensile strength in N |
|---------|---------------|-----------------------|
| 92x2,4  | 16            | 81                    |
| 140x3,6 | 29            | 180                   |
| 186x4,8 | 45            | 225                   |
| 281x3,6 | 76            | 180                   |
| 338x7,0 | 90            | 544                   |
| 360x4,8 | 102           | 225                   |
| 762x7,0 | 229           | 544                   |
| 200x2,4 | 50            | 81                    |
| 356x2,4 | 102           | 81                    |
| 208x3,6 | 50            | 180                   |
| 368x3,6 | 103           | 180                   |
| 293x4,8 | 78            | 225                   |
| 223x7,0 | 50            | 544                   |

### Article groups

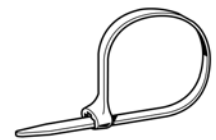
| Material   | Class  | Colour  |              | Packaging | Code  | Page   |
|------------|--------|---------|--------------|-----------|-------|--------|
| Plastic PA | PA 6.6 | Black   | UV-resistant | Standard  | 43295 | 12-122 |
| Plastic PA | PA 6.6 | Natural |              | Standard  | 43299 | 12-122 |

#### 43295 Cable tie with stainless steel clip

Y70A

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | Black                     |
| <b>Packaging</b> | Standard                  |

# Ty-Rap®



| L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| 92X2,4  | 100 | <a href="#">43295.000.023</a> | 360X4,8 | 100 | <a href="#">43295.000.028</a> | 368X3,6 | 100 | <a href="#">43295.000.244</a> |
| 140X3,6 | 100 | <a href="#">43295.000.024</a> | 762X7,0 | 100 | <a href="#">43295.000.029</a> | 293X4,8 | 100 | <a href="#">43295.000.253</a> |
| 186X4,8 | 100 | <a href="#">43295.000.025</a> | 200X2,4 | 100 | <a href="#">43295.000.232</a> | 223X7,0 | 100 | <a href="#">43295.005.272</a> |
| 281X3,6 | 100 | <a href="#">43295.000.026</a> | 356X2,4 | 100 | <a href="#">43295.000.234</a> |         |     |                               |
| 338X7,0 | 100 | <a href="#">43295.000.027</a> | 208X3,6 | 100 | <a href="#">43295.000.242</a> |         |     |                               |

#### 43299 Cable tie with stainless steel clip

Y70A

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | Natural                   |
| <b>Packaging</b> | Standard                  |

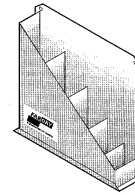
# Ty-Rap®



| L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| 92x2,4  | 100 | <a href="#">43299.000.023</a> | 338x7,0 | 100 | <a href="#">43299.000.027</a> | 208x3,6 | 100 | <a href="#">43299.000.242</a> |
| 140x3,6 | 100 | <a href="#">43299.000.024</a> | 360x4,8 | 100 | <a href="#">43299.000.028</a> | 368x3,6 | 100 | <a href="#">43299.000.244</a> |
| 186x4,8 | 100 | <a href="#">43299.000.025</a> | 762x7,0 | 100 | <a href="#">43299.000.029</a> | 293x4,8 | 100 | <a href="#">43299.000.253</a> |
| 281x3,6 | 100 | <a href="#">43299.000.026</a> | 200x2,4 | 100 | <a href="#">43299.000.232</a> | 223x7,0 | 100 | <a href="#">43299.005.272</a> |



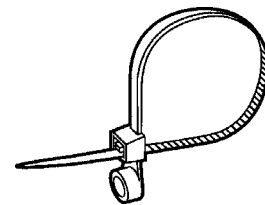
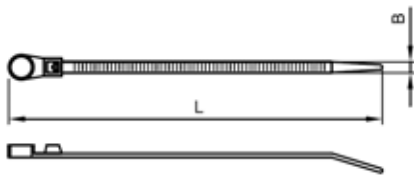
## Locking cable tie assortment



|                  |                                     |             |
|------------------|-------------------------------------|-------------|
| <b>43310</b>     | <b>Locking cable tie assortment</b> | <b>Y94A</b> |
| <b>Material</b>  | Plastic Polyamide (nylon)           |             |
| <b>Class</b>     | PA 6.6                              |             |
| <b>Packaging</b> | Standard                            |             |

| Type       | ✉ | Art.number                    |   |
|------------|---|-------------------------------|---|
| ASSORTMENT | 1 | <a href="#">43310.001.700</a> | <ul style="list-style-type: none"> <li>• Contents:</li> <li>• 100 x 2,5 mm - 500pcs.</li> <li>• 140 x 3,6 mm - 300pcs.</li> <li>• 200 x 4,8 mm - 300pcs.</li> <li>• 300 x 4,8 mm - 300pcs.</li> <li>• 368 x 4,8 mm - 200pcs.</li> </ul> |

## Cable tie with eye



### Technical data

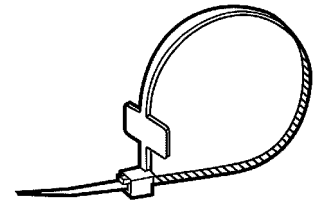
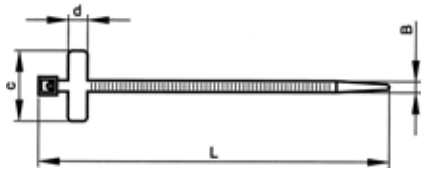
| L x B   | Eye diameter ø | Max. bundle ø | Tensile strength in N |
|---------|----------------|---------------|-----------------------|
| 110x2,5 | 3,2            | 22            | 81                    |
| 150x3,6 | 4,2            | 32            | 182                   |
| 200x4,8 | 5,5            | 50            | 222                   |
| 377x4,8 | 5,5            | 102           | 222                   |
| 380x7,6 | 6,3            | 98            | 544                   |

- Depending on availability the dimensions may deviate.

|                  |                           |             |
|------------------|---------------------------|-------------|
| <b>43323</b>     | <b>Cable tie with eye</b> | <b>W050</b> |
| <b>Material</b>  | Plastic Polyamide (nylon) |             |
| <b>Class</b>     | PA 6.6                    |             |
| <b>Colour</b>    | White                     |             |
| <b>Packaging</b> | Standard                  |             |

| L x B   | ✉   | Art.number                    | L x B   | ✉   | Art.number                    | L x B   | ✉   | Art.number                    |
|---------|-----|-------------------------------|---------|-----|-------------------------------|---------|-----|-------------------------------|
| 110X2,5 | 100 | <a href="#">43323.110.025</a> | 200X4,8 | 100 | <a href="#">43323.200.048</a> | 380X7,6 | 100 | <a href="#">43323.368.076</a> |
| 150X3,6 | 100 | <a href="#">43323.150.036</a> | 377X4,8 | 100 | <a href="#">43323.368.048</a> |         |     |                               |

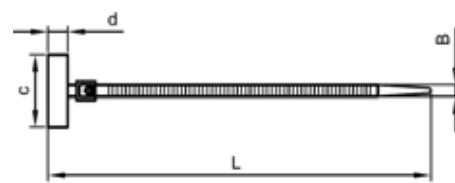
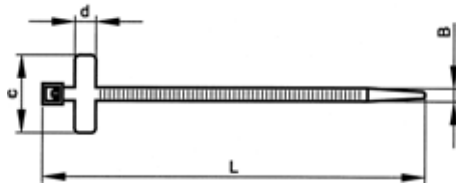
## Cable tie with label



### Technical data

| L x B       | Type | c    | d   | Max. bundle ø | Tensile strength in N |
|-------------|------|------|-----|---------------|-----------------------|
| 100x2,5     | 1    | 25,4 | 8   | 18            | 81                    |
| 110x2,5     | 2    | 20,4 | 9,1 | 18            | 81                    |
| 200x2,5     | 1    | 25,4 | 8   | 50            | 81                    |
| 220x4,8     | 3    | 28   | 13  | 54            | 225                   |
| 200x4,8 - 4 | 4    | 30   | 28  | 54            | 225                   |
| 270x4,8     | 3    | 28   | 13  | 65            | 225                   |
| 270x4,8 - 4 | 4    | 30   | 28  | 65            | 225                   |

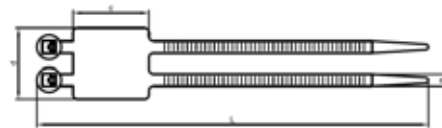
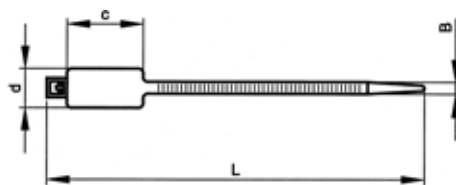
- Depending on availability the dimensions may deviate.



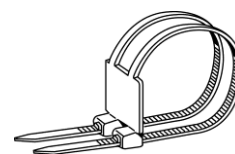
TYPE 1



TYPE 2



TYPE 3



TYPE 4

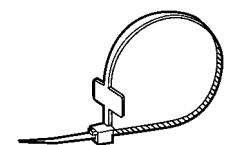
### Article groups

| Material   | Class  | Colour | Packaging | Code  | Page   |
|------------|--------|--------|-----------|-------|--------|
| Plastic PA | PA 6.6 | White  | Standard  | 43324 | 12-124 |
| Plastic PA | PA 6.6 | White  | Standard  | 43325 | 12-125 |

#### 43324 Cable tie with label

W050

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |



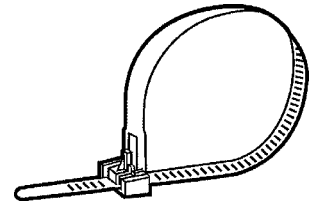
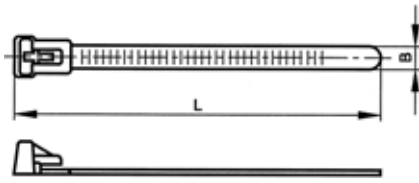
12

| L x B     | ☒   | Art.number                    | L x B     | ☒   | Art.number                    | L x B     | ☒   | Art.number                    |
|-----------|-----|-------------------------------|-----------|-----|-------------------------------|-----------|-----|-------------------------------|
| 100X2,5MT | 100 | <a href="#">43324.100.025</a> | 200X2,5MT | 100 | <a href="#">43324.200.025</a> | 270X4,8MT | 100 | <a href="#">43324.270.048</a> |
| 110X2,5MT | 100 | <a href="#">43324.110.025</a> | 220X4,8MT | 100 | <a href="#">43324.220.048</a> |           |     |                               |

|                  |                             |   |
|------------------|-----------------------------|---|
| <b>43325</b>     | <b>Cable tie with label</b> | <b>W050</b>   |
| <b>Material</b>  | Plastic Polyamide (nylon)   |  |
| <b>Class</b>     | PA 6.6                      |   |
| <b>Colour</b>    | White                       |   |
| <b>Packaging</b> | Standard                    |   |

| L x B      | ✉   | Art.number                    | L x B | ✉ | Art.number | L x B | ✉ | Art.number |
|------------|-----|-------------------------------|-------|---|------------|-------|---|------------|
| 220X4,8MT2 | 100 | <a href="#">43325.220.048</a> |       |   |            |       |   |            |
| 270X4,8MT2 | 100 | <a href="#">43325.270.048</a> |       |   |            |       |   |            |

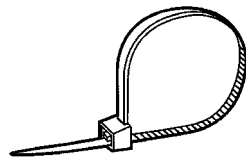
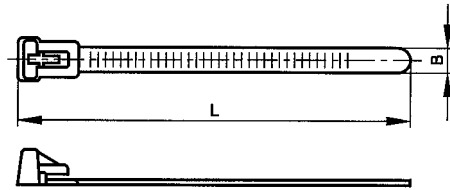
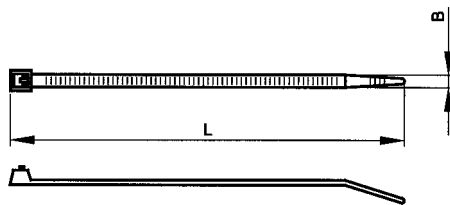
## Releasable cable tie



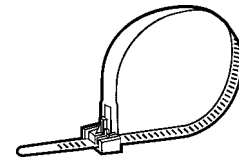
### Technical data

| L x B   | Type | Max. bundle ø | Tensile strength in N |
|---------|------|---------------|-----------------------|
| 140x3,6 | 1    | 33            | 182                   |
| 200x4,8 | 1    | 50            | 222                   |
| 300x4,8 | 1    | 86            | 222                   |
| 368x4,8 | 1    | 102           | 222                   |
| 100x7,6 | 2    | 20            | 222                   |
| 150x7,6 | 2    | 35            | 222                   |
| 200x7,6 | 2    | 50            | 222                   |
| 300x7,6 | 2    | 80            | 222                   |

- Depending on availability the dimensions may deviate.



TYPE 1



TYPE 2

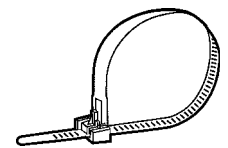
### Article groups

| Material   | Class  | Colour | Packaging | Code  | Page   |
|------------|--------|--------|-----------|-------|--------|
| Plastic PA | PA 6.6 | Black  | Standard  | 43321 | 12-126 |
| Plastic PA | PA 6.6 | White  | Standard  | 43322 | 12-126 |

#### 43321 Releasable cable tie

W050

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | Black                     |
| <b>Packaging</b> | Standard                  |

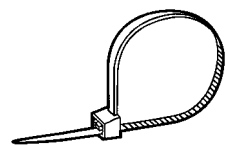


| L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B | ☒ | Art.number |
|---------|-----|-------------------------------|---------|-----|-------------------------------|-------|---|------------|
| 100X7,6 | 100 | <a href="#">43321.100.076</a> | 200X7,6 | 100 | <a href="#">43321.200.076</a> |       |   |            |
| 150X7,6 | 100 | <a href="#">43321.150.076</a> | 300X7,6 | 100 | <a href="#">43321.300.076</a> |       |   |            |

#### 43322 Releasable cable tie

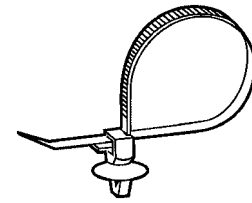
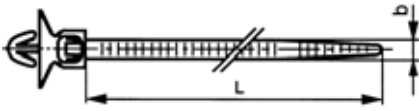
W050

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |



| L x B   | ☒   | Art.number                    | L x B   | ☒   | Art.number                    | L x B | ☒ | Art.number |
|---------|-----|-------------------------------|---------|-----|-------------------------------|-------|---|------------|
| 140X3,6 | 100 | <a href="#">43322.140.036</a> | 300X4,8 | 100 | <a href="#">43322.300.048</a> |       |   |            |
| 200X4,8 | 100 | <a href="#">43322.200.048</a> | 368X4,8 | 100 | <a href="#">43322.368.048</a> |       |   |            |

**Releasable cable tie with mount**



**Technical data**

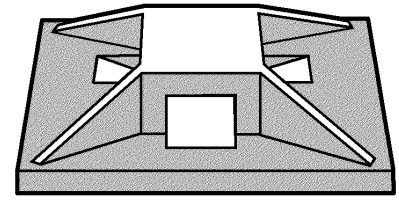
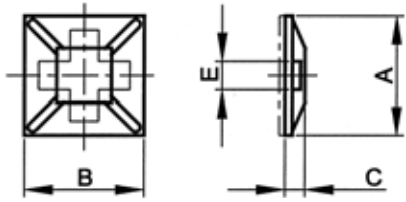
|                       |         |
|-----------------------|---------|
| No.                   | 2781    |
| b                     | 4,5     |
| L                     | 140     |
| Max. bundle ø         | 8-35    |
| Tensile strength in N | 140     |
| Hole ø                | 6,5     |
| Material thickness    | 0,6-1,6 |

- Depending on availability the dimensions may deviate.

|                  |  |             |
|------------------|--|-------------|
| <b>56834</b>     | <b>Releasable cable tie with mount</b> | <b>W05B</b> |
| <b>Material</b>  | Plastic Polyamide (nylon)              |             |
| <b>Class</b>     | PA 6.6                                 |             |
| <b>Colour</b>    | Black                                  |             |
| <b>Packaging</b> | Standard                               |             |

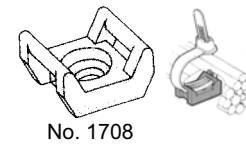
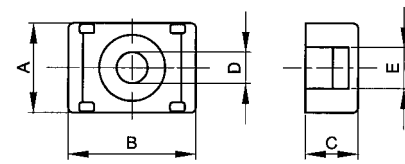
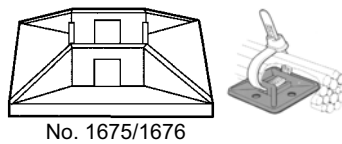
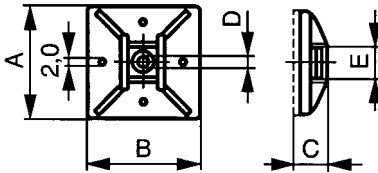
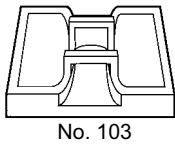
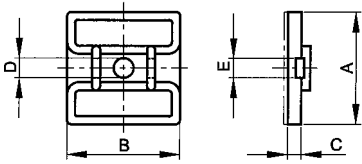
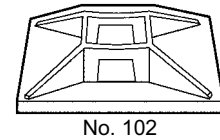
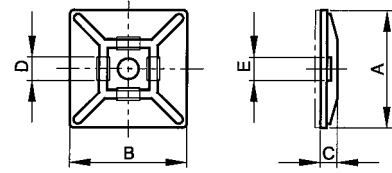
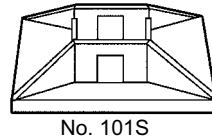
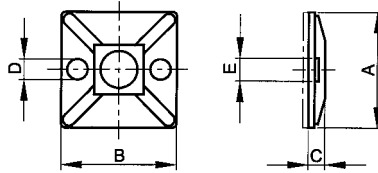
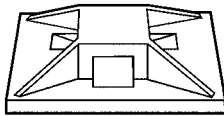
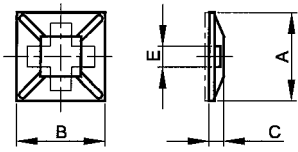
| No.        | ✉   | Art.number                    | No. | ✉ | Art.number | No. | ✉ | Art.number |
|------------|-----|-------------------------------|-----|---|------------|-----|---|------------|
| 2781 BLACK | 100 | <a href="#">56834.278.101</a> |     |   |            |     |   |            |

## Cable tie mount



### Technical data

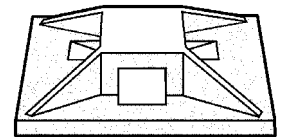
| No.   | For cable ties | A    | B    | C   | D $\varnothing$ | E   |
|-------|----------------|------|------|-----|-----------------|-----|
| 100   | 3,2            | 12,5 | 12,5 | 3,2 | -               | 3,2 |
| 101   | 4,6            | 21   | 21   | 3,5 | -               | 4,7 |
| 101-S | 4,2            | 19   | 19   | 3,9 | 3,2             | 4,5 |
| 102   | 4,7/4,8        | 28   | 28   | 4   | 5               | 5   |
| 103   | 4,8            | 28   | 28   | 4   | 5               | 5   |
| 1675  | 2,5            | 25,4 | 25,4 | 6,8 | 4               | 3,6 |
| 1676  | 6,5            | 25,4 | 25,4 | 6,8 | 4               | 7,8 |
| 1708  | 3,6            | 9    | 13   | 6   | 3,1             | 4   |



### 56833 Cable tie mount

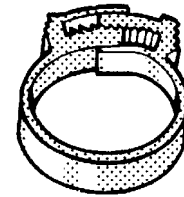
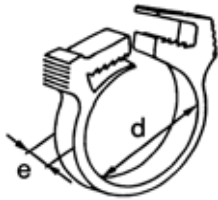
W05B

|           |                           |
|-----------|---------------------------|
| Material  | Plastic Polyamide (nylon) |
| Class     | GA/G                      |
| Colour    | White                     |
| Packaging | Standard                  |



| No.                | ☒   | Art.number                    | No.                | ☒   | Art.number                    | No.                | ☒   | Art.number                    |
|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------------|-----|-------------------------------|
| 100 SELF-ADHESIVE  | 100 | <a href="#">56833.100.001</a> | 102 SELF-ADHESIVE  | 100 | <a href="#">56833.102.001</a> | 1676 SELF-ADHESIVE | 100 | <a href="#">56833.167.601</a> |
| 101 SELF-ADHESIVE  | 100 | <a href="#">56833.101.001</a> | 103 SELF-ADHESIVE  | 100 | <a href="#">56833.103.001</a> | 1708 NATURAL       | 100 | <a href="#">56833.170.801</a> |
| 101S SELF-ADHESIVE | 100 | <a href="#">56833.101.501</a> | 1675 SELF-ADHESIVE | 100 | <a href="#">56833.167.501</a> |                    |     |                               |

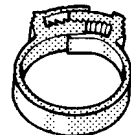
## Hose clamp plastic



### Technical data

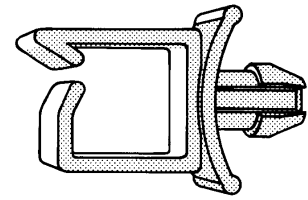
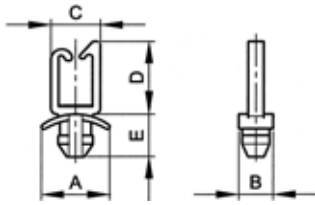
| d        | e | d         | e | d         | e   |
|----------|---|-----------|---|-----------|-----|
| 8-9,2    | 5 | 15-17,2   | 7 | 25-28     | 7   |
| 9,5-10,5 | 5 | 17-18,5   | 7 | 27-30     | 7,5 |
| 10,2-12  | 6 | 18,2-20,5 | 7 | 29,5-32,5 | 7,5 |
| 12-13,5  | 6 | 20,5-23   | 7 | 32,5-35,5 | 8   |
| 12,8-15  | 7 | 22-25     | 7 | 35-38,5   | 8   |

- d = grip range.

| 56672 Hose clamp plastic |                           | W02A   |
|--------------------------|---------------------------|--|
| <b>Material</b>          | Plastic Polyamide (nylon) |  |
| <b>Class</b>             | PA 6.6                    |  |
| <b>Packaging</b>         | Standard                  |  |

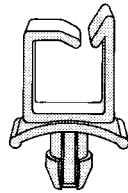
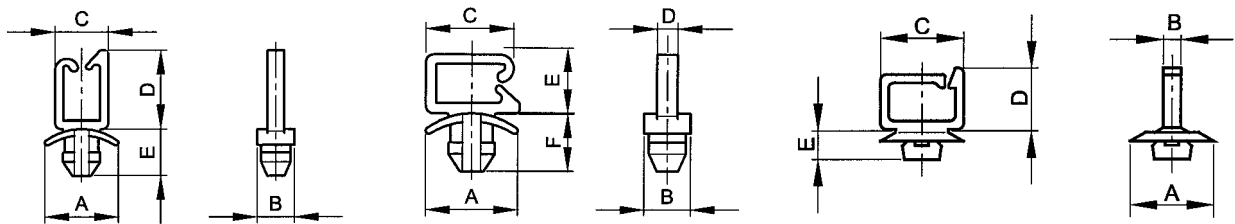
| d           | ☒  | Art.number                    | d           | ☒  | Art.number                    | d           | ☒  | Art.number                    |
|-------------|----|-------------------------------|-------------|----|-------------------------------|-------------|----|-------------------------------|
| 8,0-9,2MM   | 50 | <a href="#">56672.008.009</a> | 15,0-17,2MM | 50 | <a href="#">56672.015.017</a> | 25,0-28,0MM | 25 | <a href="#">56672.025.028</a> |
| 9,2-10,5MM  | 50 | <a href="#">56672.009.011</a> | 17,0-18,5MM | 25 | <a href="#">56672.017.019</a> | 27,0-30,0MM | 25 | <a href="#">56672.027.030</a> |
| 10,2-12,0MM | 50 | <a href="#">56672.010.012</a> | 18,2-20,5MM | 25 | <a href="#">56672.018.021</a> | 29,5-32,5MM | 10 | <a href="#">56672.029.033</a> |
| 12,0-13,5MM | 50 | <a href="#">56672.012.014</a> | 20,5-23,0MM | 25 | <a href="#">56672.020.023</a> | 32,5-35,5MM | 10 | <a href="#">56672.032.035</a> |
| 12,8-15,0MM | 50 | <a href="#">56672.012.015</a> | 22,0-25,0MM | 25 | <a href="#">56672.022.025</a> | 35,0-38,5MM | 10 | <a href="#">56672.035.038</a> |

**Push mount wire saddle clip**



**Technical data**

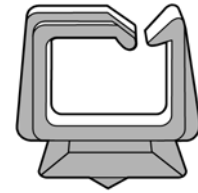
| No.                | 0320    | 1590    | 1752   |
|--------------------|---------|---------|--------|
| Type               | 1       | 2       | 3      |
| Max. cable ø       | 8       | 5       | 7      |
| A                  | 13,4    | 12,4    | 12     |
| B                  | 5,7     | 5,5     | 3,5    |
| C                  | 11      | 11,9    | 17     |
| D                  | 13      | 2,4     | 11,4   |
| E                  | 7,8     | 8,5     | 3,8    |
| F                  | -       | 7,5     | -      |
| Hole ø/□           | 4,8 ø   | 4,8 ø   | 4,25 □ |
| Material thickness | 0,4-1,5 | 0,4-1,8 | 0,5-1  |



TYPE 1



TYPE 2

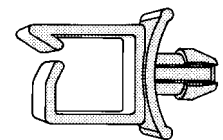


TYPE 3

**56840 Push mount wire saddle clip**

W05B

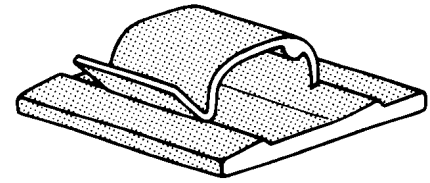
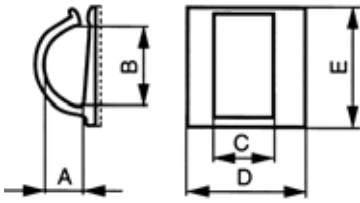
**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** White  
**Packaging** Standard



| No.          | ☒   | Art.number                    | No. | ☒ | Art.number | No. | ☒ | Art.number |
|--------------|-----|-------------------------------|-----|---|------------|-----|---|------------|
| 0320 NATURAL | 100 | <a href="#">56840.032.001</a> |     |   |            |     |   |            |
| 1590 NATURAL | 100 | <a href="#">56840.159.001</a> |     |   |            |     |   |            |

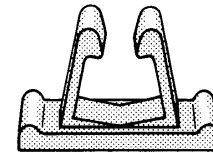
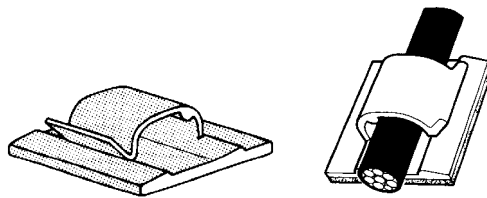
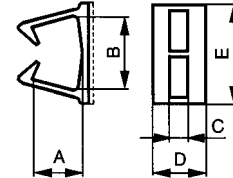
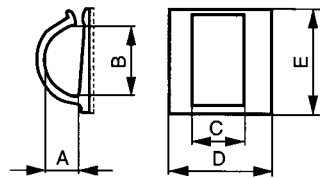


**Cable clip self adhesive**



**Technical data**

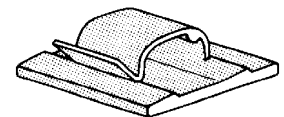
| No.          | 1030 | 1061 | 1087 | 1818 | 2748 |
|--------------|------|------|------|------|------|
| Type         | 1    | 1    | 1    | 1    | 2    |
| Max. cable ø | 8    | 16   | 5    | 8    | 6,5  |
| A            | 7    | 13,5 | 4    | 8    | 6,4  |
| B            | 11,7 | 21   | 4,6  | 11,7 | 8    |
| C            | 12,4 | 25,4 | 9,5  | 9,5  | 5,5  |
| D            | 25,4 | 31,8 | 16   | 19   | 8,8  |
| E            | 25,4 | 31,8 | 16   | 19   | 18   |



TYPE 1

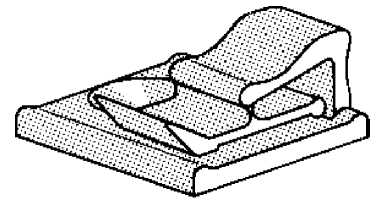
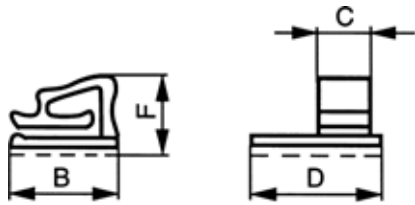
TYPE 2

| 56835 Cable clip self adhesive |                           | W05B |  |
|--------------------------------|---------------------------|------|--|
| Material                       | Plastic Polyamide (nylon) |      |  |
| Class                          | PA 6.6                    |      |  |
| Colour                         | White                     |      |  |
| Packaging                      | Standard                  |      |  |



| No.          | ✉   | Art.number                    | No.          | ✉   | Art.number                    | No.          | ✉   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 1030 NATURAL | 100 | <a href="#">56835.103.001</a> | 1087 NATURAL | 100 | <a href="#">56835.108.701</a> | 2748 NATURAL | 100 | <a href="#">56835.274.801</a> |
| 1061 NATURAL | 100 | <a href="#">56835.106.101</a> | 1818 NATURAL | 100 | <a href="#">56835.181.801</a> |              |     |                               |

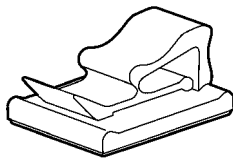
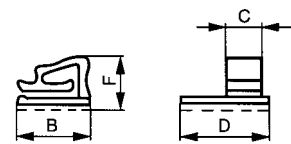
**Flat cable clip self adhesive**



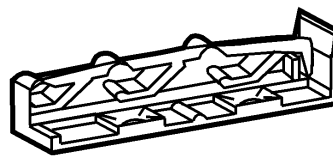
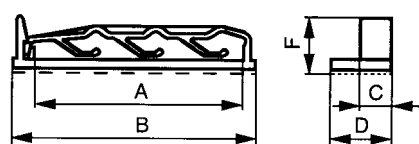
**Technical data**

| No. | 2622 | 7122 | 7255 |
|-----|------|------|------|
| A   | -    | 51   | -    |
| B   | 16   | 62   | 16   |
| C   | 7    | 8    | 7    |
| D   | 16   | 16   | 16   |
| F   | 10   | 14   | 10   |

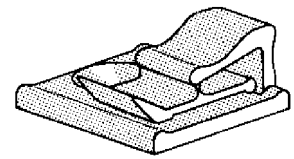
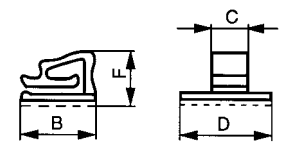
• 2622 - 7122 = With hole in bottom plate.



No. 2622



No. 7122

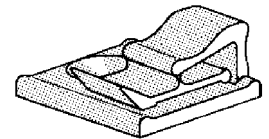


No. 7255

**56832 Flat cable clip self adhesive**

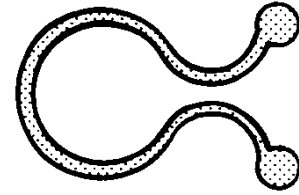
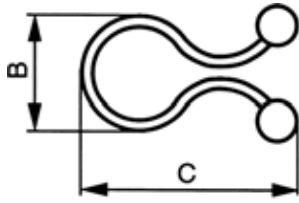
**W05B**

**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** White  
**Packaging** Standard



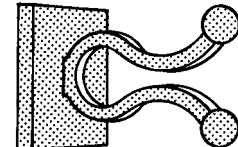
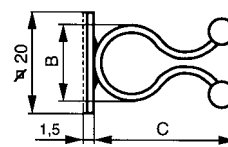
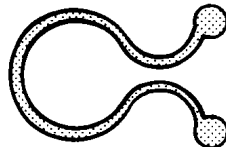
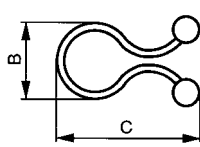
| No.          | ☒   | Art.number                    | No.          | ☒  | Art.number                    | No.          | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|----|-------------------------------|--------------|-----|-------------------------------|
| 2622 NATURAL | 100 | <a href="#">56832.262.201</a> | 7122 NATURAL | 50 | <a href="#">56832.712.201</a> | 7255 NATURAL | 100 | <a href="#">56832.725.501</a> |

**Driller**



**Technical data**

| No.  | Type | Cable ø | B    | C  |
|------|------|---------|------|----|
| 0787 | 1    | 4-6,9   | 8,5  | 20 |
| 0788 | 1    | 7-9,5   | 12,5 | 25 |
| 0789 | 1    | 10-12,5 | 15   | 30 |
| 0794 | 1    | 17-20   | 23   | 40 |
| 0960 | 2    | 7-9,5   | 12   | 25 |
| 1334 | 3    | 7,5-10  | 11,9 | 25 |
| 1650 | 2    | 13,5-16 | 19   | 35 |
| 1651 | 2    | 17-20   | 23   | 40 |
| 1652 | 2    | 25-27,5 | 30   | 46 |



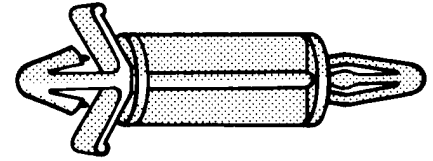
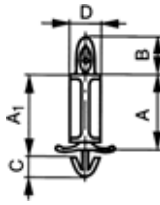
Type 1; with sharp profile  
Type 2; with rounded profile

Type 3; with self-adhesive mount

|                      |  |                           |  |  |  |             |
|----------------------|--|---------------------------|--|--|--|-------------|
| <b>56837 Driller</b> |  |                           |  |  |  | <b>W05B</b> |
| <b>Material</b>      |  | Plastic Polyamide (nylon) |  |  |  |             |
| <b>Class</b>         |  | PA 6.6                    |  |  |  |             |
| <b>Packaging</b>     |  | Standard                  |  |  |  |             |

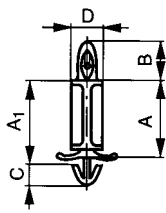
| Nr. colour   | ☒   | Art.number                    | Nr. colour         | ☒   | Art.number                    | Nr. colour   | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 0787 NATURAL | 100 | <a href="#">56837.078.701</a> | 0794 BLACK         | 100 | <a href="#">56837.079.402</a> | 1650 BLACK   | 100 | <a href="#">56837.165.002</a> |
| 0788 NATURAL | 100 | <a href="#">56837.078.801</a> | 0960 NATURAL       | 100 | <a href="#">56837.096.001</a> | 1651 NATURAL | 100 | <a href="#">56837.165.101</a> |
| 0788 BLACK   | 100 | <a href="#">56837.078.802</a> | 1334 NATURAL       | 100 | <a href="#">56837.133.401</a> | 1652 NATURAL | 100 | <a href="#">56837.165.201</a> |
| 0789 NATURAL | 100 | <a href="#">56837.078.901</a> | 1334 SELF-ADHESIVE | 100 | <a href="#">56837.133.402</a> |              |     |                               |
| 0794 NATURAL | 100 | <a href="#">56837.079.401</a> | 1650 NATURAL       | 100 | <a href="#">56837.165.001</a> |              |     |                               |

**Spacer**

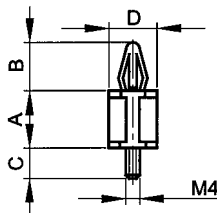


**Technical data**

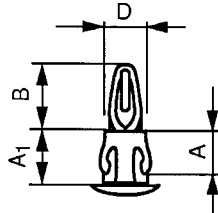
| No.                   | 7061  | 7062  | 7065  | 7066  | 7112    | 7115    | 7192  | 7193  |
|-----------------------|-------|-------|-------|-------|---------|---------|-------|-------|
| Type                  | 1     | 1     | 3     | 3     | 5       | 6       | 2     | 2     |
| A                     | 4,8   | 6,4   | 6,4   | 7,9   | 13,2    | 10,2    | 9,5   | 6,4   |
| A <sub>1</sub>        | 8,4   | 9,9   | 7,9   | 9,5   | 19,6    | 13,2    | -     | -     |
| B                     | 10    | 10    | 9,5   | 9,5   | 4       | 10      | 10    | 10    |
| C                     | 5,5   | 5,5   | 1,5   | 1,5   | 4       | 7       | 6,4   | 6,4   |
| D ø                   | 7     | 7     | 5,8   | 5,8   | 10      | 7,1     | 9     | 9     |
| Print plate thickness | 1,6   | 1,6   | 1,6   | 1,6   | 1,4-1,8 | 0,8-2,5 | 1,6   | 1,6   |
| Print plate hole ø    | 4     | 4     | 4     | 4     | 4,9     | 3,5     | 4     | 4     |
| Base plate thickness  | 0,4-2 | 0,4-2 | 1,6   | 1,6   | 1,4-1,8 | 0,8-3   | 0,4-3 | 0,4-3 |
| Base plate hole ø/□   | 4,8 ø | 4,8 ø | 6,3 □ | 6,3 □ | 4,9 ø   | 4,8 ø   | 4 ø   | 4 ø   |



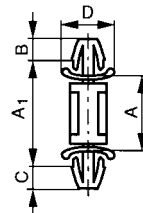
TYPE 1



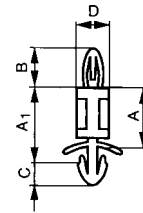
TYPE 2



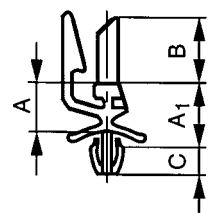
TYPE 3



TYPE 5

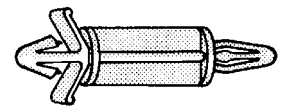


TYPE 6



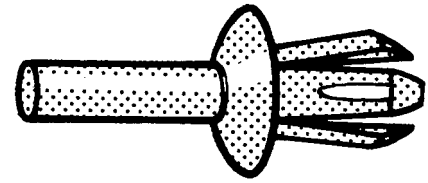
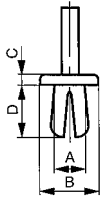
TYPE 10

|                  |                           |  |             |
|------------------|---------------------------|--|-------------|
| <b>56839</b>     | <b>Spacer</b>             |  | <b>W05B</b> |
| <b>Material</b>  | Plastic Polyamide (nylon) |  |             |
| <b>Class</b>     | PA 6.6                    |  |             |
| <b>Colour</b>    | White                     |  |             |
| <b>Packaging</b> | Standard                  |  |             |



| No.          | ☒   | Art.number                    | No.          | ☒   | Art.number                    | No.          | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 7061 NATURAL | 100 | <a href="#">56839.706.101</a> | 7112 NATURAL | 100 | <a href="#">56839.711.201</a> | 7193 NATURAL | 100 | <a href="#">56839.719.301</a> |
| 7062 NATURAL | 100 | <a href="#">56839.706.201</a> | 7115 NATURAL | 100 | <a href="#">56839.711.501</a> |              |     |                               |
| 7065 NATURAL | 100 | <a href="#">56839.706.501</a> | 7192 NATURAL | 100 | <a href="#">56839.719.201</a> |              |     |                               |

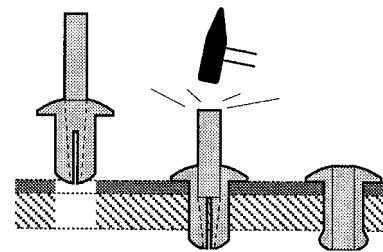
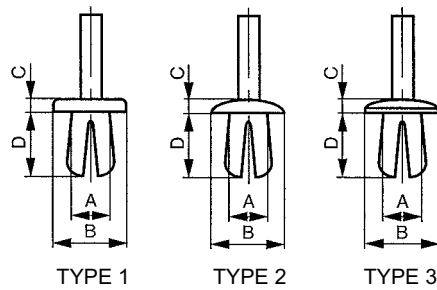
**Drive rivet**



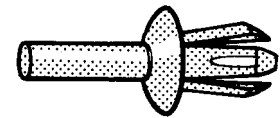
**Technical data**

| No.                | 0164    | 0756    | 0765    | 0780     | 1283    | 7005  |
|--------------------|---------|---------|---------|----------|---------|-------|
| Type               | 1       | 2       | 1       | 1        | 3       | 3     |
| A ø                | 4,2     | 3,5     | 6,2     | 4,8      | 4,8     | 3,8   |
| B ø                | 6       | 6,3     | 11      | 8,7      | 7,1     | 7,5   |
| C                  | 1,5     | 1,8     | 2       | 2,5      | 1,2     | 1,3   |
| D                  | 5       | 6,6     | 12,3    | 7,4      | 11,1    | 8,2   |
| Material thickness | 1-3,5   | 3,2-4,8 | 5,5-9,5 | 1,6-4,75 | 4-8,7   | 4-6,5 |
| Hole ø             | 4,3-4,8 | 3,4-3,6 | 6,4-7   | 4,75     | 4,8-5,4 | 4-4,2 |

- Larger diameter is recommended with use in thick sheet materials.
- It is recommended that the exact diameter selection is made on basis of tests.

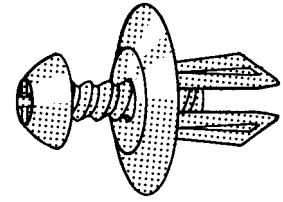
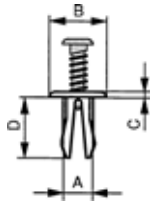


| 56819 Drive rivet |                           | W05B |  |
|-------------------|---------------------------|------|--|
| Material          | Plastic Polyamide (nylon) |      |  |
| Class             | PA 6.6                    |      |  |
| Packaging         | Standard                  |      |  |



| Nr. colour   | ☒   | Art.number                    | Nr. colour   | ☒   | Art.number                    | Nr. colour   | ☒   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 0164 NATURAL | 100 | <a href="#">56819.016.401</a> | 0765 BLACK   | 100 | <a href="#">56819.076.502</a> | 1283 BLACK   | 100 | <a href="#">56819.128.302</a> |
| 0756 NATURAL | 100 | <a href="#">56819.075.601</a> | 0780 NATURAL | 100 | <a href="#">56819.078.001</a> | 7005 NATURAL | 100 | <a href="#">56819.700.501</a> |
| 0756 BLACK   | 100 | <a href="#">56819.075.602</a> | 0780 BLACK   | 100 | <a href="#">56819.078.002</a> | 7005 BLACK   | 100 | <a href="#">56819.700.502</a> |
| 0765 NATURAL | 100 | <a href="#">56819.076.501</a> | 1283 NATURAL | 100 | <a href="#">56819.128.301</a> |              |     |                               |

## Screw rivet

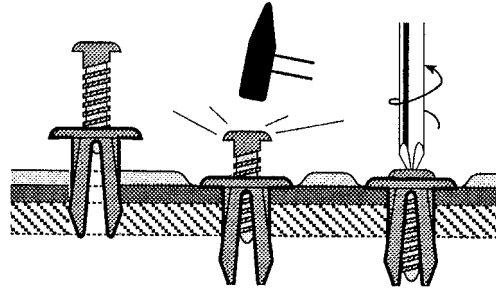


### Technical data

| No.                | 2384 | 2710   | 3008 |
|--------------------|------|--------|------|
| A $\varnothing$    | 6    | 5      | 8    |
| B $\varnothing$    | 16   | 12     | 20   |
| C                  | 1,5  | 1,5    | 1,3  |
| D                  | 11   | 11     | 14   |
| Material thickness | 4    | 3,75-6 | 3-10 |
| Hole $\varnothing$ | 6,5  | 5      | 8    |

- Larger diameter is recommended with use in thick sheet materials.
- It is recommended that the exact diameter selection is made on basis of tests.

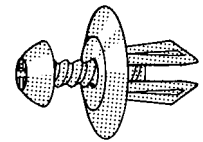
### Assembly data



### 56818 Screw rivet

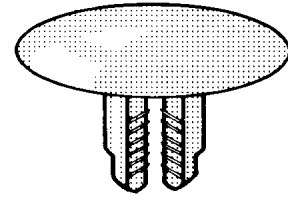
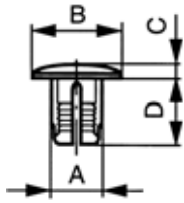
W05B

|           |                           |
|-----------|---------------------------|
| Material  | Plastic Polyamide (nylon) |
| Class     | PA 6.6                    |
| Colour    | Black                     |
| Packaging | Standard                  |



| No.        | ✉   | Art.number                    | No.        | ✉   | Art.number                    | No.        | ✉   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 2384 BLACK | 100 | <a href="#">56818.238.401</a> | 2710 BLACK | 100 | <a href="#">56818.271.001</a> | 3008 BLACK | 100 | <a href="#">56818.300.801</a> |

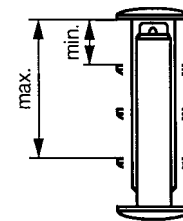
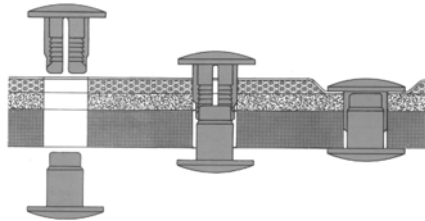
## Ratched rivet



### Technical data

| No.                | 7012     | 7013      | 7015  |
|--------------------|----------|-----------|-------|
| A $\varnothing$    | 7        | 7         | 7     |
| B $\varnothing$    | 19,1     | 19,1      | 10,3  |
| C                  | 2,4      | 2,4       | 1,6   |
| D                  | 8,7      | 12,4      | 5,7   |
| Hole               | 7,1      | 7,1       | 7,1   |
| Material thickness | 8,8-12,7 | 12,7-20,6 | 6-7,5 |

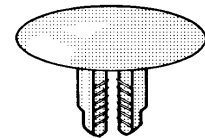
### Assembly data



### 56830 Ratched rivet

W05B

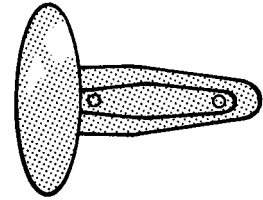
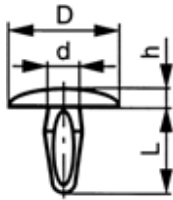
**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** White  
**Packaging** Standard



| No.          | ✉   | Art.number                    | No.          | ✉   | Art.number                    | No.          | ✉   | Art.number                    |
|--------------|-----|-------------------------------|--------------|-----|-------------------------------|--------------|-----|-------------------------------|
| 7012 NATURAL | 100 | <a href="#">56830.701.201</a> | 7013 NATURAL | 100 | <a href="#">56830.701.301</a> | 7015 NATURAL | 100 | <a href="#">56830.701.501</a> |

- ATTENTION: packing per 100 pieces = 50 connections

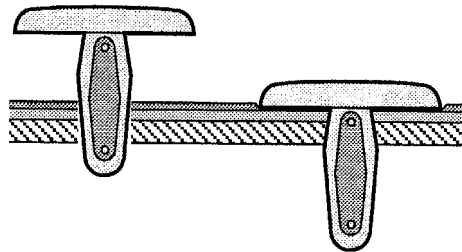
## Push rivet (Canoe clip)



### Technical data

| No.                | 0001 | 0130 | 0796 | 1840    | 1854  |
|--------------------|------|------|------|---------|-------|
| D ø                | 14   | 14   | 14   | 7,9     | 9,5   |
| d ø                | 4,7  | 6    | 4,6  | 2,6     | 4,6   |
| L                  | 15   | 19   | 14,5 | 12,3    | 11,1  |
| h                  | 2,2  | 2,5  | 3    | 1,3     | 1,5   |
| Hole ø             | 4,8  | 6    | 5    | 2,7     | 4,8   |
| Material thickness | 3-6  | 3-7  | 2    | 0,8-3,6 | 0,8-4 |

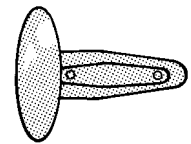
### Assembly data



### 56824 Push rivet (Canoe clip)

**W05B**

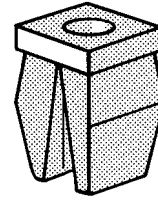
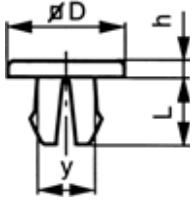
**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Packaging** Standard



| No. colour | ☒   | Art.number                    | No. colour   | ☒   | Art.number                    | No. colour | ☒   | Art.number                    |
|------------|-----|-------------------------------|--------------|-----|-------------------------------|------------|-----|-------------------------------|
| 0001 BLACK | 100 | <a href="#">56824.000.101</a> | 0796 WHITE   | 100 | <a href="#">56824.079.602</a> | 1854 BLACK | 100 | <a href="#">56824.185.402</a> |
| 0130 WHITE | 100 | <a href="#">56824.013.001</a> | 1840 BLACK   | 100 | <a href="#">56824.184.001</a> |            |     |                               |
| 0796 BLACK | 100 | <a href="#">56824.079.601</a> | 1854 NATURAL | 100 | <a href="#">56824.185.401</a> |            |     |                               |

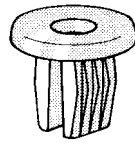
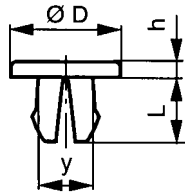


**Grommet**

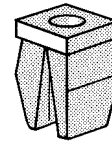
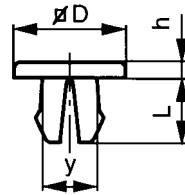


**Technical data**

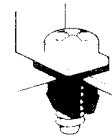
| No.                | 0012  | 0013  | 0048           | 0916    | 1378  | 1937   |
|--------------------|-------|-------|----------------|---------|-------|--------|
| Type               | 1     | 1     | 1              | 2       | 2     | 1      |
| D ø/□              | 13 ø  | 9,5 ø | 12 ø           | 10 □    | 5,6 □ | 12,7 ø |
| Y                  | 6,9   | 6,9   | 6,9            | 5,6     | 4,3   | 6,9    |
| L                  | 8,3   | 8,3   | 8,2            | 8       | 5,6   | 8,2    |
| h                  | 1,5   | 1,2   | 0,8            | 3       | 1,3   | 2,5    |
| Hole ø/□           | 7 □   | 7 □   | 6,5x8 - 6,5x13 | 6 ø     | 4,3 □ | 7 □    |
| Material thickness | 0,8-4 | 0,8-4 | 0,8-4          | 0,8-4,5 | 0,8-2 | 0,8-4  |
| For screw          | ST4,2 | ST4,2 | ST4,2          | ST4,2   | ST2,9 | ST4,2  |



TYPE 1



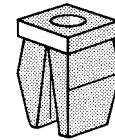
TYPE 2



**56210 Grommet**

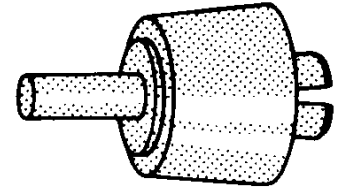
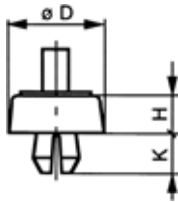
**W05B**

Material Plastic Polyamide (nylon)  
Class PA 6.6  
Colour Natural  
Packaging Standard



| No.  | ☒   | Art.number                    | No.  | ☒   | Art.number                    | No. | ☒ | Art.number |
|------|-----|-------------------------------|------|-----|-------------------------------|-----|---|------------|
| 0012 | 100 | <a href="#">56210.012.001</a> | 0916 | 100 | <a href="#">56210.091.601</a> |     |   |            |
| 0013 | 100 | <a href="#">56210.013.001</a> | 1378 | 100 | <a href="#">56210.137.801</a> |     |   |            |

**Glide**

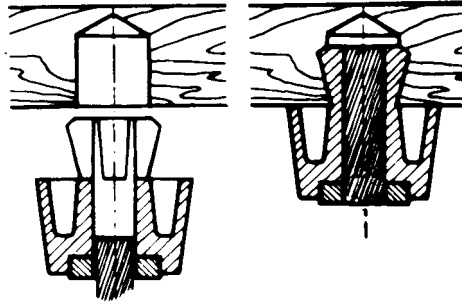


**Technical data**

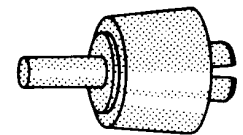
| No.                | 0897     | 1024    | 1162  | 1806    | 2243    |
|--------------------|----------|---------|-------|---------|---------|
| D ø                | 17       | 16      | 12    | 16      | 21      |
| K                  | 4        | 7       | 5,5   | 8       | 7       |
| H                  | 10,5+0,5 | 6,5+0,5 | 3,6   | 12      | 15      |
| Hole ø steel       | 7+0,1    | 7+0,2   | 6+0,2 | 7,7+0,1 | 7,7+0,1 |
| Hole ø wood        | 7+0,2    | 7+0,2   | 6+0,2 | 8+0,1   | 8+0,2   |
| Material thickness | 1-2,5    | 1,5-3   | 0,8-2 | 0,9-1,5 | 0,8-4   |

- Material no. 0897: polystyrol, other numbers polyamide PA 6.6

**Assembly data**

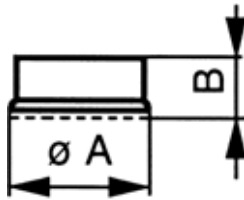


| 56843 Glide |                           | W05B |  |
|-------------|---------------------------|------|--|
| Material    | Plastic Polyamide (nylon) |      |  |
| Class       | PA 6.6                    |      |  |
| Colour      | Black                     |      |  |
| Packaging   | Standard                  |      |  |



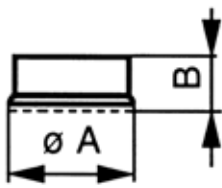
| No.        | ☒  | Art.number                    | No.        | ☒  | Art.number                    | No.        | ☒  | Art.number                    |
|------------|----|-------------------------------|------------|----|-------------------------------|------------|----|-------------------------------|
| 0897 BLACK | 50 | <a href="#">56843.089.701</a> | 1162 BLACK | 50 | <a href="#">56843.116.201</a> | 2243 BLACK | 50 | <a href="#">56843.224.301</a> |
| 1024 BLACK | 50 | <a href="#">56843.102.401</a> | 1806 BLACK | 50 | <a href="#">56843.180.601</a> |            |    |                               |

**Bumper self adhesive**

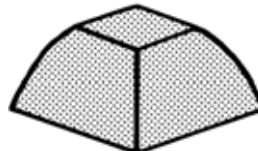
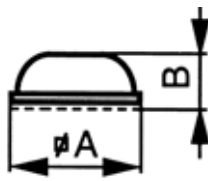


**Technical data**

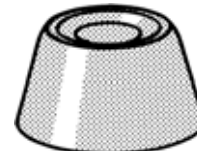
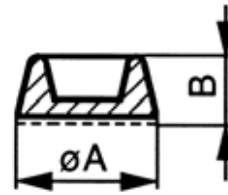
| No.  | Type | A $\varnothing$ /□ | B    |
|------|------|--------------------|------|
| 7220 | 1    | 12,7 $\varnothing$ | 3,5  |
| 7224 | 1    | 12,7 $\varnothing$ | 1,5  |
| 7229 | 3    | 22,3 $\varnothing$ | 10,2 |
| 7231 | 2    | 20,6 □             | 7,6  |
| 7239 | 2    | 12,7 □             | 3,0  |



TYPE 1



TYPE 2



TYPE 3

**56890 Bumper self adhesive**

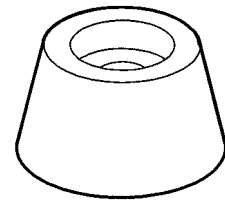
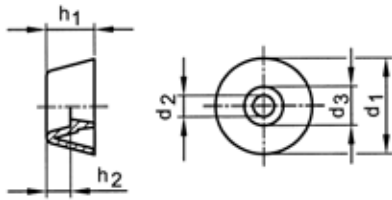
W05B

**Material** Plastic Polyurethane  
**Colour** Black  
**Packaging** Standard



| No.        | ✉   | Art.number                    | No.        | ✉   | Art.number                    | No.        | ✉   | Art.number                    |
|------------|-----|-------------------------------|------------|-----|-------------------------------|------------|-----|-------------------------------|
| 7220 BLACK | 100 | <a href="#">56890.722.001</a> | 7229 BLACK | 100 | <a href="#">56890.722.901</a> | 7239 BLACK | 100 | <a href="#">56890.723.901</a> |
| 7224 BLACK | 100 | <a href="#">56890.722.401</a> | 7231 BLACK | 100 | <a href="#">56890.723.101</a> |            |     |                               |

**Protective buffer**



**Technical data**

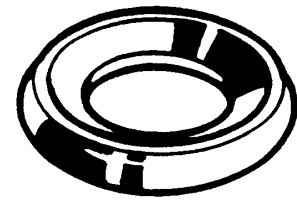
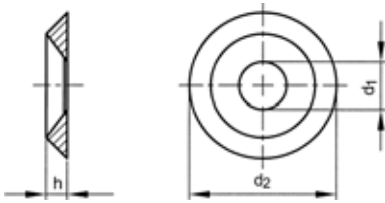
|    |     |     |      |     |
|----|-----|-----|------|-----|
| d1 | 15  | 20  | 25   | 30  |
| d2 | 3,2 | 4,3 | 4,3  | 5,3 |
| d3 | 6   | 8   | 10   | 12  |
| h1 | 7,5 | 10  | 12,5 | 15  |
| h2 | 4   | 5   | 6,5  | 7,5 |

- Specific features of protective buffers:
- Soft yet very strong flexible buffer.
- For mounting in iron work, sliding facades and such.
- Low buildingheight and tight neat finish
- Simple mounting with single screw connection or drive rivet

|                                |                           |             |
|--------------------------------|---------------------------|-------------|
| <b>56799 Protective buffer</b> |                           | <b>W05E</b> |
| <b>Material</b>                | Plastic Polyvinylchloride |             |
| <b>Colour</b>                  | Black                     |             |
| <b>Packaging</b>               | Standard                  |             |

| d1   | ☒  | Art.number                    | d1   | ☒  | Art.number                    | d1 | ☒ | Art.number |
|------|----|-------------------------------|------|----|-------------------------------|----|---|------------|
| 15MM | 25 | <a href="#">56799.150.001</a> | 25MM | 25 | <a href="#">56799.250.001</a> |    |   |            |
| 20MM | 25 | <a href="#">56799.200.001</a> | 30MM | 25 | <a href="#">56799.300.001</a> |    |   |            |

## Rosette closed model PA




### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | h   |
|--------------|----------------|----------------|-----|
| M3           | 3,2            | 10,2           | 2,8 |
| M4           | 4,3            | 12             | 3,2 |
| M5           | 5,3            | 14             | 3,8 |
| M6           | 6,4            | 16             | 4,5 |

### Article groups

| Material   | Class  | Colour | Packaging | Code  | Page   |
|------------|--------|--------|-----------|-------|--------|
| Plastic PA | PA 6.6 | White  | Standard  | 56680 | 12-143 |
| Plastic PA | PA 6.6 | Black  | Standard  | 56690 | 12-143 |

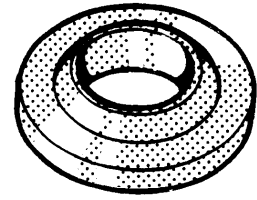
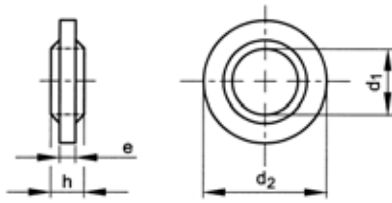
| 56680 Rosette closed model PA |                           | W02A   |
|-------------------------------|---------------------------|--|
| <b>Material</b>               | Plastic Polyamide (nylon) |  |
| <b>Class</b>                  | PA 6.6                    |  |
| <b>Colour</b>                 | White                     |  |
| <b>Packaging</b>              | Standard                  |  |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|---|------------|
| M3            | 100 | <a href="#">56680.030.001</a> | M5            | 50 | <a href="#">56680.050.001</a> |               |   |            |
| M4            | 50  | <a href="#">56680.040.001</a> | M6            | 25 | <a href="#">56680.060.001</a> |               |   |            |

| 56690 Rosette closed model PA |                           | W02A  |
|-------------------------------|---------------------------|---|
| <b>Material</b>               | Plastic Polyamide (nylon) |  |
| <b>Class</b>                  | PA 6.6                    |   |
| <b>Colour</b>                 | Black                     |   |
| <b>Packaging</b>              | Standard                  |   |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|---|------------|
| M3            | 100 | <a href="#">56690.030.001</a> | M5            | 50 | <a href="#">56690.050.001</a> |               |   |            |
| M4            | 50  | <a href="#">56690.040.001</a> | M6            | 25 | <a href="#">56690.060.001</a> |               |   |            |

## Retaining washer



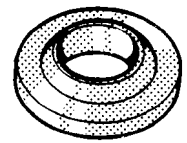
### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | h   | e   |
|--------------|----------------|----------------|-----|-----|
| M3           | 3,1            | 7              | 12  | 0,6 |
| M4           | 4,2            | 9              | 2,8 | 1,2 |
| M5           | 5,2            | 10,6           | 3   | 1,4 |
| M6           | 6,1            | 12             | 3,8 | 1,6 |
| M8           | 8,1            | 16,2           | 4   | 1,8 |
| M10          | 10,2           | 19,6           | 5   | 2,1 |
| M12          | 12,1           | 22             | 5   | 2,2 |
| M14          | 14,2           | 25,4           | 5,5 | 2,4 |
| M16          | 16,2           | 29,4           | 6,2 | 2,5 |
| M18          | 218,2          | 32             | 6,8 | 2,5 |
| M20          | 20,3           | 35,7           | 7   | 2,7 |

### 56770 Retaining washer

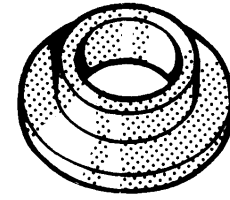
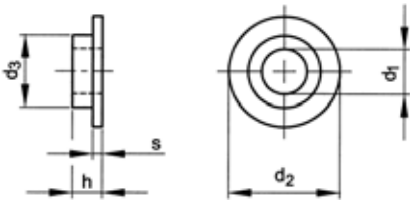
W02A

**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** White  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M3            | 100 | <a href="#">56770.030.001</a> | M8            | 50 | <a href="#">56770.080.001</a> | M16           | 25 | <a href="#">56770.160.001</a> |
| M4            | 100 | <a href="#">56770.040.001</a> | M10           | 50 | <a href="#">56770.100.001</a> | M20           | 10 | <a href="#">56770.200.001</a> |
| M5            | 100 | <a href="#">56770.050.001</a> | M12           | 50 | <a href="#">56770.120.001</a> |               |    |                               |
| M6            | 100 | <a href="#">56770.060.001</a> | M14           | 25 | <a href="#">56770.140.001</a> |               |    |                               |

## Shoulder washer



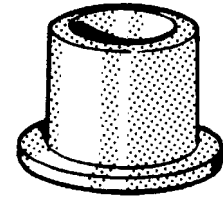
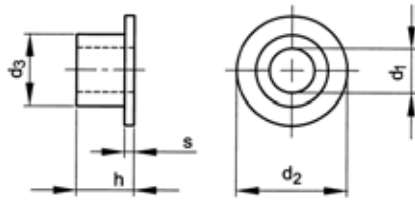
### Technical data

| For nom.size | M3  | M4  | M5  | M6   |
|--------------|-----|-----|-----|------|
| $d_1$        | 3,1 | 4,3 | 5   | 6,5  |
| $d_2$        | 8,1 | 12  | 12  | 15,8 |
| $d_3$        | 6,1 | 6,5 | 9   | 9,6  |
| $h$          | 2   | 2,6 | 4,9 | 4,4  |
| $s$          | 1,2 | 1,5 | 2   | 1,6  |

| 56710 Shoulder washer |                           | W02A |
|-----------------------|---------------------------|------|
| <b>Material</b>       | Plastic Polyamide (nylon) |      |
| <b>Class</b>          | PA 6.6                    |      |
| <b>Colour</b>         | White                     |      |
| <b>Packaging</b>      | Standard                  |      |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒ | Art.number |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|---|------------|
| M3            | 100 | <a href="#">56710.030.001</a> | M5            | 100 | <a href="#">56710.050.001</a> |               |   |            |
| M4            | 100 | <a href="#">56710.040.001</a> | M6            | 50  | <a href="#">56710.060.001</a> |               |   |            |

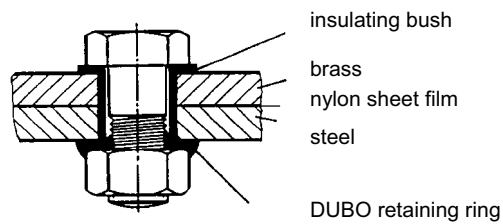
## Insulating bush



### Technical data

| For nom.size | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | h    | s   |
|--------------|----------------|----------------|----------------|------|-----|
| M5           | 5              | 10,5           | 8,5            | 4,8  | 1,5 |
| M6           | 6,1            | 12,2           | 8              | 6    | 2   |
| M8           | 8,1            | 20             | 14,2           | 11,9 | 2,6 |
| M10          | 10,1           | 19,8           | 14,9           | 11,8 | 2,6 |
| M12          | 12,1           | 23,9           | 17,7           | 15,6 | 2,6 |
| M14          | 14,1           | 25,9           | 19,8           | 17,8 | 2,7 |
| M16          | 16,1           | 27,7           | 21,7           | 19,7 | 3,1 |
| M20          | 20,1           | 31,9           | 26,7           | 23,9 | 3,1 |

### Example of insulation against contactcorrosion of a boltjoint

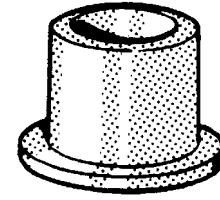
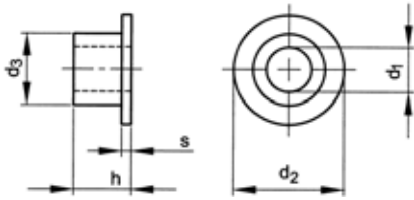


| 56760 Insulating bush |                           | W02A |
|-----------------------|---------------------------|------|
| Material              | Plastic Polyamide (nylon) |      |
| Class                 | PA 6.6                    |      |
| Colour                | White                     |      |
| Packaging             | Standard                  |      |

| For nom. size | ☒   | Art.number                    | For nom. size | ☒  | Art.number                    | For nom. size | ☒  | Art.number                    |
|---------------|-----|-------------------------------|---------------|----|-------------------------------|---------------|----|-------------------------------|
| M5            | 100 | <a href="#">56760.050.001</a> | M10           | 50 | <a href="#">56760.100.001</a> | M16           | 10 | <a href="#">56760.160.001</a> |
| M6            | 100 | <a href="#">56760.060.001</a> | M12           | 50 | <a href="#">56760.120.001</a> | M20           | 10 | <a href="#">56760.200.001</a> |
| M8            | 50  | <a href="#">56760.080.001</a> | M14           | 25 | <a href="#">56760.140.001</a> |               |    |                               |



## Slide bearing



### Technical data

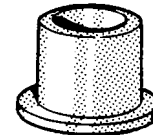
| d1 | d2 | d3 | h  | s   |
|----|----|----|----|-----|
| 3  | 8  | 5  | 7  | 2   |
| 4  | 9  | 6  | 8  | 2   |
| 5  | 11 | 8  | 10 | 2   |
| 6  | 12 | 9  | 11 | 2   |
| 8  | 16 | 11 | 13 | 2   |
| 10 | 18 | 13 | 15 | 2   |
| 12 | 21 | 16 | 19 | 2   |
| 14 | 28 | 18 | 21 | 3   |
| 16 | 28 | 20 | 22 | 2,5 |
| 18 | 30 | 22 | 25 | 2,5 |
| 20 | 30 | 24 | 26 | 2   |
| 25 | 37 | 30 | 30 | 2,5 |
| 28 | 40 | 33 | 33 | 2,5 |
| 30 | 42 | 35 | 35 | 2,5 |
| 32 | 45 | 38 | 38 | 3   |
| 40 | 55 | 46 | 46 | 3   |
| 50 | 67 | 56 | 50 | 3,5 |
| 60 | 81 | 68 | 50 | 4   |

- Specific features of slide bearings:
- Manufactured out of self-lubricating nylon 6.6 and designed with buffercollar
- Insensitive to dirt, weatherinfluences and most chemicals
- Extremely fit for soundless hinges, low R.P.M. machines
- Also electric insulating between axle and bearinghouse
- Suitable for h6-H7 fitting
- After assembly bearing clearance approx 1% of the shaft diameter

### 56806 Slide bearing

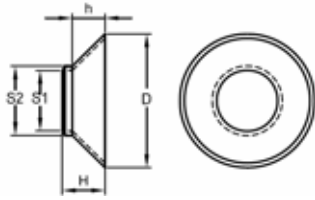
W03E

|                  |                           |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | Natural                   |
| <b>Packaging</b> | Standard                  |



| d1   | ☒   | Art.number                    | d1   | ☒   | Art.number                    | d1   | ☒  | Art.number                    |
|------|-----|-------------------------------|------|-----|-------------------------------|------|----|-------------------------------|
| 3MM  | 100 | <a href="#">56806.030.001</a> | 12MM | 100 | <a href="#">56806.120.001</a> | 28MM | 10 | <a href="#">56806.280.001</a> |
| 4MM  | 100 | <a href="#">56806.040.001</a> | 14MM | 100 | <a href="#">56806.140.001</a> | 30MM | 10 | <a href="#">56806.300.001</a> |
| 5MM  | 100 | <a href="#">56806.050.001</a> | 16MM | 100 | <a href="#">56806.160.001</a> | 32MM | 10 | <a href="#">56806.320.001</a> |
| 6MM  | 100 | <a href="#">56806.060.001</a> | 18MM | 50  | <a href="#">56806.180.001</a> | 40MM | 5  | <a href="#">56806.400.001</a> |
| 8MM  | 100 | <a href="#">56806.080.001</a> | 20MM | 50  | <a href="#">56806.200.001</a> | 50MM | 5  | <a href="#">56806.500.001</a> |
| 10MM | 100 | <a href="#">56806.100.001</a> | 25MM | 25  | <a href="#">56806.250.001</a> | 60MM | 3  | <a href="#">56806.600.001</a> |

## Insulating bush



### Technical data

| For nom.size | D    | h   | H    | S <sub>1</sub> | S <sub>2</sub> |
|--------------|------|-----|------|----------------|----------------|
| M3           | 8,2  | 1,7 | 3,7  | 3,1            | 4,9            |
| M4           | 10,4 | 2,3 | 4,3  | 4,1            | 5,9            |
| M5           | 12,4 | 2,8 | 4,8  | 5,1            | 6,9            |
| M6           | 14,4 | 3,3 | 5,3  | 6,1            | 7,9            |
| M8           | 18,6 | 4,4 | 6,4  | 8,1            | 9,9            |
| M10          | 22,5 | 5,0 | 10,3 | 10,2           | 12,4           |
| M12          | 26,8 | 6,5 | 8,5  | 12,1           | 13,9           |

### 56767 Insulating bush

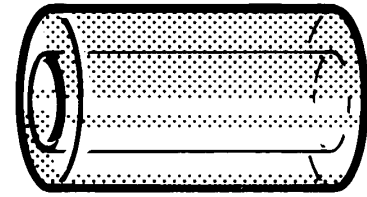
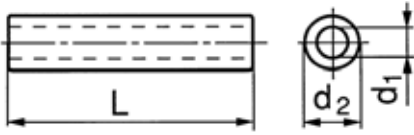
W05E

**Material** Plastic Polyamide (nylon)  
**Class** PA 6.6  
**Colour** Natural  
**Packaging** Standard



| For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    | For nom. size | ☒   | Art.number                    |
|---------------|-----|-------------------------------|---------------|-----|-------------------------------|---------------|-----|-------------------------------|
| M3            | 100 | <a href="#">56767.030.002</a> | M6            | 100 | <a href="#">56767.060.002</a> | M12           | 100 | <a href="#">56767.120.002</a> |
| M4            | 100 | <a href="#">56767.040.002</a> | M8            | 100 | <a href="#">56767.080.002</a> |               |     |                               |
| M5            | 100 | <a href="#">56767.050.002</a> | M10           | 100 | <a href="#">56767.100.002</a> |               |     |                               |


## Spacer



### Technical data

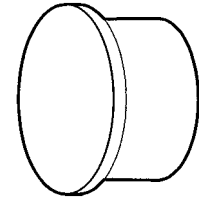
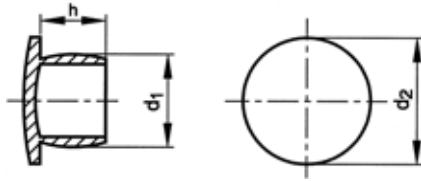
| For nom.size | d <sub>1</sub> | For nom.size | d <sub>1</sub> | For nom.size | d <sub>1</sub> |
|--------------|----------------|--------------|----------------|--------------|----------------|
| 2,5          | 2,6            | 4            | 4,2            | 8            | 8,2            |
| 3            | 3,1            | 5            | 5,2            | 10           | 10,3           |
| 3,5          | 3,6            | 6            | 6,2            | 12           | 12,8           |

| 56800 Spacer     | W02A                      |
|------------------|---------------------------|
| <b>Material</b>  | Plastic Polyamide (nylon) |
| <b>Class</b>     | PA 6.6                    |
| <b>Colour</b>    | White                     |
| <b>Packaging</b> | Standard                  |



| For nom. size x d2 x L | ☒   | Art.number                    | For nom. size x d2 x L | ☒   | Art.number                    | For nom. size x d2 x L | ☒   | Art.number                    |
|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|------------------------|-----|-------------------------------|
| 2,5X4X2MM              | 500 | <a href="#">56800.024.002</a> | 3,5X6X10MM             | 200 | <a href="#">56800.035.010</a> | 8X12X3MM               | 200 | <a href="#">56800.080.003</a> |
| 2,5X5X2MM              | 500 | <a href="#">56800.025.002</a> | 3,5X6X15MM             | 200 | <a href="#">56800.035.015</a> | 8X12X5MM               | 200 | <a href="#">56800.080.005</a> |
| 2,5X5X3MM              | 500 | <a href="#">56800.025.003</a> | 3,5X6X20MM             | 200 | <a href="#">56800.035.020</a> | 8X12X7,5MM             | 200 | <a href="#">56800.080.007</a> |
| 2,5X5X5MM              | 500 | <a href="#">56800.025.005</a> | 3,5X6X25MM             | 200 | <a href="#">56800.035.025</a> | 8X12X10MM              | 200 | <a href="#">56800.080.010</a> |
| 2,5X5X7,5MM            | 500 | <a href="#">56800.025.007</a> | 3,5X6X30MM             | 200 | <a href="#">56800.035.030</a> | 8X12X15MM              | 200 | <a href="#">56800.080.015</a> |
| 2,5X5X10MM             | 500 | <a href="#">56800.025.010</a> |                        |     |                               | 8X12X20MM              | 200 | <a href="#">56800.080.020</a> |
| 2,5X5X15MM             | 500 | <a href="#">56800.025.015</a> | 4X8X2,5MM              | 200 | <a href="#">56800.040.002</a> | 8X12X25MM              | 200 | <a href="#">56800.080.025</a> |
| 2,5X5X20MM             | 500 | <a href="#">56800.025.020</a> | 4X8X3MM                | 200 | <a href="#">56800.040.003</a> | 8X12X30MM              | 200 | <a href="#">56800.080.030</a> |
| 2,5X5X25MM             | 500 | <a href="#">56800.025.025</a> | 4X8X5MM                | 200 | <a href="#">56800.040.005</a> |                        |     |                               |
| 2,5X5X30MM             | 500 | <a href="#">56800.025.030</a> | 4X8X7,5MM              | 200 | <a href="#">56800.040.007</a> | 8X15X15MM              | 200 | <a href="#">56800.081.515</a> |
| 3X5X2MM                | 500 | <a href="#">56800.029.002</a> | 4X8X10MM               | 200 | <a href="#">56800.040.010</a> | 8,2X18X5MM             | 100 | <a href="#">56800.082.005</a> |
| 3X5X3MM                | 500 | <a href="#">56800.029.003</a> | 4X8X15MM               | 200 | <a href="#">56800.040.015</a> | 10X15X3MM              | 200 | <a href="#">56800.100.003</a> |
| 3X5X5MM                | 500 | <a href="#">56800.029.005</a> | 4X8X20MM               | 200 | <a href="#">56800.040.020</a> | 10X15X5MM              | 200 | <a href="#">56800.100.005</a> |
| 3X5X7,5MM              | 500 | <a href="#">56800.029.007</a> | 4X8X25MM               | 200 | <a href="#">56800.040.025</a> | 10X15X7,5MM            | 200 | <a href="#">56800.100.007</a> |
| 3X5X10MM               | 500 | <a href="#">56800.029.010</a> | 4X8X30MM               | 200 | <a href="#">56800.040.030</a> | 10X15X10MM             | 200 | <a href="#">56800.100.010</a> |
| 3X5X15MM               | 500 | <a href="#">56800.029.015</a> |                        |     |                               | 10X15X15MM             | 200 | <a href="#">56800.100.015</a> |
| 3X5X20MM               | 500 | <a href="#">56800.029.020</a> | 5X10X3MM               | 200 | <a href="#">56800.050.003</a> | 10X15X20MM             | 200 | <a href="#">56800.100.020</a> |
| 3X5X25MM               | 500 | <a href="#">56800.029.025</a> | 5X10X5MM               | 200 | <a href="#">56800.050.005</a> | 10X15X25MM             | 200 | <a href="#">56800.100.025</a> |
| 3X5X30MM               | 500 | <a href="#">56800.029.030</a> | 5X10X7,5MM             | 200 | <a href="#">56800.050.007</a> | 10X15X30MM             | 200 | <a href="#">56800.100.030</a> |
|                        |     |                               | 5X10X10MM              | 200 | <a href="#">56800.050.010</a> |                        |     |                               |
| 3X8X2,5MM              | 500 | <a href="#">56800.030.002</a> | 5X10X15MM              | 200 | <a href="#">56800.050.015</a> | 10X22X20MM             | 200 | <a href="#">56800.102.020</a> |
| 3X8X3MM                | 500 | <a href="#">56800.030.003</a> | 5X10X20MM              | 200 | <a href="#">56800.050.020</a> | 12X18X3MM              | 200 | <a href="#">56800.120.003</a> |
| 3X8X5MM                | 500 | <a href="#">56800.030.005</a> | 5X10X25MM              | 200 | <a href="#">56800.050.025</a> | 12X18X5MM              | 200 | <a href="#">56800.120.005</a> |
| 3X8X7,5MM              | 500 | <a href="#">56800.030.007</a> | 5X10X30MM              | 200 | <a href="#">56800.050.030</a> | 12X18X7,5MM            | 200 | <a href="#">56800.120.007</a> |
| 3X8X10MM               | 500 | <a href="#">56800.030.010</a> | 6X10X2,5MM             | 200 | <a href="#">56800.060.002</a> | 12X18X10MM             | 200 | <a href="#">56800.120.010</a> |
| 3X8X15MM               | 500 | <a href="#">56800.030.015</a> | 6X10X3MM               | 200 | <a href="#">56800.060.003</a> | 12X18X15MM             | 200 | <a href="#">56800.120.015</a> |
| 3X8X20MM               | 500 | <a href="#">56800.030.020</a> | 6X10X5MM               | 200 | <a href="#">56800.060.005</a> | 12X18X20MM             | 200 | <a href="#">56800.120.020</a> |
| 3X8X25MM               | 500 | <a href="#">56800.030.025</a> | 6X10X7,5MM             | 200 | <a href="#">56800.060.007</a> | 12X18X25MM             | 200 | <a href="#">56800.120.025</a> |
| 3X8X30MM               | 500 | <a href="#">56800.030.030</a> | 6X10X10MM              | 200 | <a href="#">56800.060.010</a> | 12X18X30MM             | 200 | <a href="#">56800.120.030</a> |
|                        |     |                               | 6X10X15MM              | 200 | <a href="#">56800.060.015</a> |                        |     |                               |
| 3,5X6X3MM              | 200 | <a href="#">56800.035.003</a> | 6X10X20MM              | 200 | <a href="#">56800.060.020</a> |                        |     |                               |
| 3,5X6X5MM              | 200 | <a href="#">56800.035.005</a> | 6X10X25MM              | 200 | <a href="#">56800.060.025</a> |                        |     |                               |
| 3,5X6X7,5MM            | 200 | <a href="#">56800.035.007</a> | 6X10X30MM              | 200 | <a href="#">56800.060.030</a> |                        |     |                               |

## Cover plug



### Technical data

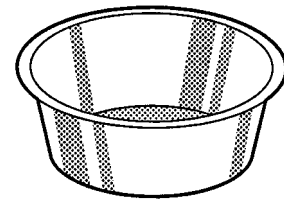
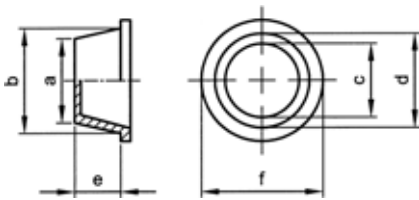
| d1   | d2   | h   | d1   | d2   | h    | d1    | d2   | h    |
|------|------|-----|------|------|------|-------|------|------|
| 2,1  | 3,5  | 7   | 12,8 | 17,5 | 9    | 31,2  | 38   | 13   |
| 2,6  | 12   | 4   | 13,2 | 17,5 | 8    | 33,5  | 41   | 11,5 |
| 2,7  | 12   | 6   | 13,6 | 19   | 8,5  | 34,0  | 40   | 20   |
| 3,3  | 12   | 6   | 14,6 | 18,5 | 9,5  | 35,5  | 47   | 15   |
| 4,4  | 9    | 5,5 | 15,4 | 19   | 8,5  | 36,5  | 47   | 18   |
| 4,7  | 7    | 5   | 15,7 | 19   | 8,5  | 39,5  | 46   | 15   |
| 5,2  | 11   | 6   | 16,8 | 20   | 9    | 42,0  | 44,5 | 13   |
| 5,4  | 12   | 7,5 | 17,2 | 23   | 10   | 43,3  | 50   | 15   |
| 6,0  | 11   | 7   | 18,8 | 21,5 | 9    | 45,5  | 51   | 16   |
| 6,6  | 7,5  | 5   | 19,6 | 26   | 9    | 45,8  | 51   | 16   |
| 7,2  | 11   | 6,5 | 20,0 | 25,5 | 9    | 50,5  | 57   | 14   |
| 7,3  | 11   | 6   | 21,0 | 26   | 13   | 52,0  | 60   | 16   |
| 8,0  | 12   | 7   | 22,3 | 29   | 9    | 55,5  | 60   | 16   |
| 8,5  | 12   | 8   | 23,0 | 27,3 | 19,3 | 58,0  | 63   | 18   |
| 8,8  | 11,5 | 8   | 24,0 | 27   | 12,5 | 61,5  | 74   | 20   |
| 9,3  | 12,5 | 9   | 24,5 | 32   | 13   | 70,0  | 80   | 18   |
| 10,0 | 15   | 9   | 25,0 | 31,5 | 6    | 85,0  | 95   | 18   |
| 10,1 | 12   | 4   | 26,0 | 31,5 | 12   | 110,0 | 130  | 18   |
| 10,7 | 14,5 | 9   | 27,2 | 29,6 | 15   |       |      |      |
| 11,9 | 14,2 | 8   | 28,6 | 34,5 | 15   |       |      |      |

- Accurate cylindrical plug with a good sealing.
- For sealing of temporary drill holes or screwthread holes but also for lengthly protection.
- Great clampability, therefore utmost reliable also in difficult situations.

| 56780 Cover plug |                      | W05E  |
|------------------|----------------------|---|
| <b>Material</b>  | Plastic Polyethylene |  |
| <b>Colour</b>    | Natural              |   |
| <b>Packaging</b> | Standard             |   |

| d1     | ☒   | Art.number                    | d1     | ☒   | Art.number                    | d1      | ☒   | Art.number                    |
|--------|-----|-------------------------------|--------|-----|-------------------------------|---------|-----|-------------------------------|
| 2,1MM  | 100 | <a href="#">56780.021.001</a> | 12,8MM | 100 | <a href="#">56780.128.001</a> | 31,2MM  | 50  | <a href="#">56780.312.001</a> |
| 2,6MM  | 100 | <a href="#">56780.026.001</a> | 13,2MM | 100 | <a href="#">56780.132.001</a> | 33,5MM  | 25  | <a href="#">56780.335.001</a> |
| 2,7MM  | 100 | <a href="#">56780.027.001</a> | 13,6MM | 100 | <a href="#">56780.136.001</a> | 34,0MM  | 25  | <a href="#">56780.340.001</a> |
| 3,3MM  | 100 | <a href="#">56780.033.001</a> | 14,6MM | 100 | <a href="#">56780.146.001</a> | 35,5MM  | 100 | <a href="#">56780.355.001</a> |
| 4,4MM  | 100 | <a href="#">56780.044.001</a> | 15,4MM | 100 | <a href="#">56780.154.001</a> | 36,5MM  | 25  | <a href="#">56780.365.001</a> |
| 4,7MM  | 100 | <a href="#">56780.047.001</a> | 15,7MM | 100 | <a href="#">56780.157.001</a> | 39,5MM  | 25  | <a href="#">56780.395.001</a> |
| 5,2MM  | 100 | <a href="#">56780.052.001</a> | 16,8MM | 100 | <a href="#">56780.168.001</a> | 42,0MM  | 25  | <a href="#">56780.420.001</a> |
| 5,4MM  | 100 | <a href="#">56780.054.001</a> | 17,2MM | 100 | <a href="#">56780.172.001</a> | 43,3MM  | 25  | <a href="#">56780.433.001</a> |
| 6,0MM  | 100 | <a href="#">56780.060.001</a> | 18,8MM | 100 | <a href="#">56780.188.001</a> | 45,5MM  | 25  | <a href="#">56780.455.001</a> |
| 6,6MM  | 100 | <a href="#">56780.066.001</a> | 19,6MM | 100 | <a href="#">56780.196.001</a> | 45,8MM  | 25  | <a href="#">56780.458.001</a> |
| 7,2MM  | 100 | <a href="#">56780.072.001</a> | 20,0MM | 50  | <a href="#">56780.200.001</a> | 50,5MM  | 25  | <a href="#">56780.505.001</a> |
| 7,3MM  | 100 | <a href="#">56780.073.001</a> | 21,0MM | 50  | <a href="#">56780.210.001</a> | 52,0MM  | 25  | <a href="#">56780.520.001</a> |
| 8,0MM  | 100 | <a href="#">56780.080.001</a> | 22,3MM | 50  | <a href="#">56780.223.001</a> | 55,5MM  | 25  | <a href="#">56780.555.001</a> |
| 8,5MM  | 100 | <a href="#">56780.085.001</a> | 23,0MM | 100 | <a href="#">56780.230.001</a> | 58,0MM  | 25  | <a href="#">56780.580.001</a> |
| 8,8MM  | 100 | <a href="#">56780.088.001</a> | 24,0MM | 50  | <a href="#">56780.240.001</a> | 61,5MM  | 25  | <a href="#">56780.615.001</a> |
| 9,3MM  | 100 | <a href="#">56780.093.001</a> | 24,5MM | 50  | <a href="#">56780.245.001</a> | 70,0MM  | 25  | <a href="#">56780.700.001</a> |
| 10,0MM | 100 | <a href="#">56780.100.001</a> | 25,0MM | 50  | <a href="#">56780.250.001</a> | 85,0MM  | 25  | <a href="#">56780.850.001</a> |
| 10,1MM | 100 | <a href="#">56780.101.001</a> | 26,0MM | 50  | <a href="#">56780.260.001</a> | 110,0MM | 25  | <a href="#">56780.960.001</a> |
| 10,7MM | 100 | <a href="#">56780.107.001</a> | 27,2MM | 50  | <a href="#">56780.272.001</a> |         |     |                               |
| 11,9MM | 100 | <a href="#">56780.119.001</a> | 28,6MM | 50  | <a href="#">56780.286.001</a> |         |     |                               |

## Protecting cap and -plug



### Technical data

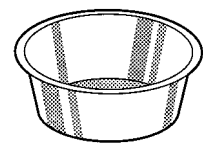
| Type           | a    | b    | c    | d    | e    | f    |
|----------------|------|------|------|------|------|------|
| M4CAP-M6PLUG   | 4,4  | 6,1  | 2,8  | 4,5  | 9,5  | 9,5  |
| M6CAP-M8PLUG   | 6,2  | 7,7  | 5    | 5,9  | 9,5  | 11,1 |
| M8CAP-M10PLUG  | 8,4  | 10   | 6,9  | 8,2  | 9,5  | 13,5 |
| M10CAP-M12PLUG | 10   | 11,3 | 8,5  | 10   | 9,5  | 15   |
| M12CAP         | 12,1 | 13,9 | 10,6 | 12,3 | 11   | 17,5 |
| M14CAP         | 14,2 | 16   | 12,7 | 14,4 | 12,1 | 19   |
| M14PLUG        | 11,5 | 13   | 10   | 11,5 | 9,5  | 16,7 |
| M16PLUG        | 13,6 | 15,4 | 12,1 | 13,7 | 11,2 | 19   |
| M16CAP-M20PLUG | 16,4 | 18,3 | 14,8 | 16,9 | 12,7 | 22,2 |
| M18CAP         | 17,8 | 20   | 16,4 | 18,3 | 14,4 | 23,8 |
| M18PLUG        | 14,7 | 17   | 13,2 | 15,4 | 12,7 | 20,6 |
| M20CAP         | 21,3 | 23,2 | 19,2 | 21,5 | 15,9 | 27   |
| M20PLUG        | 17,7 | 19,6 | 15,2 | 17,3 | 12,7 | 22,2 |
| M22CAP         | 22   | 25   | 20,5 | 23   | 15,9 | 28,5 |
| M22PLUG        | 18,5 | 20,9 | 17,1 | 19,3 | 14,3 | 24,6 |
| M24PLUG        | 21,2 | 23,2 | 19,3 | 21,7 | 12,3 | 27,3 |
| M24CAP-M27PLUG | 23,4 | 26,4 | 21,4 | 24,4 | 17,5 | 29,3 |
| M27CAP-M30PLUG | 24,7 | 27,7 | 23,2 | 26,1 | 19   | 32   |
| M30CAP-M33PLUG | 30   | 32,6 | 27,5 | 30,9 | 15,5 | 36,7 |
| M33CAP-M35PLUG | 31,1 | 34,3 | 29,8 | 32,8 | 19   | 38,1 |
| M35CAP-M36PLUG | 33,3 | 37,2 | 32   | 35,6 | 22,6 | 41,5 |
| M38CAP-M40PLUG | 36,9 | 40,6 | 35   | 39   | 22,5 | 44   |
| M39CAP-M45PLUG | 39,4 | 42,7 | 38,2 | 41,1 | 19   | 47,6 |
| M42CAP-M45PLUG | 41,4 | 44,8 | 39,7 | 43   | 19   | 49,2 |
| M45CAP-M48PLUG | 44,5 | 47,3 | 42,9 | 46,2 | 19   | 50,8 |
| M48PLUG        | 45,2 | 49,5 | 43,6 | 47,9 | 24,5 | 54   |
| M48CAP-M52PLUG | 48,6 | 51,2 | 46,7 | 48,9 | 18,7 | 55,5 |
| M52CAP-M56PLUG | 53,5 | 57   | 51,2 | 55,3 | 25,2 | 62,4 |
| M56CAP-M60PLUG | 54,5 | 61   | 52,2 | 59   | 25   | 65,1 |
| M60CAP-M62PLUG | 59,6 | 62,6 | 57   | 61   | 24,6 | 66,7 |
| M75PLUG        | 70   | 75,8 | 68,1 | 74   | 25,4 | 79,4 |

- The tapered design of these products allows them to be used as either a cap or a plug, providing easy fitting and removal in most applications, they provides excellent protection against damage, dirt, moisture and corrosion, during storage and transportation.
- When used as a plug dimension b should be min. 5% larger than the opening, diameters over 30mm may require more interference.
- When used as a cap dimension c should be min. 5% less than the diameter to be capped, diameters over 30mm may require more interference.

### 56783 Protecting cap and -plug

W05B

**Material** Plastic Polyethylene  
**Colour** Red  
**Packaging** Standard



| Type           | ☒   | Art.number                    | Type           | ☒   | Art.number                    | Type           | ☒  | Art.number                    |
|----------------|-----|-------------------------------|----------------|-----|-------------------------------|----------------|----|-------------------------------|
| M4CAP-M6PLUG   | 500 | <a href="#">56783.040.060</a> | M18PLUG        | 250 | <a href="#">56783.180.002</a> | M38CAP-M40PLUG | 50 | <a href="#">56783.380.400</a> |
| M6CAP-M8PLUG   | 500 | <a href="#">56783.060.080</a> | M20CAP         | 100 | <a href="#">56783.200.000</a> | M39CAP-M45PLUG | 50 | <a href="#">56783.390.450</a> |
| M8CAP-M10PLUG  | 500 | <a href="#">56783.080.100</a> | M20PLUG        | 100 | <a href="#">56783.200.002</a> | M42CAP-M45PLUG | 50 | <a href="#">56783.420.450</a> |
| M10CAP-M12PLUG | 500 | <a href="#">56783.100.120</a> | M22PLUG        | 100 | <a href="#">56783.220.002</a> | M45CAP-M48PLUG | 25 | <a href="#">56783.450.480</a> |
| M12CAP         | 250 | <a href="#">56783.120.000</a> | M24PLUG        | 100 | <a href="#">56783.240.002</a> | M48PLUG        | 25 | <a href="#">56783.480.002</a> |
| M14CAP         | 250 | <a href="#">56783.140.000</a> | M24CAP-M27PLUG | 100 | <a href="#">56783.240.270</a> | M48CAP-M52PLUG | 25 | <a href="#">56783.480.520</a> |
| M14PLUG        | 250 | <a href="#">56783.140.002</a> | M27CAP-M30PLUG | 100 | <a href="#">56783.270.300</a> | M52CAP-M56PLUG | 25 | <a href="#">56783.520.560</a> |
| M16PLUG        | 250 | <a href="#">56783.160.002</a> | M30CAP-M33PLUG | 100 | <a href="#">56783.300.330</a> | M58CAP-M60PLUG | 25 | <a href="#">56783.580.600</a> |
| M16CAP-M20PLUG | 250 | <a href="#">56783.160.200</a> | M33CAP-M35PLUG | 50  | <a href="#">56783.330.350</a> | M60CAP-M62PLUG | 25 | <a href="#">56783.600.620</a> |
| M18CAP         | 250 | <a href="#">56783.180.000</a> | M35CAP-M36PLUG | 50  | <a href="#">56783.350.360</a> | M75PLUG        | 25 | <a href="#">56783.750.002</a> |

## Vertical acting toggle clamp



### Article groups

| Material | Surface treatment |                 | Packaging | Code  | Page   |
|----------|-------------------|-----------------|-----------|-------|--------|
| St       | Zipl              | horizontal base | Standard  | 15900 | 12-152 |
| St       | Zipl              | angle base      | Standard  | 15905 | 12-153 |

#### 15900 Vertical acting toggle clamp 6800

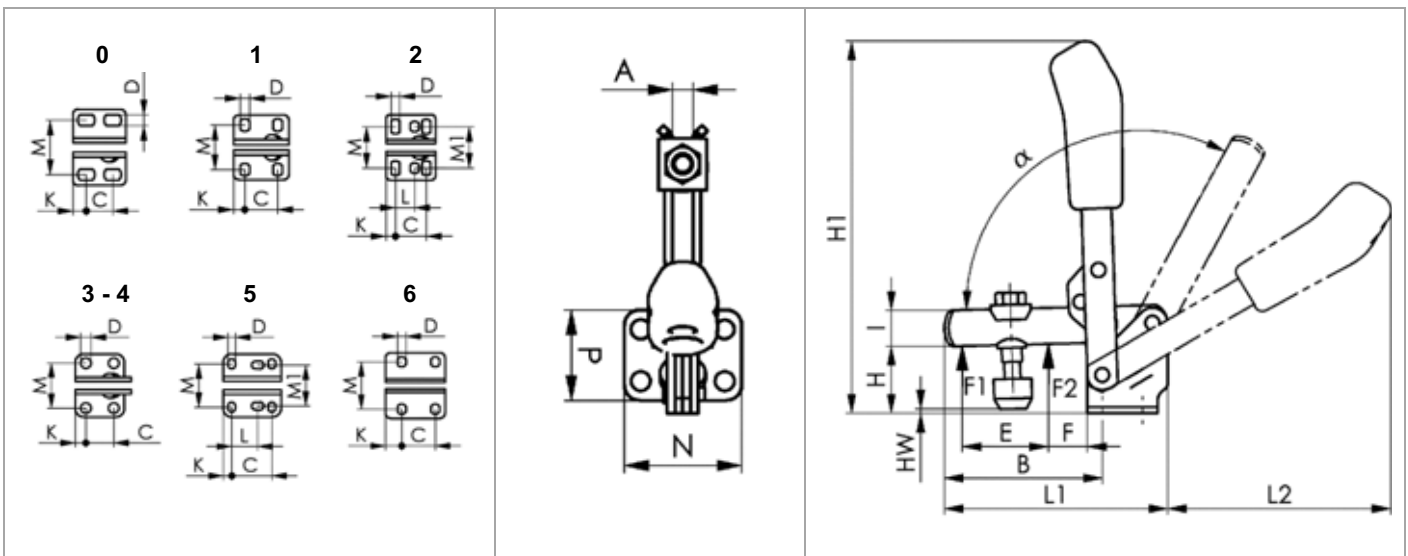
**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | A  | B   | C    | D    | E  | F    | F1 [kN] | F2 [kN] | H    | H1   | HW min. | HW max. | I  | K    | L    | L1  | L2  | M  | M1 | N   | P  | $\alpha$ | $\alpha^*$ | Clamping screw |
|------|----|-----|------|------|----|------|---------|---------|------|------|---------|---------|----|------|------|-----|-----|----|----|-----|----|----------|------------|----------------|
| 0    | 4  | 31  | 11,0 | 4,5  | 14 | 5,5  | 0,5     | 0,7     | 18,0 | 81,0 | -1,5    | 3,5     | 8  | 5,5  | -    | 49  | 50  | 23 | -  | 32  | 22 | 95°      | -          | M 4x 25        |
| 1    | 5  | 39  | 16,0 | 4,5  | 18 | 6,0  | 0,6     | 1,1     | 19,0 | 98,5 | -4,0    | 2,0     | 10 | 5,5  | -    | 61  | 59  | 24 | -  | 35  | 27 | 95°      | -          | M 5x 30        |
| 2    | 6  | 52  | 20,0 | 5,5  | 25 | 11,0 | 0,8     | 1,2     | 23,0 | 130  | -3,0    | 4,5     | 12 | 6,0  | 12,5 | 78  | 80  | 27 | 27 | 43  | 32 | 105°     | 60°        | M 6x 35        |
| 3    | 8  | 79  | 20,0 | 7,5  | 36 | 19,0 | 1,2     | 2,5     | 33,0 | 186  | 2,0     | 11,0    | 18 | 7,5  | -    | 112 | 112 | 32 | -  | 46  | 35 | 105°     | 60°        | M 8x 45        |
| 4    | 10 | 101 | 32,0 | 8,6  | 54 | 16,0 | 1,7     | 3,0     | 42,5 | 221  | -6,0    | 22,5    | 20 | 13,0 | -    | 141 | 130 | 45 | -  | 64  | 53 | 105°     | 60°        | M 8x 65        |
| 5    | 14 | 140 | 45,0 | 8,5  | 73 | 34,0 | 3,0     | 5,0     | 55,8 | 281  | -3,0    | 27,5    | 25 | 9,5  | 29,0 | 195 | 185 | 49 | 45 | 70  | 65 | 115°     | 60°        | M12x 80        |
| 6    | 14 | 165 | 50,5 | 13,0 | 89 | 26,0 | 3,4     | 5,5     | 81,0 | 332  | -2,5    | 55,0    | 30 | 24,5 | -    | 231 | 207 | 71 | -  | 100 | 90 | 140°     | 60°        | M12x110        |

\* The opening angle can be changed by pressing in a stop pin.



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| No.0 | 1 | <a href="#">15900.000.100</a> | No.3 | 1 | <a href="#">15900.000.103</a> | No.6 | 1 | <a href="#">15900.000.106</a> |
| No.1 | 1 | <a href="#">15900.000.101</a> | No.4 | 1 | <a href="#">15900.000.104</a> |      |   |                               |
| No.2 | 1 | <a href="#">15900.000.102</a> | No.5 | 1 | <a href="#">15900.000.105</a> |      |   |                               |

- With open clamping arm and horizontal base.
- Supplied complete with tempered, galvanized clamping screw.

**15905 Vertical acting toggle clamp 6803**

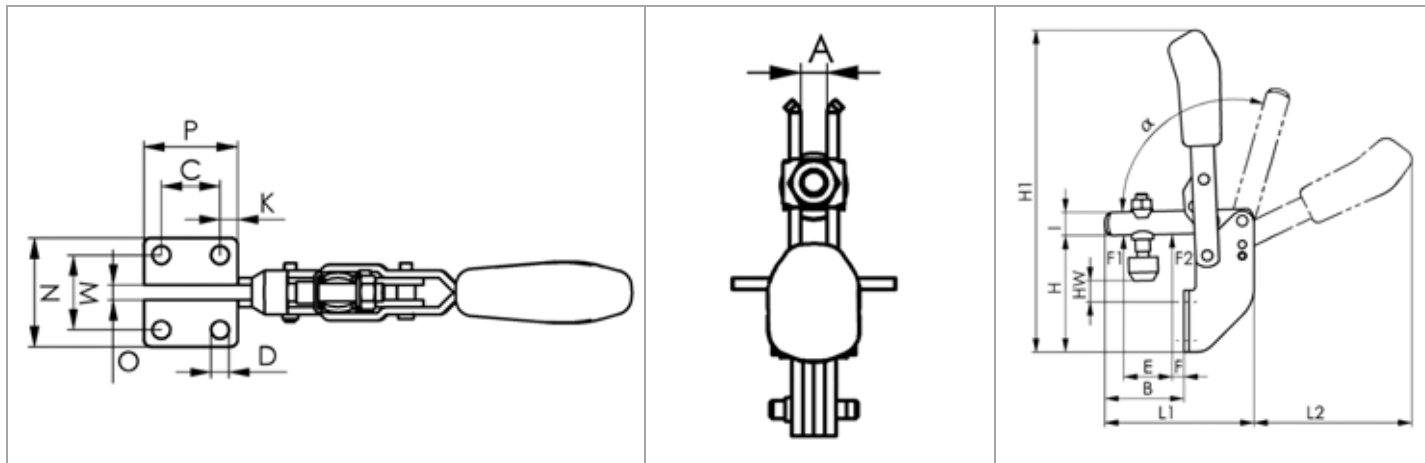
**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | A  | B  | C  | D   | E  | F  | F1 [kN] | F2 [kN] | H   | H1  | HW min. | HW max. | I  | K  | L1  | L2  | M    | N  | O | P  | $\alpha$ | $\alpha^*$ | Clamping screw |
|------|----|----|----|-----|----|----|---------|---------|-----|-----|---------|---------|----|----|-----|-----|------|----|---|----|----------|------------|----------------|
| 1    | 5  | 34 | 14 | 4,5 | 19 | 8  | 0,8     | 1,1     | 47  | 132 | -1,5    | 5,5     | 10 | 10 | 60  | 58  | 20,0 | 30 | 5 | 30 | 105°     | -          | M5x30          |
| 2    | 6  | 40 | 20 | 5,5 | 25 | 9  | 1,0     | 1,2     | 61  | 180 | 2,0     | 11,0    | 12 | 6  | 78  | 63  | 25,5 | 38 | 5 | 32 | 105°     | 60°        | M6x35          |
| 3    | 8  | 65 | 24 | 6,5 | 43 | 11 | 1,4     | 2,5     | 71  | 243 | 6,0     | 18,0    | 18 | 7  | 112 | 111 | 28,5 | 43 | 6 | 38 | 105°     | 60°        | M8x45          |
| 4    | 10 | 84 | 32 | 8,5 | 50 | 17 | 2,0     | 3,0     | 102 | 280 | 11,0    | 40,0    | 20 | 54 | 140 | 129 | 32,0 | 52 | 8 | 96 | 105°     | 60°        | M8x65          |

\* The opening angle can be changed by pressing in a stop pin.



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number |
|------|---|-------------------------------|------|---|-------------------------------|------|---|------------|
| No.1 | 1 | <a href="#">15905.000.101</a> | No.3 | 1 | <a href="#">15905.000.103</a> |      |   |            |
| No.2 | 1 | <a href="#">15905.000.102</a> | No.4 | 1 | <a href="#">15905.000.104</a> |      |   |            |

- With open clamping arm and angle base.
- Supplied complete with tempered, galvanized clamping screw.

## Horizontal acting toggle clamp



### Article groups

| Material | Surface treatment |                 | Packaging | Code  | Page   |
|----------|-------------------|-----------------|-----------|-------|--------|
| St       | Zipl              | horizontal base | Standard  | 15910 | 12-154 |
| St       | Zipl              | horizontal base | Standard  | 15916 | 12-155 |
| St       | Zipl              | angle base      | Standard  | 15915 | 12-156 |

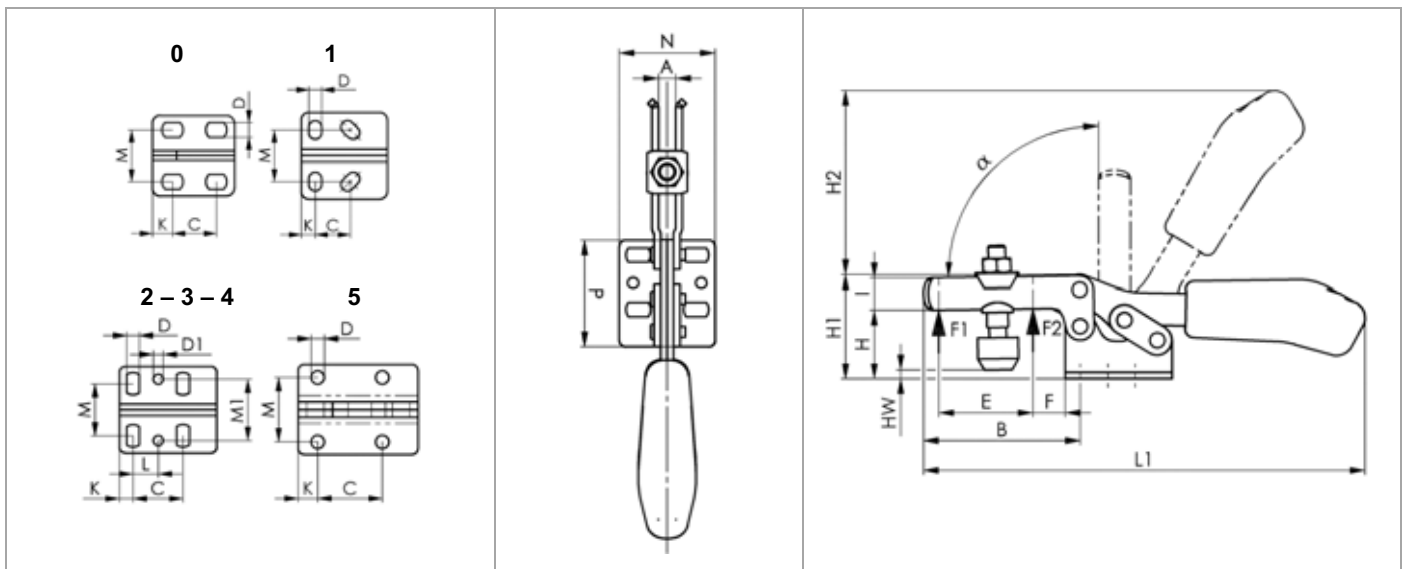
#### 15910 Horizontal acting toggle clamp 6830

**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | A  | B   | C    | D   | D1  | E    | F  | F1 [kN] | F2 [kN] | H    | H1   | H2  | HW min. | HW max. | I    | K    | L    | L1  | M    | M1   | N    | P    | $\alpha$ | Clamping screw |
|------|----|-----|------|-----|-----|------|----|---------|---------|------|------|-----|---------|---------|------|------|------|-----|------|------|------|------|----------|----------------|
| 0    | 5  | 28  | 13,5 | 4,6 | -   | 9,0  | 5  | 0,25    | 0,4     | 14,5 | 23,0 | 34  | -5,0    | 1       | 7,5  | 6,3  | -    | 79  | 16,0 | -    | 25,0 | 25,5 | 90°      | M4x25          |
| 1    | 5  | 42  | 14,0 | 5,2 | -   | 18,5 | 8  | 0,8     | 1,1     | 19,0 | 30,0 | 49  | -4,0    | 2       | 10,0 | 5,5  | -    | 120 | 20,3 | -    | 34,0 | 34,0 | 90°      | M5x30          |
| 2    | 6  | 64  | 26,0 | 5,6 | 5,6 | 32,0 | 16 | 1,0     | 1,2     | 24,0 | 45,0 | 68  | -1,5    | 5       | 13,0 | 6,0  | 12,7 | 162 | 24,5 | 28,5 | 42,0 | 38,0 | 90°      | M6x35          |
| 3    | 8  | 73  | 25,7 | 6,5 | 5,1 | 36,0 | 15 | 1,8     | 2,5     | 32,0 | 48,5 | 86  | -2,0    | 9,0     | 15,0 | 7,0  | 13   | 206 | 26,8 | 31,6 | 44,5 | 50,0 | 90°      | M8x45          |
| 4    | 10 | 113 | 41,0 | 8,5 | 8,5 | 63,0 | 27 | 2,0     | 3,0     | 45,0 | 75,0 | 115 | -4,0    | 24      | 20,0 | 8,0  | 20,5 | 281 | 36,0 | 43,0 | 58,0 | 57,0 | 90°      | M8x65          |
| 5    | 10 | 123 | 41,5 | 8,5 | -   | 78,0 | 16 | 3,0     | 5,0     | 46,0 | 73,0 | 128 | -1,5    | 25      | 25,0 | 12,5 | -    | 321 | 41,5 | -    | 58,0 | 77,0 | 90°      | M8x65          |



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| No.0 | 1 | <a href="#">15910.000.100</a> | No.2 | 1 | <a href="#">15910.000.102</a> | No.4 | 1 | <a href="#">15910.000.104</a> |
| No.1 | 1 | <a href="#">15910.000.101</a> | No.3 | 1 | <a href="#">15910.000.103</a> | No.5 | 1 | <a href="#">15910.000.105</a> |

- With open clamping arm and horizontal base.
- Supplied complete with tempered, galvanized clamping screw.

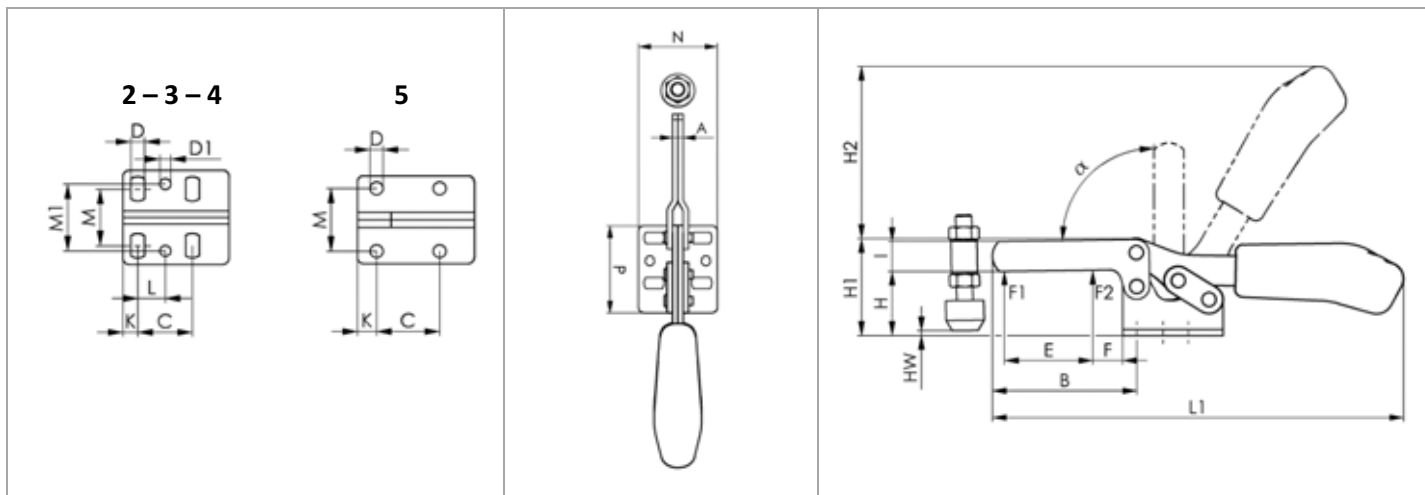


**15916 Horizontal acting toggle clamp 6834**
**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | A  | B   | C    | D   | D1  | E  | F    | F1 [kN] | F2 [kN] | H  | H1   | H2  | HW min. | HW max. | I  | K    | L    | L1  | M    | M1   | N  | P  | $\alpha$ | Clamping screw |
|------|----|-----|------|-----|-----|----|------|---------|---------|----|------|-----|---------|---------|----|------|------|-----|------|------|----|----|----------|----------------|
| 2    | 5  | 63  | 26,0 | 5,6 | 5,6 | 35 | 16,0 | 1,0     | 1,2     | 24 | 45,0 | 68  | -4,0    | 4       | 13 | 6,0  | 12,7 | 161 | 24,5 | 28,5 | 42 | 38 | 90°      | M 6x35         |
| 3    | 6  | 72  | 26,0 | 6,5 | 5,1 | 44 | 15,0 | 1,8     | 2,5     | 32 | 48,5 | 86  | -3,5    | 9       | 15 | 7,0  | 13,0 | 205 | 27,0 | 32,0 | 45 | 50 | 90°      | M 8x45         |
| 4    | 8  | 111 | 41,0 | 8,5 | 8,5 | 66 | 26,0 | 2,0     | 3,0     | 45 | 75,0 | 114 | -6,0    | 22      | 20 | 8,0  | 20,5 | 280 | 36,0 | 43,0 | 58 | 57 | 90°      | M 8x65         |
| 5    | 10 | 121 | 41,5 | 8,0 | -   | 78 | 17,5 | 3,0     | 5,0     | 46 | 73,0 | 128 | -13,0   | 12      | 25 | 12,5 | -    | 320 | 41,5 | -    | 58 | 77 | 90°      | M12x80         |



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number |
|------|---|-------------------------------|------|---|-------------------------------|------|---|------------|
| No.2 | 1 | <a href="#">15916.000.102</a> | No.4 | 1 | <a href="#">15916.000.104</a> |      |   |            |
| No.3 | 1 | <a href="#">15916.000.103</a> | No.5 | 1 | <a href="#">15916.000.105</a> |      |   |            |

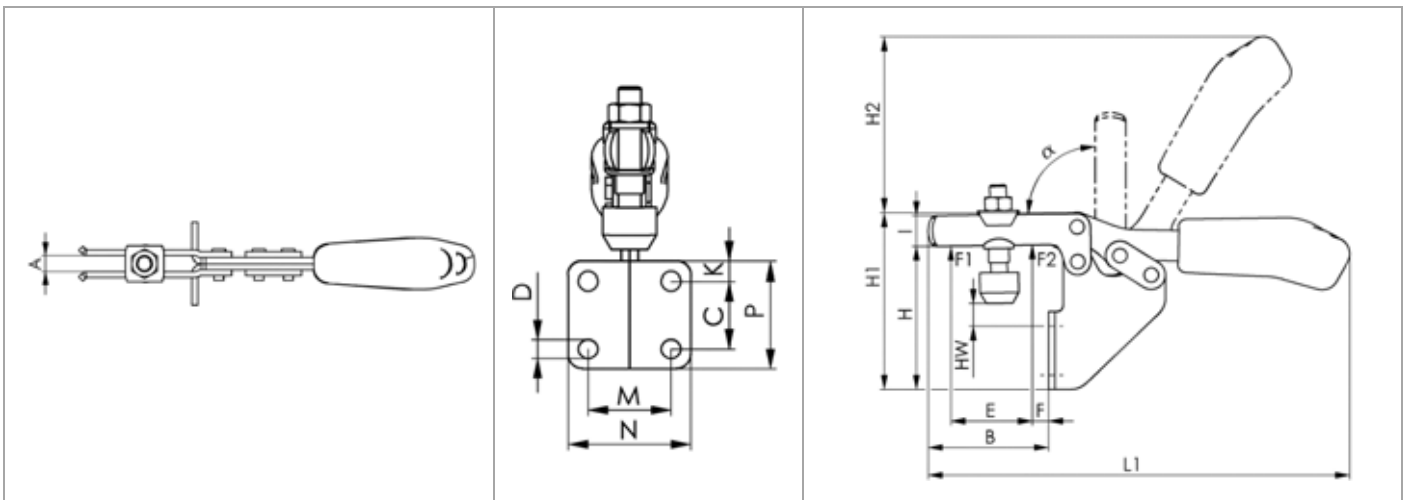
- With open clamping arm and horizontal base.
- Supplied complete with tempered, galvanized clamping screw no. 6885 and sleeve to weld on.

**15915 Horizontal acting toggle clamp 6833**
**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | A  | B  | C    | D   | E    | F    | F1 [kN] | F2 [kN] | H   | H1  | H2  | HW min. | HW max. | I  | K  | L1  | M    | N  | P  | $\alpha$ | Clamping screw |
|------|----|----|------|-----|------|------|---------|---------|-----|-----|-----|---------|---------|----|----|-----|------|----|----|----------|----------------|
| 1    | 5  | 32 | 13,5 | 5,2 | 18,5 | 4,0  | 0,8     | 1,1     | 57  | 68  | 49  | 14      | 20      | 10 | 8  | 120 | 19,0 | 31 | 28 | 90°      | M5x30          |
| 2    | 6  | 52 | 20,0 | 5,6 | 32,0 | 10,5 | 1,0     | 1,2     | 73  | 94  | 68  | 22      | 29      | 13 | 6  | 162 | 25,5 | 37 | 32 | 90°      | M6x35          |
| 3    | 8  | 59 | 24,0 | 6,8 | 37,0 | 8,0  | 1,8     | 2,5     | 70  | 86  | 86  | 5       | 16      | 15 | 7  | 206 | 29,0 | 43 | 38 | 90°      | M8x45          |
| 4    | 10 | 93 | 32,0 | 8,5 | 63,0 | 15,0 | 2,0     | 3,0     | 102 | 133 | 115 | 11      | 40      | 20 | 40 | 282 | 32,0 | 52 | 82 | 90°      | M8x65          |



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number |
|------|---|-------------------------------|------|---|-------------------------------|------|---|------------|
| No.1 | 1 | <a href="#">15915.000.101</a> | No.3 | 1 | <a href="#">15915.000.103</a> |      |   |            |
| No.2 | 1 | <a href="#">15915.000.102</a> | No.4 | 1 | <a href="#">15915.000.104</a> |      |   |            |

- With open clamping arm and angle base.
- Supplied complete with tempered, galvanized clamping screw.

## Push-pull type toggle clamp



### Article groups

| Material | Surface treatment |                  | Packaging | Code  | Page   |
|----------|-------------------|------------------|-----------|-------|--------|
| St       | Zipl              | small angle base | Standard  | 15920 | 12-157 |
| St       | Zipl              | short version    | Standard  | 15925 | 12-158 |
| St       | Zipl              | heavy duty type  | Standard  | 15930 | 12-159 |

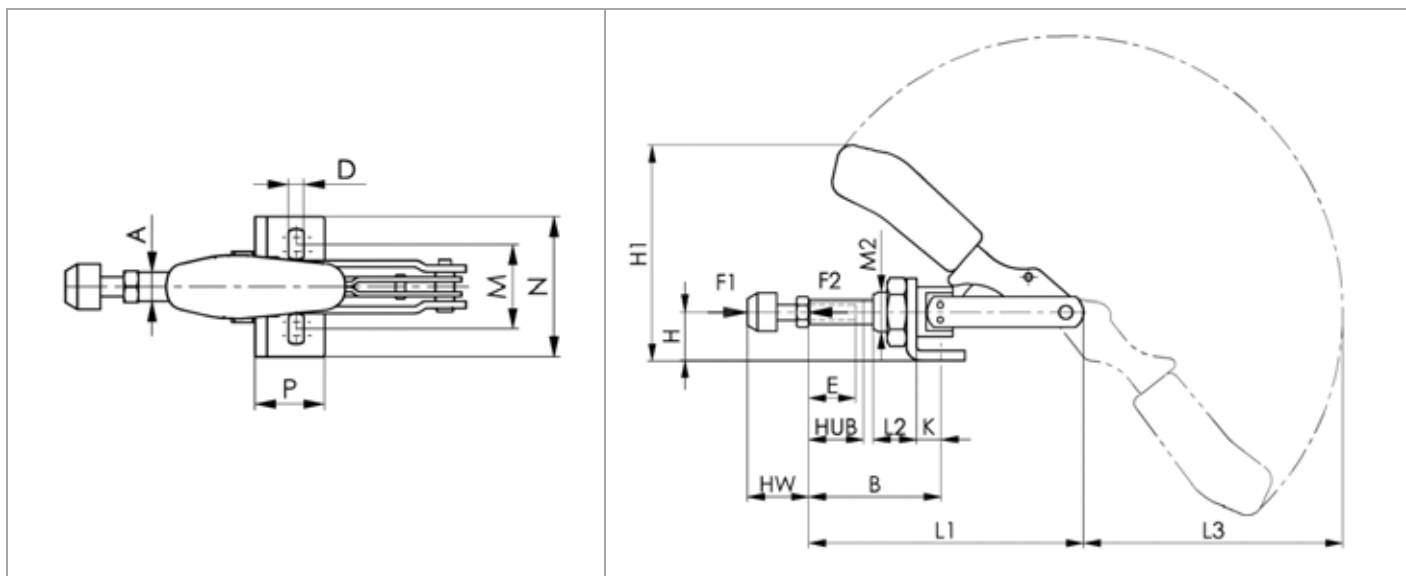
#### 15920 Push-pull type toggle clamp 6841

F97A

Material Steel  
 Surface treatment Zinc plated  
 Packaging Standard



| Type  | A    | B min. | B max. | D   | E  | F1 [kN] | F2 [kN] | H  | H1  | HUB | HW min. | HW max. | K    | L1    | L2 | L3  | M min. | M max. | M2      | N  | P  | Clamping screw |
|-------|------|--------|--------|-----|----|---------|---------|----|-----|-----|---------|---------|------|-------|----|-----|--------|--------|---------|----|----|----------------|
| 0     | 6,5  | 17,0   | 33,0   | 4,5 | 13 | 0,8     | 0,8     | 12 | 47  | 16  | 12      | 20      | 6,5  | 66,0  | 10 | 52  | -      | 16,0   | M10x1,0 | 25 | 16 | M 4x20         |
| 1     | 8,0  | 24,5   | 44,5   | 4,5 | 20 | 1,0     | 1,0     | 15 | 60  | 20  | 12      | 20      | 7,0  | 91,0  | 16 | 72  | 16     | 19,5   | M12x1,5 | 30 | 20 | M 4x20         |
| 2     | 10,0 | 32,5   | 57,5   | 5,6 | 25 | 2,0     | 2,0     | 20 | 95  | 26  | 17      | 25      | 12,5 | 114,0 | 19 | 105 | -      | 36,0   | M16x1,5 | 50 | 34 | M 6x25         |
| 3     | 12,0 | 37,0   | 69,0   | 6,5 | 30 | 2,5     | 2,5     | 25 | 110 | 32  | 22      | 35      | 13,0 | 140,0 | 22 | 129 | 30     | 42,0   | M20x1,5 | 60 | 30 | M 8x35         |
| 5-M27 | 16,0 | 41,5   | 81,5   | 8,5 | 50 | 4,5     | 4,5     | 30 | 126 | 40  | 30      | 50      | 15,0 | 171,5 | 25 | 142 | 30     | 45,0   | M27x2,0 | 65 | 35 | M12x50         |

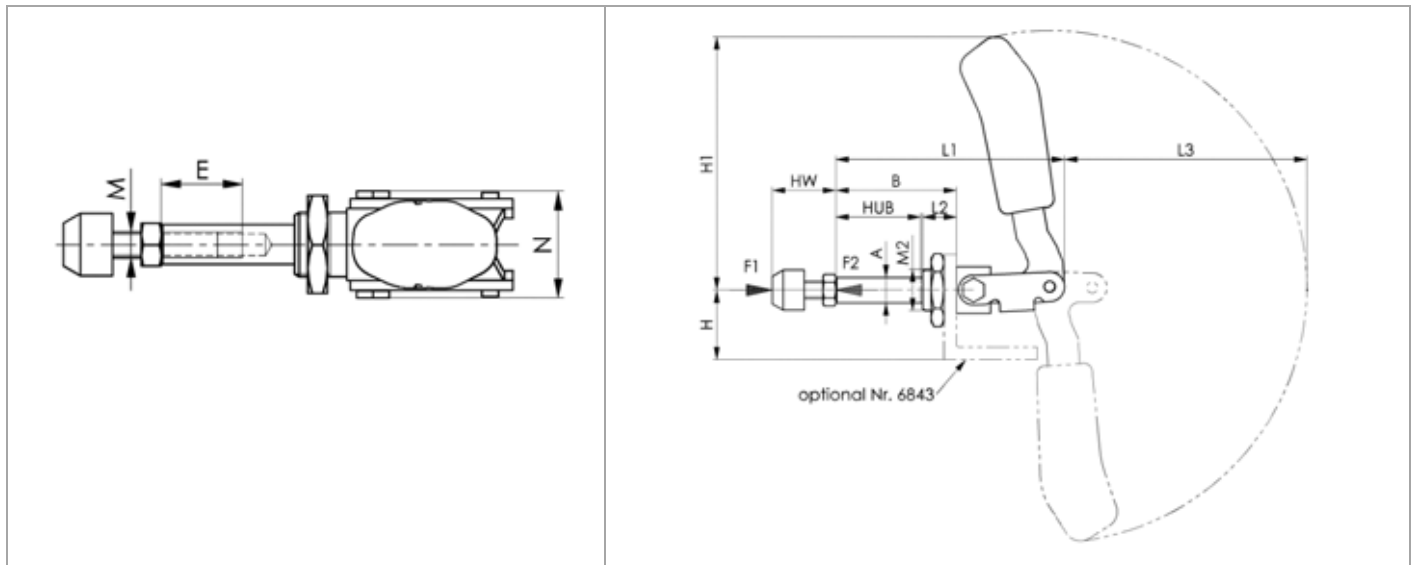


| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type     | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|----------|---|-------------------------------|
| No.0 | 1 | <a href="#">15920.000.100</a> | No.2 | 1 | <a href="#">15920.000.102</a> | No.5     | 1 | <a href="#">15920.000.105</a> |
| No.1 | 1 | <a href="#">15920.000.101</a> | No.3 | 1 | <a href="#">15920.000.103</a> | No.5-M27 | 1 | <a href="#">15920.000.527</a> |

- With small angle base.
- For push- and pull-clamping.
- Supplied complete with tempered, galvanized clamping screw.

|                          |   |             |
|--------------------------|---|-------------|
| <b>15925</b>             | <b>Push-pull type toggle clamp 6844</b> | <b>F97A</b> |
| <b>Material</b>          | Steel                                   |             |
| <b>Surface treatment</b> | Zinc plated                             |             |
| <b>Packaging</b>         | Standard                                |             |

| Type  | A  | B  | E  | F1 [kN] | F2 [kN] | H  | H1  | HUB | HW min. | HW max. | L1  | L2 | L3  | M   | M2      | N  | Clamping screw |
|-------|----|----|----|---------|---------|----|-----|-----|---------|---------|-----|----|-----|-----|---------|----|----------------|
| 2     | 10 | 35 | 15 | 1,0     | 1,0     | 24 | 76  | 21  | 18      | 27      | 70  | 13 | 82  | M 6 | M16x1,5 | 31 | M 6x25         |
| 3     | 12 | 56 | 25 | 2,5     | 2,5     | 33 | 128 | 40  | 22      | 35      | 110 | 16 | 130 | M 8 | M20x1,5 | 33 | M 8x35         |
| 5-M27 | 16 | 92 | 35 | 4,0     | 4,0     | 37 | 148 | 67  | 30      | 50      | 175 | 24 | 138 | M12 | M27x2,0 | 50 | M12x50         |



| Type | ☒ | Art.number                    | Type     | ☒ | Art.number                    | Type | ☒ | Art.number |
|------|---|-------------------------------|----------|---|-------------------------------|------|---|------------|
| No.2 | 1 | <a href="#">15925.000.102</a> | No.5     | 1 | <a href="#">15925.000.105</a> |      |   |            |
| No.3 | 1 | <a href="#">15925.000.103</a> | No.5-M27 | 1 | <a href="#">15925.000.527</a> |      |   |            |

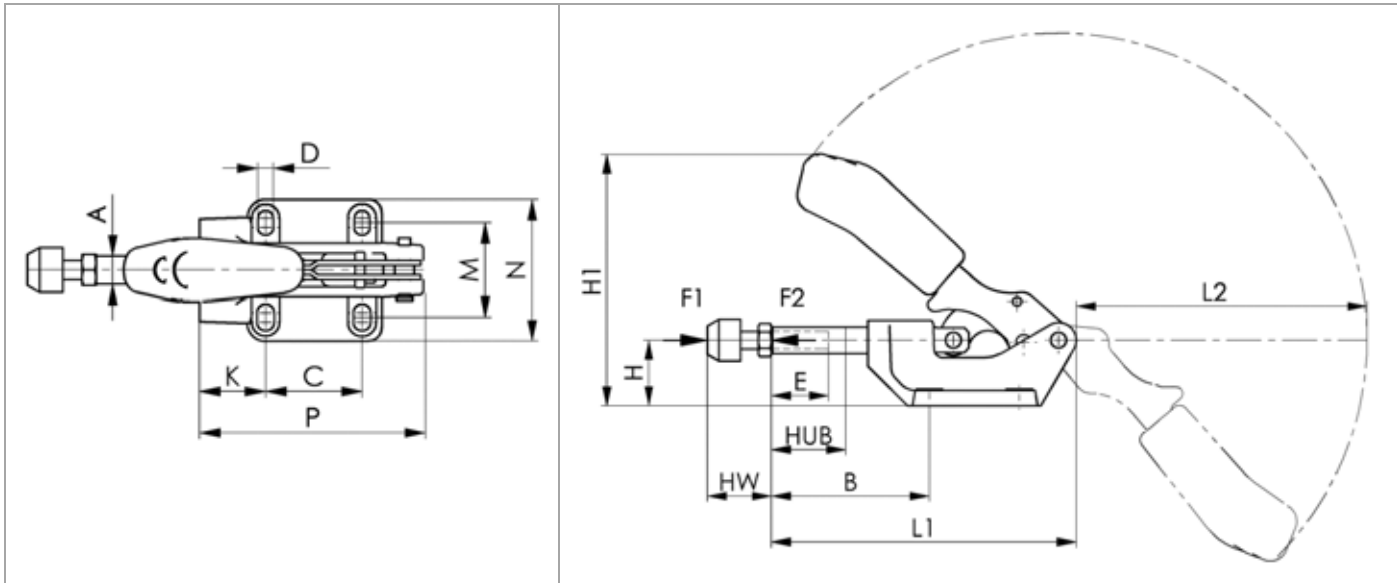
- Short version.
- For push- and pull-clamping.
- Supplied complete with tempered, galvanized clamping screw.

**15930 Push-pull type toggle clamp 6842**
**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | A  | B min. | B max. | C  | D    | E  | F1 [kN] | F2 [kN] | H  | H1  | HUB | HW min. | HW max. | K  | L1  | L2  | M min. | M max. | N  | P   | Clamping screw |
|------|----|--------|--------|----|------|----|---------|---------|----|-----|-----|---------|---------|----|-----|-----|--------|--------|----|-----|----------------|
| 3    | 12 | 40     | 72     | 41 | 6,5  | 30 | 4       | 4       | 30 | 115 | 32  | 35      | 48      | 28 | 140 | 130 | 36     | 44     | 60 | 96  | M 8x35         |
| 5    | 16 | 58     | 98     | 41 | 8,5  | 50 | 10      | 10      | 38 | 134 | 40  | 30      | 50      | 46 | 172 | 140 | 41     | 50     | 70 | 122 | M12x50         |
| 7    | 22 | 59     | 105    | 70 | 11,0 | 50 | 25      | 25      | 55 | 180 | 50  | 30      | 50      | 45 | 218 | 192 | 57     | 65     | 93 | 158 | M12x50         |



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| No.3 | 1 | <a href="#">15930.000.103</a> | No.5 | 1 | <a href="#">15930.000.105</a> | No.7 | 1 | <a href="#">15930.000.107</a> |

- For push- and pull-clamping.
- Heavy duty type with rod-guide.
- Supplied complete with tempered, galvanized clamping screw.

**Hook type toggle clamp**



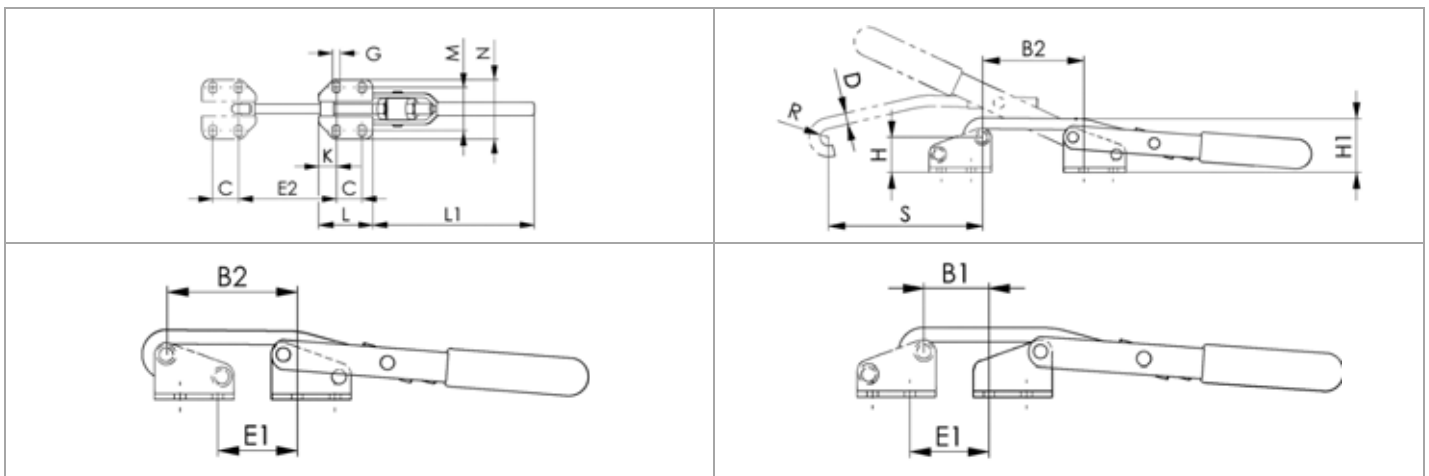
**15935 Hook type toggle clamp 6847**

**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | B1    | B2    | C  | D    | E1    | E2        | F1 [kN] | G    | H    | H1 | K  | L  | L1  | M     | N  | R   | S   | Adjustm.distance [mm] |
|------|-------|-------|----|------|-------|-----------|---------|------|------|----|----|----|-----|-------|----|-----|-----|-----------------------|
| 1    | 15-23 | 34-42 | 19 | 5,3  | 15-23 | 34,0-42,0 | 2       | 4,5  | 22,5 | 33 | 6  | 31 | 130 | 28    | 41 | 4,5 | 45  | 8                     |
| 3    | 32-44 | 67-79 | 19 | 7,1  | 40-52 | 74,5-86,5 | 3       | 5,5  | 23,0 | 36 | 13 | 40 | 230 | 32-35 | 46 | 5,5 | 98  | 12                    |
| 5    | 26-40 | 57-71 | 29 | 12,0 | 28-42 | 58,5-72,5 | 5       | 11,0 | 49,0 | 70 | 13 | 55 | 308 | 60    | 88 | 8,0 | 144 | 14                    |



| Type | Art.number                      | Type | Art.number                      | Type | Art.number                      |
|------|---------------------------------|------|---------------------------------|------|---------------------------------|
| No.1 | 1 <a href="#">15935.000.101</a> | No.3 | 1 <a href="#">15935.000.103</a> | No.5 | 1 <a href="#">15935.000.105</a> |

• For counter catch: see article group 15940.

## Hook type toggle clamp horizontal



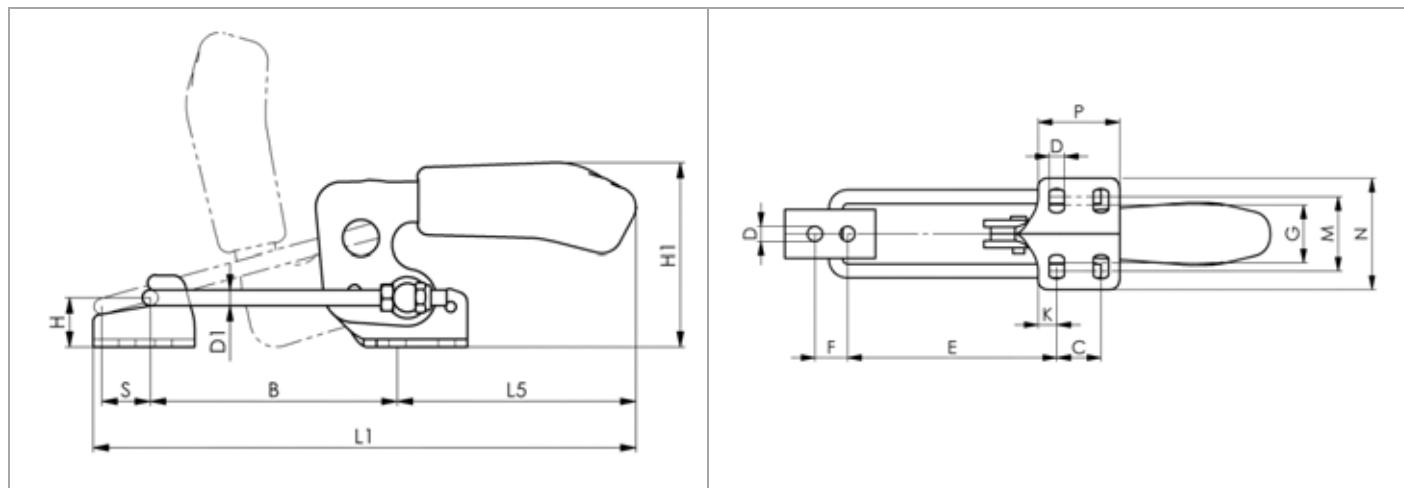
15945 Hook type toggle clamp horizontal 6848H

F97A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | B min. | B max. | C  | D   | D1 | E min. | E max. | F  | F1 [kN] | G  | H  | H1 | K   | L1  | L5  | M  | N  | P  | S  |
|------|--------|--------|----|-----|----|--------|--------|----|---------|----|----|----|-----|-----|-----|----|----|----|----|
| 2    | 42     | 74     | 13 | 5,2 | 4  | 38     | 70     | 11 | 1,6     | 19 | 12 | 47 | 6,5 | 156 | 70  | 24 | 38 | 26 | 23 |
| 3    | 53     | 95     | 19 | 6,5 | 6  | 48     | 90     | 14 | 3,2     | 25 | 19 | 70 | 8,0 | 210 | 95  | 32 | 48 | 35 | 30 |
| 4    | 72     | 127    | 32 | 8,5 | 8  | 65     | 120    | 19 | 7,0     | 36 | 25 | 92 | 9,5 | 270 | 113 | 45 | 65 | 51 | 44 |



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| No.2 | 1 | <a href="#">15945.000.102</a> | No.3 | 1 | <a href="#">15945.000.103</a> | No.4 | 1 | <a href="#">15945.000.104</a> |

- Supplied complete with counter catch

## Hook type toggle clamp vertical



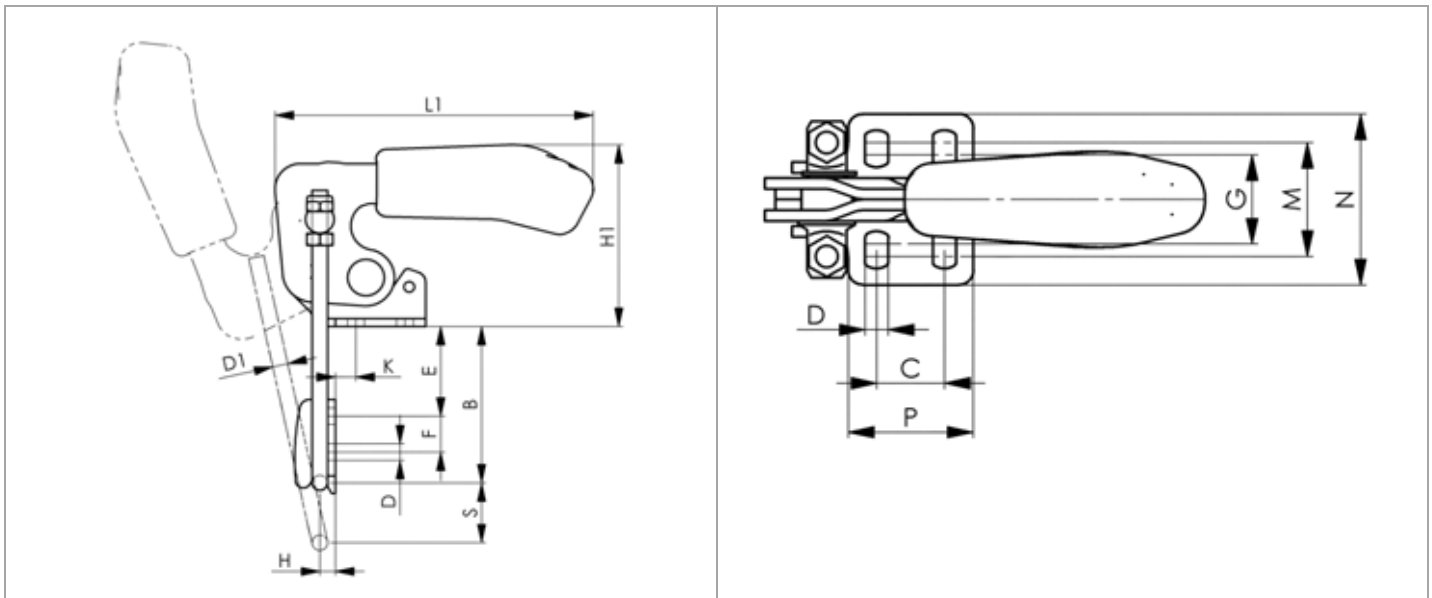
15950 Hook type toggle clamp vertical 6848V

F97A

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | B min. | B max. | C  | D   | D1 | E min. | E max. | F1 [kN] | F  | G  | H   | H1 | K   | L1  | M  | N  | P  | S  |
|------|--------|--------|----|-----|----|--------|--------|---------|----|----|-----|----|-----|-----|----|----|----|----|
| 2    | 24     | 47     | 13 | 5,2 | 4  | 5      | 28     | 1,6     | 11 | 19 | 4,5 | 47 | 7,0 | 90  | 24 | 38 | 26 | 23 |
| 3    | 33     | 61     | 19 | 6,5 | 6  | 7      | 35     | 3,2     | 14 | 25 | 6,0 | 70 | 8,0 | 127 | 32 | 48 | 35 | 30 |
| 4    | 43     | 79     | 32 | 8,5 | 8  | 9      | 45     | 7,0     | 19 | 36 | 8,0 | 92 | 9,5 | 150 | 45 | 65 | 51 | 40 |



| Type | ☒ | Art.number                    | Type | ☒ | Art.number                    | Type | ☒ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| No.2 | 1 | <a href="#">15950.000.102</a> | No.3 | 1 | <a href="#">15950.000.103</a> | No.4 | 1 | <a href="#">15950.000.104</a> |

- Supplied complete with counter catch



**Counter catch for hook type toggle clamp**



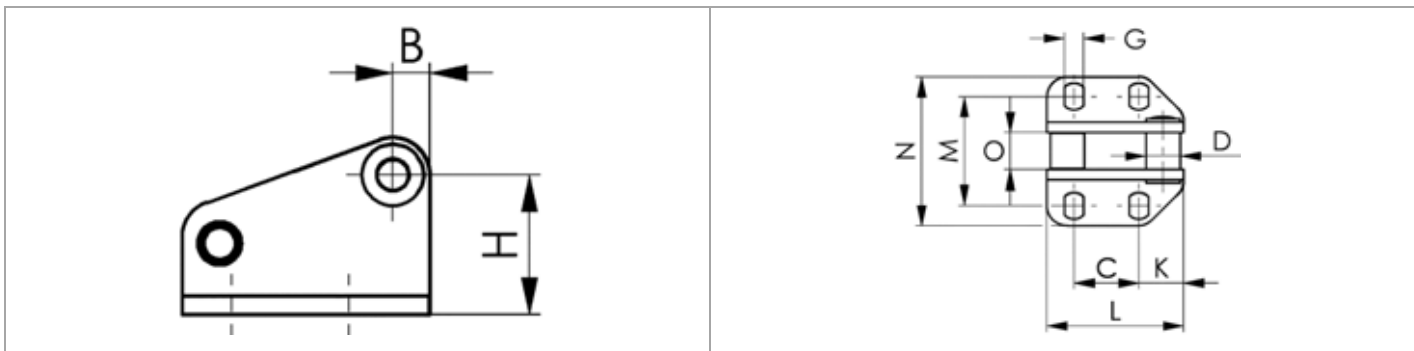
**15940 Counter catch for hook type toggle clamp 6847**

**F97A**

**Material** Steel  
**Surface treatment** Zinc plated  
**Packaging** Standard



| Type | B  | C  | D  | G    | H    | K  | L  | M     | N  | O    |
|------|----|----|----|------|------|----|----|-------|----|------|
| 1    | 6  | 19 | 8  | 4,5  | 22,5 | 6  | 31 | 28    | 41 | 6,8  |
| 3    | 6  | 19 | 10 | 5,5  | 23,0 | 13 | 40 | 32-35 | 46 | 10,8 |
| 5    | 12 | 29 | 15 | 11,0 | 49,0 | 13 | 55 | 60    | 88 | 13,7 |



| Type | ✉ | Art.number                    | Type | ✉ | Art.number                    | Type | ✉ | Art.number                    |
|------|---|-------------------------------|------|---|-------------------------------|------|---|-------------------------------|
| No.1 | 1 | <a href="#">15940.000.101</a> | No.3 | 1 | <a href="#">15940.000.103</a> | No.5 | 1 | <a href="#">15940.000.105</a> |

- Suitable for hook type toggle clamp, see article group 15935.

# Fastening Technology

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## 1 Introduction

Designing and producing safe fastenings demands for professional knowledge, experience and information. Important aspects such as dimensional tolerances, mechanical and chemical properties must be considered. Also the directives for the calculation, assembly and securing of fastenings are of extreme importance. All this information is scattered over a wide range of standards, technical directives and publications in various languages.

Fabory has collected the most important technical information that is frequently consulted by product developers, designers, purchasers and contractors. A large part of this is based on international (ISO) and European (EN) standards. It is necessary to observe that although most national standards such as DIN have become obsolete and replaced by corresponding ISO or EN standards, the market situation often still requires fasteners to DIN. Where appropriate we have included information on those DIN standards as well.

Of course much more technical information is available at Fabory. Please contact our technical specialists if specific information is not found in this technical section, or if more detail is required.

Also keep in mind that Fabory has the technical competence to give professional advice and help on many fastening subjects and applications. At Fabory, a team of fastener experts is devoted to help customers with safe and innovative fastening solutions.

Although all technical specifications and data have been compiled with the greatest care, the companies belonging to or affiliated to the Fabory Group accept no liability whatsoever in connection with this information and the way it is used.

## 2 Mechanical properties of fasteners

### 2.1 Mechanical properties of carbon and alloy steel bolts, screws and studs

#### 2.1.1 Field of application

The property classes and their associated mechanical properties, as defined in ISO 898-1:2009 apply to bolts, screws and studs with metric (ISO) thread, with nominal diameters up to and including 39 mm, made of carbon steel or alloy steel and when tested at room temperature.

They do not apply to set screws and similar threaded fasteners not under tensile stresses (ref. ISO 898-5) or to specific requirements such as weldability, corrosion resistance (stainless steel ref. ISO 3506-1), ability to withstand temperatures above 150°C or below -50°C. (ref. DIN 267-13). The class designation system may be used for other sizes (e.g.  $d > 39$  mm), provided that all of the mechanical properties in the table are met.

Certain fasteners might not fulfil the tensile or torsional requirement of ISO 898-1 because of the geometry of their heads (e.g. low heads, countersunk heads) or because of a reduced shank.

#### 2.1.2 Designation system of property classes

The property class symbols, indicating the most important mechanical properties, consist of two numbers separated by a dot, for example 10.9.

The first number indicates 1/100 of the nominal tensile strength in  $\text{N/mm}^2$  (see  $R_m$  in the table). So property class 10.9 has a tensile strength of  $10 \times 100 = 1000 \text{ N/mm}^2$ .

The second number indicates 10 times the *ratio* between lower yield stress  $R_{el}$  (or proof stress  $R_{p0.2}$  or non-proportional elongation  $R_{pf}$ ) and the nominal tensile strength  $R_m$  (yield strength ratio).

So at property class 10.9 the second figure 9 is derived from the formula:  $10 \times \frac{900}{1000}$

The nominal yield stress of this example (10.9) can easily be calculated by multiplying 10 times the product of the two property class numbers:  $10 \times 10 \times 9 = 900 \text{ N/mm}^2$ .

Remark: a fastener with the same property class 10.9 but with reduced loadability is designated by 010.9!

### 2.1.3 Marking of bolts, socket head cap screws and studs

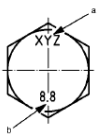


Fig. 1

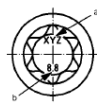


Fig. 2

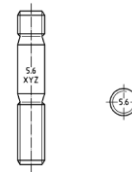


Fig. 3

- Marking is obligatory for hexagon and hexalobular bolts and screws with nominal diameter  $d \geq M5$ , of all property classes, preferably on top of the head (fig.1).
- Marking is obligatory for hexagon and hexalobular socket head cap screws with nominal diameter  $d \geq M5$ , of all property classes, preferably on top of the head (fig.2).
- When carbon steels with additives (e.g. B, Mn, Cr or Mo) are used for class 12.9, the symbol 12.9 shall be underlined: 12.9
- Studs with nominal diameter  $d \geq M5$  and property classes  $\geq 5.6$ , shall be marked on the shaft or on the nut end (required if thread with interference fit) (fig.3). Alternative identification with symbols (fig.4) is permissible.
- Left-hand thread shall be marked for nominal diameters  $d \geq M5$  with the symbol shown in figure 5, either on the top of the head or on the point. Alternative marking, as shown in figure 6, may be used for hexagon bolts and screws. (fig.6)
- The manufacturer's designation is mandatory on all products that are marked with property classes.
- If marking is required for other types of bolts and screws, the same marking system shall be used.
- Marking is not usual for screws with flat countersunk head, oval countersunk head, cheese head, pan head or similar that have internal driving features.

|                            |     |     |     |      |      |
|----------------------------|-----|-----|-----|------|------|
| Property class             | 5.6 | 8.8 | 9.8 | 10.9 | 12.9 |
| Alternative Marking symbol | —   | ○   | +   | □    | △    |

Fig. 4

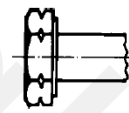


Fig. 5

Fig. 6

## 2.1.4 Mechanical properties of bolts, screws and studs

Mechanical and physical properties in the below table are based on ISO 898-1:2009.

| Mechanical or physical property  |                   | 4.6              | 4.8              | 5.6 | 5.8              | 6.8              | 8.8                    |                       | 9.8      | 10.9               | 12.9             |              |
|--|-------------------|------------------|------------------|-----|------------------|------------------|------------------------|-----------------------|----------|--------------------|------------------|--------------|
|  |                   |                  |                  |     |                  |                  | d ≤ 16mm <sup>a</sup>  | d > 16mm <sup>b</sup> | d ≤ 16mm |                    | 12.9             |              |
| Tensile Strength, R <sub>m</sub> , MPa   | Nom. <sup>c</sup> | 400              |                  | 500 |                  | 600              | 800                    |                       | 900      | 1000               | 1200             |              |
|  | Min.              | 400              | 420              | 500 | 520              | 600              | 800                    | 830                   | 900      | 1040               | 1220             |              |
| Lower yield strength, R <sub>eL</sub> , MPa <sup>d</sup>                                     | Nom. <sup>c</sup> | 240              | -                | 300 |                  |                  |                        |                       |          |                    |                  |              |
|  | Min.              | 240              | -                | 300 |                  |                  |                        |                       |          |                    |                  |              |
| Stress at 0,2% non-proportional elongation, R <sub>p0.2</sub> , MPa                          | Nom. <sup>c</sup> |                  |                  |     |                  |                  | 640                    |                       | 720      | 900                | 1080             |              |
|  | Min.              |                  |                  |     |                  |                  | 640                    | 660                   | 720      | 940                | 1100             |              |
| Stress at 0,0048d non-proportional elongation for full-size fasteners, R <sub>pf</sub> , MPa | Nom. <sup>c</sup> | -                | 320              | -   | 400              | 480              |                        |                       |          |                    |                  |              |
|  | Min.              | -                | 340 <sup>e</sup> | -   | 420 <sup>e</sup> | 480 <sup>e</sup> |                        |                       |          |                    |                  |              |
| Stress under proof load, S <sub>p</sub> , MPa  | Nom.              | 225              | 310              | 280 | 380              | 440              | 580                    | 600                   | 650      | 830                | 970              |              |
| Elongation after fracture for machined test pieces, A, %                                     | Min.              | 22               | -                | 20  | -                | -                | 12                     | 12                    | 10       | 9                  | 8                |              |
| Reduction of area after fracture for machined test pieces, Z, %                              | Min.              |                  |                  |     |                  |                  | 52                     |                       | 48       | 48                 | 44               |              |
| Elongation after fracture for full-size fasteners, A <sub>r</sub> , %                        | Min.              | -                | 0,24             | -   | 0,22             | 0,20             |                        |                       |          |                    |                  |              |
| Head soundness   |                   | No fracture      |                  |     |                  |                  |                        |                       |          |                    |                  |              |
| Vickers hardness, HV (F ≥ 98N)   | Min.              | 120              | 130              | 155 | 160              | 190              | 250                    | 255                   | 290      | 320                | 385              |              |
|  | Max.              | 220 <sup>f</sup> |                  |     |                  | 250              | 320                    | 335                   | 360      | 380                | 435              |              |
| Surface hardness, HV <sub>0.3</sub>  | Max.              |                  |                  |     |                  |                  |                        |                       |          |                    |                  |              |
| Height of non-decarburized thread zone, E, mm  | Min.              |                  |                  |     |                  |                  | ½ H <sub>1</sub>       |                       |          | 2/3 H <sub>1</sub> | ¾ H <sub>1</sub> |              |
| Depth of complete decarburization in the thread, G, mm                                       | Max.              |                  |                  |     |                  |                  | 0,015                  |                       |          |                    |                  |              |
| Reduction of hardness after retempering, HV  | Max.              |                  |                  |     |                  |                  | 20                     |                       |          |                    |                  |              |
| Breaking torque, M <sub>B</sub> , Nm   | Min.              |                  |                  |     |                  |                  | According to ISO 898-7 |                       |          |                    |                  |              |
| Impact strength, K <sub>v</sub> , J  | Min.              |                  |                  |     | 27               |                  |                        | 27                    | 27       | 27                 | 27               | <sup>m</sup> |
| Surface integrity in acc. with   |                   | ISO 6157-1       |                  |     |                  |                  |                        |                       |          |                    |                  |              |

### Remarks:

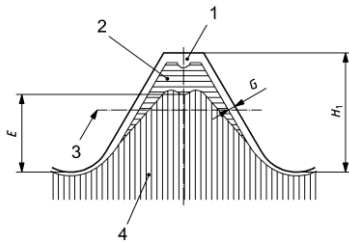
- a Values do not apply for structural bolting
- b For structural bolting d ≥ M12
- c Nominal values are specified only for the purpose of the designations system for property classes
- d If the lower yield strength cannot be determined, a measurement of the stress at 0,2% non-proportional elongation is permissible
- e Values under investigation
- g Max hardness at the end of a fastener shall be max. 250 HV
- h Surface hardness shall not be more than 30HV<sub>0.3</sub> above the measured core HV<sub>0.3</sub> hardness
- i Max. 390 HV
- j Max. 435 HV
- k Test temperature -20°C
- l Applies to d ≥ 16mm
- m Value under investigation

## 2.1.5 Decarburization

The mechanical properties of heat treated steel are determined to a high degree by its carbon content. No air must be allowed to enter the furnaces during the hardening process of steel bolts in property classes 8.8, 10.9 and 12.9, otherwise the carbon that is present in on the surface of the steel would be oxidized by hot air.

This is the reason that the continuous furnaces for the hardening process are equipped with fire curtains, and protective gas is supplied to the furnaces to keep the oxygen level in control.

A loss of carbon content (decarburization), caused by heat treatment processes, beyond the limits specified in the table of par. 1.1.4, can reduce the strength of the thread and could cause failure.



Zones of decarburization in the thread:

1. Completely decarburized
2. Partially decarburized
3. Pitch line
4. Base metal
- E. Height of the non-decarburized thread zone
- G. Depth of complete decarburization in the thread
- H<sub>1</sub> Height of external thread in maximum material condition

### 2.1.6 Minimum breaking torques

Often smaller screw diameters cannot be tensile tested. ISO 898-7:1995 defines the minimum breaking torques below which a bolt or screw may not rupture if clamped according to the test procedure. These values are not applicable for hexagon socket set screws.

| Basic diameter | Pitch P | Property class              |       |       |       |       |       |       |
|----------------|---------|-----------------------------|-------|-------|-------|-------|-------|-------|
|                |         | 4.6                         | 4.8   | 5.6   | 5.8   | 8.8   | 10.9  | 12.9  |
|                |         | Minimum breaking torque, Nm |       |       |       |       |       |       |
| M1             | 0,25    | 0,020                       | 0,020 | 0,024 | 0,024 | 0,033 | 0,040 | 0,045 |
| M1.2           | 0,25    | 0,045                       | 0,046 | 0,054 | 0,055 | 0,075 | 0,092 | 0,10  |
| M1.4           | 0,3     | 0,070                       | 0,073 | 0,084 | 0,087 | 0,12  | 0,14  | 0,16  |
| M1.6           | 0,35    | 0,098                       | 0,10  | 0,12  | 0,12  | 0,16  | 0,20  | 0,22  |
| M2             | 0,4     | 0,22                        | 0,23  | 0,26  | 0,27  | 0,37  | 0,45  | 0,50  |
| M2.5           | 0,45    | 0,49                        | 0,51  | 0,59  | 0,60  | 0,82  | 1,0   | 1,1   |
| M3             | 0,5     | 0,92                        | 0,96  | 1,1   | 1,1   | 1,5   | 1,9   | 2,1   |
| M3.5           | 0,6     | 1,4                         | 1,5   | 1,7   | 1,8   | 2,4   | 3,0   | 3,3   |
| M4             | 0,7     | 2,1                         | 2,2   | 2,5   | 2,6   | 3,6   | 4,4   | 4,9   |
| M5             | 0,8     | 4,5                         | 4,7   | 5,5   | 5,6   | 7,6   | 9,3   | 10    |
| M6             | 1       | 7,6                         | 7,9   | 9,1   | 9,4   | 13    | 16    | 17    |
| M7             | 1       | 14                          | 14    | 16    | 17    | 23    | 28    | 31    |
| M8             | 1,25    | 19                          | 20    | 23    | 24    | 33    | 40    | 44    |
| M8 x 1         | 1       | 23                          | 23    | 27    | 28    | 38    | 46    | 52    |
| M10            | 1,5     | 39                          | 41    | 47    | 49    | 66    | 81    | 90    |
| M10 x 1        | 1       | 50                          | 52    | 60    | 62    | 84    | 103   | 114   |
| M10 x 1,25     | 1,25    | 44                          | 46    | 53    | 54    | 74    | 90    | 100   |

The minimum breaking torque values given in the table shall apply to bolts and screws assigned to thread tolerance classes 6g, 6f or 6e.

### 2.1.7 Influence of elevated temperatures on mechanical properties

Up to a service temperature of 150°C, no detrimental effects due to a change of mechanical properties of fasteners with property classes to ISO 898-1 are known. However at temperatures over 150°C and up to a maximum temperature of 300°C, the functional performance should be ensured carefully.

With increasing temperature, a progressive reduction of lower yield strength or stress at non-proportional elongation and a reduction of tensile strength can be experienced.

The continuous operating of fasteners at elevated temperatures can result in stress relaxation, which accompanies a loss of clamp force.

DIN 267-13 defines fastener materials with specific mechanical properties for use at temperatures ranging from -200°C to +700°C.

## 2.2 Mechanical properties of carbon and low alloy steel nuts

### 2.2.1 Field of application

The property classes and their associated mechanical properties, are defined in ISO 898-2:1992 and apply to nuts with metric (ISO) thread, with nominal diameters up to and including 39 mm, made of carbon steel or low alloy steel and when tested at room temperature.

ISO 898-2 does not apply to nuts with specific requirements such as weldability, corrosion resistance (stainless steel ref. ISO 3506-2), ability to withstand temperatures above 300°C or below -50°C. (ref. DIN 267-13). The class designation system may be used for other sizes (e.g.  $d > 39$  mm), provided that all of the mechanical properties in the table are met.

ISO 898-2 is applicable to nuts with nominal height  $\geq 0,8d$  and low nuts with nominal height  $\geq 0,5d$  but  $< 0,8d$ .

#### Important remark on nuts with property classes to DIN:

Nuts according to obsolete DIN standards, such as DIN 934 (with nominal heights of approximately 0,8d), cannot be loaded reliably up to the yield point of the corresponding bolt. The mechanical properties of these nuts are described in the withdrawn standard DIN 267-4.

**For new designs it is highly recommended to apply nuts with property classes according to ISO standards instead of the obsolete DIN standards!**

### 2.2.2 Designation system of property classes

Nuts with nominal heights  $\geq 0,8d$  ( $d$ =nominal thread size), are designated by a number to indicate the maximum appropriate property class of bolts with which they can be mated. This number is approximately 1/100 of the proof stress of the nut in  $N/mm^2$  and corresponds to the maximum nominal tensile strength of the mating bolt.

A bolt of property class 10.9 must be paired with a nut of property class 10 (or higher). Using this combination, the bolt can be loaded up to the yield point.

Failure of threaded fasteners due to over-tightening can occur by bolt shank fracture or by stripping of the threads of the nut and/or bolt.

| Property class of nut | Mating bolts    |              | Nuts Style 1 | Nuts Style 2     |
|-----------------------|-----------------|--------------|--------------|------------------|
|                       | Property class  | Thread range | Thread range |                  |
| 4                     | 3.6 / 4.6 / 4.8 | $> M16$      | $> M16$      | --               |
| 5                     | 3.6 / 4.6 / 4.8 | $\leq M16$   | $\leq M39$   |                  |
|                       | 5.6 / 5.8       | $\leq M39$   |              |                  |
| 6                     | 6.8             | $\leq M39$   | $\leq M39$   |                  |
| 8                     | 8.8             | $\leq M39$   | $\leq M39$   | $> M16 \leq M39$ |
| 9                     | 9.8             | $\leq M16$   | --           | $\leq M16$       |
| 10                    | 10.9            | $\leq M39$   | $\leq M39$   | -                |
| 12                    | 12.9            | $\leq M39$   | $\leq M16$   | $\leq M39$       |

In general, nuts of a higher property class can be used instead of nuts of a lower class. This is recommended for an assembly that is torqued to a higher stress than the yield stress or the proof load stress.

Example of Nut style 1: ISO 4032

Example of Nut style 2: ISO 4033

Nuts with nominal heights  $\geq 0,5d$  but  $< 0,8d$  are designated by a combination of two numbers:

The first number is "0" and indicates the loadability is reduced.

The second number indicates the nominal stress under proof load on a hardened test mandrel.

Property classes of nuts with reduced loadability acc. to ISO 898-2: "04" and "05".



### 2.2.3 Marking of steel nuts

Hexagon nuts  $\geq$  M 5 of all property classes shall be marked on the side or on a bearing surface with the property class designation and where technically possible the manufacturer's mark (see figure 1). Left-hand threads for nuts  $\geq$  M 5 must be marked on the bearing surface with a counter-clockwise arrow or with a groove halfway up the nut (see figure 2).

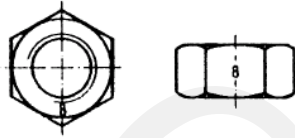


Fig.1

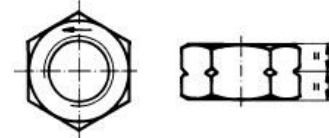


Fig.2

#### Important remark on nuts with property classes to DIN:

Hexagon nuts  $\geq$  M5, with mechanical properties according to the obsolete DIN 267-4, shall be marked with the symbol of the property class, a vertical bar on either side of the symbol and the manufacturer's designation on the bearing surface or flat (see figure 3).

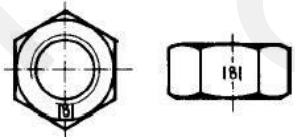


Fig. 3

## 2.2.4 Mechanical properties of steel nuts

The details below are based on ISO 898-2:1992

| Property class acc. ISO 898-2 |                     |                   | Thread size (coarse metric thread, tolerance class 6H) |             |              |               |               |                |
|-------------------------------|---------------------|-------------------|--|-------------|--------------|---------------|---------------|----------------|
|                               |                     |                   | d ≤ M4   | M4 < d ≤ M7 | M7 < d ≤ M10 | M10 < d ≤ M16 | M16 < d ≤ M39 | M39 < d ≤ M100 |
| 04                            | proof load value Sp | N/mm <sup>2</sup> | 380  |             |              |               |               | –              |
|                               | Vickers hardness HV | min.              | 188  |             |              |               |               |                |
|                               |                     | max.              | 302  |             |              |               |               |                |
| 05                            | proof load value Sp | N/mm <sup>2</sup> | 500  |             |              |               |               | –              |
|                               | Vickers hardness HV | min.              | 272  |             |              |               |               |                |
|                               |                     | max.              | 353  |             |              |               |               |                |
| 4                             | Proof load value    | N/mm <sup>2</sup> | –  |             |              | 510           | –             |                |
|                               | Vickers hardness HV | min.              | –  |             |              | 117           |               |                |
|                               |                     | max.              | –  |             |              | 302           |               |                |
| 5                             | proof load value Sp | N/mm <sup>2</sup> | 520  | 580         | 590          | 610           | 630           | –              |
|                               | Vickers hardness HV | min.              | 130  |             |              | 146           | 128           |                |
|                               |                     | max.              | 302  |             |              |               |               | –              |
| 6                             | proof load value Sp | N/mm <sup>2</sup> | 600  | 670         | 680          | 700           | 720           | –              |
|                               | Vickers hardness HV | min.              | 150  |             |              | 170           | 142           |                |
|                               |                     | max.              | 302  |             |              |               |               |                |
| 8                             | proof load value Sp | N/mm <sup>2</sup> | 800  | 810         | 830          | 840           | 920           | –              |
|                               | Vickers hardness HV | min.              | 170  | 188         |              |               | 233           | 207            |
|                               |                     | max.              | 302  |             |              | 353           |               |                |
| 9                             | proof load value Sp | N/mm <sup>2</sup> | 900  | 915         | 940          | 950           | 920           | –              |
|                               | Vickers hardness HV | min.              | 170  | 188         |              |               |               | –              |
|                               |                     | max.              | 302  |             |              |               |               | –              |
| 10                            | proof load value Sp | N/mm <sup>2</sup> | 1040   | 1040        | 1040         | 1050          | 1060          | –              |
|                               | Vickers hardness HV | min.              | 272  |             |              |               |               |                |
|                               |                     | max.              | 353  |             |              |               |               |                |
| 12                            | proof load value Sp | N/mm <sup>2</sup> | 1150   | 1150        | 1160         | 1190          | 1200          | –              |
|                               | Vickers hardness HV | min.              | 295 <sup>1)</sup>                                      |             |              | –             | –             |                |
|                               |                     |                   | 272 <sup>2)</sup>                                      |             |              |               | –             |                |
|                               |                     | max.              | 353  |             |              |               |               | –              |

<sup>1)</sup> For nuts as per ISO 4032 (type 1).

<sup>2)</sup> For nuts as per ISO 4033 (type 2).

### Remarks:

- The minimum hardness values only apply for nuts where loading tests at the proof load value can **not** be carried out and for quenched and tempered nuts. For all other nuts the minimum hardness values are for guidance only. The minimum hardness values for nominal diameters in the range 39 to 100 mm are for guidance only.
- Mechanical properties of nuts with fine metric thread are significantly different. Ref. ISO 898-6.
- Nuts with thread tolerance other than 6H have reduced thread strength (e.g. 7H or 6G).

### Important remark on nuts with property classes according to DIN:

The proof load stress of hexagon nuts, with mechanical properties according to the obsolete DIN 267-4, can be significantly lower:

| Thread size  |       | Property classes                       |           |           |           |           |           |           |           |
|--------------|-------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|              |       | 5                                      |           | 8         |           | 10        |           | 12        |           |
| greater than | up to | Proof load values in N/mm <sup>2</sup> |           |           |           |           |           |           |           |
|              |       | ISO 898-2                              | DIN 267-4 | ISO 898-2 | DIN 267-4 | ISO 898-2 | DIN 267-4 | ISO 898-2 | DIN 267-4 |
| –            | M4    | 520                                    | 500       | 800       | 800       | 1040      | 1000      | 1150      | 1200      |
| M4           | M7    | 580                                    | 500       | 810       | 800       | 1040      | 1000      | 1150      | 1200      |
| M7           | M10   | 590                                    | 500       | 830       | 800       | 1040      | 1000      | 1160      | 1200      |
| M10          | M16   | 610                                    | 500       | 840       | 800       | 1050      | 1000      | 1190      | 1200      |
| M16          | M39   | 630                                    | 500       | 920       | 800       | 1060      | 1000      | 1200      | 1200      |

**For new designs it is highly recommended to apply nuts with property classes according to ISO standards instead of the obsolete DIN standards!**

## 2.3 Corrosion-resistant stainless steel fasteners

### 2.3.1 Field of application

Mechanical properties of stainless steel fasteners are defined in ISO 3506:2009 parts 1 to 4:

Part 1: Bolts, screws and studs

Part 2: Nuts

Part 3: Set screws and similar fasteners not under tensile stress

Part 4: Tapping screws

The term “STAINLESS” steel is used to refer to a wide range of materials, all of which have at least 12% chromium (Cr) and normally also other alloying elements, with nickel (Ni) and molybdenum (Mo) being the most important. In these steels chromic oxide will be formed at the surface, which protects it from corrosion. At elevated temperatures chrome will tend to form carbides instead of oxide.

For fasteners, the extensive range of stainless steels has been subdivided according to ISO 3506 into 3 material groups based on their metallurgical structure:

Austenitic (A)

Martensitic (C)

Ferritic (F)

The martensitic and ferritic groups are of hardly any importance for commercial fasteners. The austenitic material group - also referred to as chromium-nickel steel - is the most used for fasteners and is further subdivided into 5 steel grades, each with a different resistance to corrosion and a specific field of application.

A1:

A free-cutting steel grade, having superior machinability due to a higher percentage of phosphorus and sulphur. As a consequence however, general corrosion resistance is reduced. This “free cutting” stainless steel is seldom used for mass produced fasteners.

A2:

The most frequently used stainless steel grade (for mass production of fasteners) - also called 18/8 (18% Cr, 8% Ni) - with outstanding corrosion resistance under normal atmospheric conditions, in wet environments and when exposed to oxidizing and organic acids, and many alkaline solutions. However A2 is not suitable for use in non-oxidizing acids and agents with chloride content, i.e. in swimming pools and sea water.

A3:

This is a stabilized stainless steel with A2 properties. Due to elements Ti, Nb or Ta which reduce the binding of carbon to chromium, this steel grade is particularly suitable for use at elevated temperatures. It is relatively rarely used for mass produced fasteners.

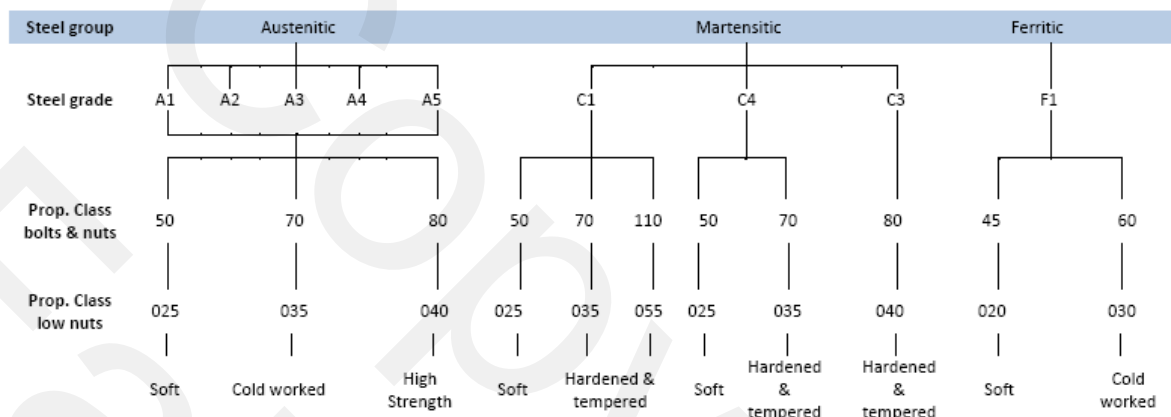
A4:

Steels of grade A4 are “acid proof steels”, which are Mo alloyed and give a considerably better corrosion resistance in aggressive conditions such as those found in sea climates (chlorides), industrial atmospheres (sulphur dioxide), where oxidizing acids are present and if pitting may occur. However in aggressive conditions such as offshore, high chloride environment or similar applications, steels with a higher content of Cr, Ni and in particular Mo are required.

A5:

This is a stabilized stainless steel with A4 properties. Due to elements Ti, Nb or Ta which reduce the binding of carbon to chromium, this steel grade is particularly suitable for use at elevated temperatures. It is relatively rarely used for mass produced fasteners.

### 2.3.2 Designation system of property classes



The designation of the property class represents 1/10 of the tensile strength (bolt or screw) or 1/10 of the stress under proof load for nuts. If the first digit is “0”, this indicates the nut has a reduced loadability compared to a normal nut.

### 2.3.3 Marking of austenitic stainless steel fasteners

Stainless steel hexagon bolts and nuts and socket cap screws of size M5 and above and all packaging shall be marked with the manufacturer's identification mark and the steel grade, followed by the two (or three) digits of the property class or as an alternative for turned nuts by grooving, see examples below. If the property class is not indicated, property class 50 or 025 applies. Low carbon austenitic stainless steel with carbon content not exceeding 0,03% may additionally be marked with an “L”.



Marking of studs and other fasteners shall be agreed on by user and manufacturer.

### 2.3.4 Mechanical and other physical properties of austenitic stainless steel fasteners

Mechanical properties of austenitic stainless steel bolts, screws, studs and nuts:

| Stainless steel   |             | Property class | Bolts and screws   |  |   | Nuts type 1                                     |
|---|-------------|----------------|--|--|---|---|
| Steel group   | Steel grade |                | Tensile strength $R_m$ <sup>1)</sup><br>min. N/mm <sup>2</sup> | 0.2% yield strength $R_{p0.2}$ <sup>1)</sup><br>min. N/mm <sup>2</sup> | Elongation at fracture $A$ <sup>2)</sup><br>min. mm | Proof load value $Sp$ min.<br>N/mm <sup>2</sup> |
| Austenitic  | A1, A2,     | 50             | 500  | 210  | 0,6d  | 500   |
|   | A3, A4,     | 70             | 700  | 450  | 0,4d  | 700   |
|   | A5          | 80             | 800  | 600  | 0,3d  | 800   |
| <sup>1)</sup> Values are calculated on the nominal stress area (ref. Thread sizes tables)                     |             |                |  |  |   |   |
| <sup>2)</sup> Determined according to ISO 3506-1 on the actual screw length and not on a prepared test piece. |             |                |  |  |   |   |

Minimum breaking torque in Nm for austenitic stainless steel grade bolts and screws M1,6 to M16 (coarse thread):

| Nominal thread size | Property class 50 | Property class 70 | Property class 80 |
|---------------------|-------------------|-------------------|-------------------|
| M1.6                | 0.15              | 0.2               | 0.24              |
| M2                  | 0.3               | 0.4               | 0.48              |
| M2.5                | 0.6               | 0.9               | 0.96              |
| M3                  | 1.1               | 1.6               | 1.76              |
| M4                  | 2.7               | 3.8               | 4.32              |
| M5                  | 5.5               | 7.8               | 8.8               |
| M6                  | 9.3               | 13                | 15                |
| M8                  | 23                | 32                | 37                |
| M10                 | 46                | 65                | 74                |
| M12                 | 80                | 110               | 130               |
| M16                 | 210               | 290               | 330               |

0.2% yield strength ( $R_{p0.2}$ ) of austenitic stainless steel at elevated temperatures:

| Steel grade   | +100°C           | +200°C           | +300°C           | +400°C           |
|---|------------------|------------------|------------------|------------------|
| A2, A3, A4, A5  | 85 <sup>1)</sup> | 80 <sup>1)</sup> | 75 <sup>1)</sup> | 70 <sup>1)</sup> |
| <sup>1)</sup> These values are given as a % of the values at room temperature. The values only apply to fasteners assigned to property classes 70 and 80. |                  |                  |                  |                  |

Application at low temperatures:

| Steel grade   | Lower limits of operational temperature at continuous operation |        |
|---|---|--------|
| A2, A3  | -200°C  |        |
| A4, A5  | bolts and screws <sup>1)</sup>                                  | -60°C  |
|   | studs   | -200°C |
| <sup>1)</sup> In connection with the alloying element Mo, the stability of the austenite is reduced and the transition temperature is shifted to higher values, if a high degree of deformation during the production of the fastener is applied. |   |        |

Magnetic properties:

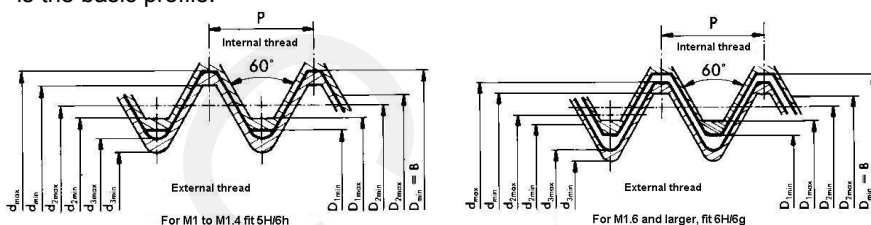
Austenitic stainless steel fasteners generally are non-magnetic. However after cold working, some magnetic properties may be evident. In this respect A4 is better than A2 with A1 being the most unfavourable. Some applications like those for electrotechnical equipment, and in marine and nuclear industry, require a magnetic permeability as close as possible to 1.0. Ex stock fasteners are not suitable for these purposes and special non-magnetisable steel types must be mutually agreed on.

### 3 Thread

#### 3.1 Metric (ISO) screw thread, coarse series – M

Basic profile and limiting profiles

The bold lines indicate the maximum material profiles. The maximum material profile of the internal thread is the basic profile.



|                                 |                                       |                                       |
|---------------------------------|---------------------------------------|---------------------------------------|
| <b>B</b> = basic major diameter | <b>d</b> = major diameter             | <b>D</b> = major diameter             |
| <b>P</b> = pitch                | <b>d<sub>3</sub></b> = minor diameter | <b>D<sub>1</sub></b> = minor diameter |
|                                 | <b>d<sub>2</sub></b> = pitch diameter | <b>D<sub>2</sub></b> = pitch diameter |

##### 3.1.1 Limit dimensions for metric screw thread, coarse series, fit 6H/6g

The table below is based on ISO 965-1 (1998). Dimensions in mm.

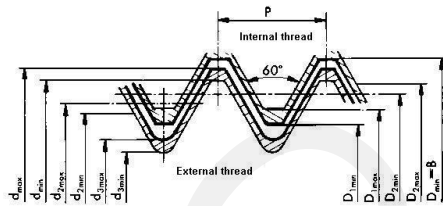
| Basic <sup>2)</sup> diameter | Pitch    | External thread tolerance 6g <sup>1)</sup><br>(bolts and screws) |                         |                          |                          |                          |                          | Internal thread tolerance 6H <sup>1)</sup><br>(nuts) |                          |                          |                          | Section at minor diameter           | Stress area                         |
|------------------------------|----------|--|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|--------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
|                              |          | Major diameter   |                         | Pitch diameter           |                          | Minor diameter           |                          | Pitch diameter                                       |                          | Minor diameter           |                          | $\frac{\pi}{4}d_3^2$                | $\frac{\pi}{4}(d_2+d_3)^2$          |
| <b>B = D<sub>min.</sub></b>  | <b>P</b> | <b>d<sub>max.</sub></b>  | <b>d<sub>min.</sub></b> | <b>d<sub>2max.</sub></b> | <b>d<sub>2min.</sub></b> | <b>d<sub>3max.</sub></b> | <b>d<sub>3min.</sub></b> | <b>D<sub>2min.</sub></b>                             | <b>D<sub>2max.</sub></b> | <b>D<sub>1min.</sub></b> | <b>D<sub>1max.</sub></b> | <b>A<sub>d3mm</sub><sup>2</sup></b> | <b>A<sub>s mm</sub><sup>2</sup></b> |
| 1 <sup>1)</sup>              | 0,25     | 1,000  | 0,933                   | 0,838                    | 0,785                    | 0,693                    | 0,630                    | 0,838  | 0,894                    | 0,729                    | 0,785                    | 0,337                               | 0,460                               |
| 1,1 <sup>1)</sup>            | 0,25     | 1,100  | 1,033                   | 0,938                    | 0,885                    | 0,793                    | 0,730                    | 0,938  | 0,994                    | 0,829                    | 0,885                    | 0,494                               | 0,588                               |
| 1,2 <sup>1)</sup>            | 0,25     | 1,200  | 1,133                   | 1,038                    | 0,985                    | 0,893                    | 0,830                    | 1,038  | 1,094                    | 0,929                    | 0,985                    | 0,626                               | 0,732                               |
| 1,4 <sup>1)</sup>            | 0,3      | 1,400  | 1,325                   | 1,205                    | 1,149                    | 1,032                    | 0,964                    | 1,205  | 1,265                    | 1,075                    | 1,142                    | 0,837                               | 0,983                               |
| 1,6                          | 0,35     | 1,581  | 1,496                   | 1,354                    | 1,291                    | 1,152                    | 1,075                    | 1,373  | 1,458                    | 1,221                    | 1,321                    | 1,075                               | 1,27                                |
| 1,8                          | 0,35     | 1,781  | 1,696                   | 1,554                    | 1,491                    | 1,352                    | 1,275                    | 1,573  | 1,658                    | 1,421                    | 1,521                    | 1,474                               | 1,70                                |
| 2                            | 0,4      | 1,981  | 1,886                   | 1,721                    | 1,654                    | 1,490                    | 1,407                    | 1,740  | 1,830                    | 1,567                    | 1,679                    | 1,788                               | 2,07                                |
| 2,2                          | 0,45     | 2,180  | 2,080                   | 1,888                    | 1,817                    | 1,628                    | 1,540                    | 1,908  | 2,003                    | 1,713                    | 1,838                    | 2,133                               | 2,48                                |
| 2,5                          | 0,45     | 2,480  | 2,380                   | 2,188                    | 2,117                    | 1,928                    | 1,840                    | 2,208  | 2,303                    | 2,013                    | 2,138                    | 2,980                               | 3,39                                |
| 3                            | 0,5      | 2,980  | 2,874                   | 2,655                    | 2,580                    | 2,367                    | 2,273                    | 2,675  | 2,775                    | 2,459                    | 2,599                    | 4,475                               | 5,03                                |
| 3,5                          | 0,6      | 3,479  | 3,354                   | 3,089                    | 3,004                    | 2,743                    | 2,635                    | 3,110  | 3,222                    | 2,850                    | 3,010                    | 6,000                               | 6,78                                |
| 4                            | 0,7      | 3,978  | 3,838                   | 3,523                    | 3,433                    | 3,119                    | 3,002                    | 3,545  | 3,663                    | 3,242                    | 3,422                    | 7,749                               | 8,78                                |
| 4,5                          | 0,75     | 4,478  | 4,338                   | 3,991                    | 3,901                    | 3,558                    | 3,439                    | 4,013  | 4,131                    | 3,688                    | 3,878                    | 10,07                               | 11,3                                |
| 5                            | 0,8      | 4,976  | 4,826                   | 4,456                    | 4,361                    | 3,995                    | 3,869                    | 4,480  | 4,605                    | 4,134                    | 4,334                    | 12,69                               | 14,2                                |
| 6                            | 1        | 5,974  | 5,794                   | 5,324                    | 5,212                    | 4,747                    | 4,596                    | 5,350  | 5,500                    | 4,917                    | 5,153                    | 17,89                               | 20,1                                |
| 7                            | 1        | 6,974  | 6,794                   | 6,324                    | 6,212                    | 5,747                    | 5,596                    | 6,350  | 6,500                    | 5,917                    | 6,153                    | 26,18                               | 28,9                                |
| 8                            | 1,25     | 7,972  | 7,760                   | 7,160                    | 7,042                    | 6,438                    | 6,272                    | 7,188  | 7,348                    | 6,647                    | 6,912                    | 32,84                               | 36,6                                |
| 9                            | 1,25     | 8,972  | 8,760                   | 8,160                    | 8,042                    | 7,438                    | 7,272                    | 8,188  | 8,348                    | 7,647                    | 7,912                    | 43,78                               | 48,1                                |
| 10                           | 1,5      | 9,968  | 9,732                   | 8,994                    | 8,862                    | 8,128                    | 7,938                    | 9,026  | 9,206                    | 8,376                    | 8,676                    | 52,3                                | 58,0                                |
| 11                           | 1,5      | 10,968   | 10,732                  | 9,994                    | 9,862                    | 9,128                    | 8,938                    | 10,026   | 10,206                   | 9,376                    | 9,676                    | 65,9                                | 72,3                                |
| 12                           | 1,75     | 11,966   | 11,701                  | 10,829                   | 10,679                   | 9,819                    | 9,602                    | 10,863   | 11,063                   | 10,106                   | 10,441                   | 76,2                                | 84,3                                |
| 14                           | 2        | 13,962   | 13,682                  | 12,663                   | 12,503                   | 11,508                   | 11,271                   | 12,701   | 12,913                   | 11,835                   | 12,210                   | 104,7                               | 115                                 |
| 16                           | 2        | 15,962   | 15,682                  | 14,663                   | 14,503                   | 13,508                   | 13,271                   | 14,701   | 14,913                   | 13,835                   | 14,210                   | 144,1                               | 157                                 |
| 18                           | 2,5      | 17,958   | 17,623                  | 16,334                   | 16,164                   | 14,891                   | 14,625                   | 16,376   | 16,600                   | 15,294                   | 15,744                   | 175,1                               | 193                                 |
| 20                           | 2,5      | 19,958   | 19,623                  | 18,334                   | 18,164                   | 16,891                   | 16,625                   | 18,376   | 18,600                   | 17,294                   | 17,744                   | 225,2                               | 245                                 |
| 22                           | 2,5      | 21,958   | 21,623                  | 20,334                   | 20,164                   | 18,891                   | 18,625                   | 20,376   | 20,600                   | 19,294                   | 19,744                   | 281,5                               | 303                                 |
| 24                           | 3        | 23,952   | 23,577                  | 22,003                   | 21,803                   | 20,271                   | 19,955                   | 22,051   | 22,316                   | 20,752                   | 21,252                   | 324,3                               | 353                                 |
| 27                           | 3        | 26,952   | 26,577                  | 25,003                   | 24,803                   | 23,271                   | 22,955                   | 25,051   | 25,316                   | 23,752                   | 24,252                   | 427,1                               | 459                                 |
| 30                           | 3,5      | 29,947   | 29,522                  | 27,674                   | 27,462                   | 25,653                   | 25,306                   | 27,727   | 28,007                   | 26,211                   | 26,711                   | 519,0                               | 561                                 |
| 33                           | 3,5      | 32,947   | 32,522                  | 30,674                   | 30,462                   | 28,653                   | 28,306                   | 30,727   | 31,007                   | 29,211                   | 29,711                   | 647,2                               | 694                                 |
| 36                           | 4        | 35,940   | 35,465                  | 33,342                   | 33,118                   | 31,033                   | 30,655                   | 33,402   | 33,702                   | 31,670                   | 32,270                   | 759,3                               | 817                                 |
| 39                           | 4        | 38,940   | 38,465                  | 36,342                   | 36,118                   | 34,033                   | 33,655                   | 36,402   | 36,702                   | 34,670                   | 35,270                   | 913                                 | 976                                 |
| 42                           | 4,5      | 41,937   | 41,437                  | 39,014                   | 38,778                   | 36,416                   | 36,007                   | 39,077   | 39,392                   | 37,129                   | 37,799                   | 1045                                | 1121                                |
| 45                           | 4,5      | 44,937   | 44,437                  | 42,014                   | 41,778                   | 39,416                   | 39,007                   | 42,077   | 42,392                   | 40,129                   | 40,799                   | 1224                                | 1306                                |
| 48                           | 5        | 47,929   | 47,399                  | 44,681                   | 44,431                   | 41,795                   | 41,352                   | 44,752   | 45,087                   | 42,587                   | 43,297                   | 1377                                | 1473                                |
| 52                           | 5        | 51,929   | 51,399                  | 48,681                   | 48,431                   | 45,795                   | 45,352                   | 48,752   | 49,087                   | 46,587                   | 47,297                   | 1652                                | 1758                                |
| 56                           | 5,5      | 55,925   | 55,365                  | 52,353                   | 52,088                   | 49,177                   | 48,700                   | 52,428   | 52,783                   | 50,046                   | 50,796                   | 1905                                | 2030                                |
| 60                           | 5,5      | 59,925   | 59,365                  | 56,353                   | 56,088                   | 53,177                   | 52,700                   | 56,428   | 56,783                   | 54,046                   | 54,796                   | 2227                                | 2362                                |
| 64                           | 6        | 63,920   | 63,320                  | 60,023                   | 59,743                   | 56,559                   | 56,048                   | 60,103   | 60,478                   | 57,505                   | 58,305                   | 2520                                | 2676                                |
| 68                           | 6        | 67,920   | 67,320                  | 64,023                   | 63,743                   | 60,559                   | 60,048                   | 64,103   | 64,478                   | 61,505                   | 62,305                   | 2888                                | 3055                                |

1. The values for basic diameters 1 to 1.4 mm correspond to the fit 5H/6h.  
 2. Metric screw thread is designated by the basic diameter, preceded by the profile letter M and followed by the tolerance grade, e.g. 6, and the tolerance position, e.g. g. Example: M10-6g. If no tolerance class is indicated, the above mentioned fits are valid.  
 For basic diameters above 68mm. See metric screw thread, fine series.

### 3.2 Metric (ISO) screw thread, fine series – MF

#### Basic profile and limiting profiles

The bold lines indicate the maximum material profiles. The maximum material profile of the internal thread is the basic profile.



**External thread**  
 d = major diameter  
 d<sub>3</sub> = minor diameter  
 d<sub>2</sub> = pitch diameter  
**Internal thread**  
 D = major diameter  
 D<sub>1</sub> = minor diameter  
 D<sub>2</sub> = pitch diameter  
 B = basic major diameter  
 P = pitch

#### 3.2.1 Limit dimensions for metric screw thread, fine series, fit 6H/6g

The table below is based on ISO 965-1 (1998). Dimensions in mm.

| Basic <sup>2)</sup><br>Dia. | Pitch<br>P | External thread tolerance 6g <sup>1)</sup><br>(bolts and screws) |                   |                    |                    |                    |                    | Internal thread tolerance 6H <sup>1)</sup><br>(nuts) |                    |                    |                    | Section<br>at minor<br>Dia.<br>$\frac{\pi}{4} d_3^2$ | Stress<br>area<br>$\frac{\pi}{4} \left( \frac{d_2 + d_3}{2} \right)^2$ |
|-----------------------------|------------|--|-------------------|--------------------|--------------------|--------------------|--------------------|--|--------------------|--------------------|--------------------|--|--|
|                             |            | Major diameter   |                   | Pitch diameter     |                    | Minor diameter     |                    | Pitch diameter                                       |                    | Minor diameter     |                    |  |  |
| B =<br>D <sub>min.</sub>    | P          | d <sub>max.</sub>  | d <sub>min.</sub> | d <sub>2max.</sub> | d <sub>2min.</sub> | d <sub>3max.</sub> | d <sub>3min.</sub> | D <sub>2min.</sub>                                   | D <sub>2max.</sub> | D <sub>1min.</sub> | D <sub>1max.</sub> | A <sub>43</sub> mm <sup>2</sup>                      | A <sub>s</sub> mm <sup>2</sup>   |
| 6                           | 0,75       | 5,978  | 5,838             | 5,491              | 5,391              | 5,058              | 4,929              | 5,513  | 5,645              | 5,188              | 5,378              | 20,27  | 22,0   |
| 8                           | 1          | 7,974  | 7,794             | 7,324              | 7,212              | 6,747              | 6,596              | 7,350  | 7,500              | 6,917              | 7,153              | 36,03  | 39,2   |
| 10                          | 1          | 9,974  | 9,794             | 9,324              | 9,212              | 8,747              | 8,596              | 9,350  | 9,500              | 8,917              | 9,153              | 60,45  | 64,5   |
| 10                          | 1,25       | 9,972  | 9,760             | 9,160              | 9,042              | 8,438              | 8,272              | 9,188  | 9,348              | 8,647              | 8,912              | 56,29  | 61,2   |
| 12                          | 1          | 11,974   | 11,794            | 11,324             | 11,206             | 10,747             | 10,590             | 11,350   | 11,510             | 10,917             | 11,153             | 91,15  | 96,1   |
| 12                          | 1,25       | 11,972   | 11,760            | 11,160             | 11,028             | 10,438             | 10,258             | 11,188   | 11,368             | 10,647             | 10,912             | 86,03  | 92,1   |
| 12                          | 1,5        | 11,968   | 11,732            | 10,994             | 10,854             | 10,128             | 9,930              | 11,026   | 11,216             | 10,376             | 10,676             | 81,07  | 88,1   |
| 14                          | 1,5        | 13,968   | 13,732            | 12,994             | 12,854             | 12,128             | 11,930             | 13,026   | 13,216             | 12,376             | 12,676             | 116,1  | 125  |
| 16                          | 1,5        | 15,968   | 15,732            | 14,994             | 14,854             | 14,128             | 13,930             | 15,026   | 15,216             | 14,376             | 14,676             | 157,5  | 167  |
| 18                          | 1,5        | 17,968   | 17,732            | 16,994             | 16,854             | 16,128             | 15,930             | 17,026   | 17,216             | 16,376             | 16,676             | 205,1  | 216  |
| 18                          | 2          | 17,962   | 17,682            | 16,663             | 16,503             | 15,508             | 15,271             | 16,701   | 16,913             | 15,835             | 16,210             | 189,8  | 204  |
| 20                          | 1,5        | 19,968   | 19,732            | 18,994             | 18,854             | 18,128             | 17,930             | 19,026   | 19,216             | 18,376             | 18,676             | 259,0  | 272  |
| 20                          | 2          | 19,962   | 19,682            | 18,663             | 18,503             | 17,508             | 17,271             | 18,701   | 18,913             | 17,835             | 18,210             | 241,8  | 258  |
| 22                          | 1,5        | 21,968   | 21,732            | 20,994             | 20,854             | 20,128             | 19,930             | 21,026   | 21,216             | 20,376             | 20,676             | 319,2  | 333  |
| 22                          | 2          | 21,962   | 21,682            | 20,663             | 20,503             | 19,508             | 19,271             | 20,701   | 20,913             | 19,835             | 20,210             | 300,1  | 318  |
| 24                          | 1,5        | 23,968   | 23,732            | 22,994             | 22,844             | 22,128             | 21,920             | 23,026   | 23,226             | 22,376             | 22,676             | 385,7  | 401  |
| 24                          | 2          | 23,962   | 23,682            | 22,663             | 22,493             | 21,508             | 21,261             | 22,701   | 22,925             | 21,835             | 22,210             | 364,6  | 384  |
| 27                          | 1,5        | 26,968   | 26,732            | 25,994             | 25,844             | 25,128             | 24,920             | 26,026   | 26,226             | 25,376             | 25,676             | 497,2  | 514  |
| 27                          | 2          | 26,962   | 26,682            | 25,663             | 25,493             | 24,508             | 24,261             | 25,701   | 25,925             | 24,835             | 25,210             | 473,2  | 496  |
| 30                          | 1,5        | 29,968   | 29,732            | 28,994             | 28,844             | 28,128             | 27,920             | 29,026   | 29,226             | 28,376             | 28,676             | 622,8  | 642  |
| 30                          | 2          | 29,962   | 29,682            | 28,663             | 28,493             | 27,508             | 27,261             | 28,701   | 28,925             | 27,835             | 28,210             | 596,0  | 621  |
| 33                          | 1,5        | 32,968   | 32,732            | 31,994             | 31,844             | 31,128             | 30,920             | 32,026   | 32,226             | 31,376             | 31,676             | 762,6  | 784  |
| 33                          | 2          | 32,962   | 32,682            | 31,663             | 31,493             | 30,508             | 30,261             | 31,701   | 31,925             | 30,835             | 31,210             | 732,8  | 761  |
| 36                          | 1,5        | 35,968   | 35,732            | 34,994             | 34,844             | 34,128             | 33,920             | 35,026   | 35,226             | 34,376             | 34,676             | 916,5  | 940  |
| 36                          | 3          | 35,952   | 35,682            | 34,003             | 33,803             | 32,271             | 31,955             | 34,051   | 34,316             | 32,752             | 33,252             | 820,4  | 865  |
| 39                          | 1,5        | 38,968   | 38,732            | 37,994             | 37,844             | 37,128             | 36,920             | 38,026   | 38,226             | 37,376             | 37,676             | 1085   | 1110   |
| 39                          | 3          | 38,952   | 38,577            | 37,003             | 36,803             | 35,271             | 34,955             | 37,051   | 37,316             | 35,752             | 36,252             | 979,7  | 1028   |
| 42                          | 1,5        | 41,968   | 41,732            | 40,994             | 40,844             | 40,128             | 39,920             | 41,026   | 41,226             | 40,376             | 40,676             | 1267   | 1294   |
| 42                          | 3          | 41,952   | 41,577            | 40,003             | 39,803             | 38,271             | 37,955             | 40,051   | 40,316             | 38,752             | 39,252             | 1153   | 1206   |
| 45                          | 1,5        | 44,968   | 44,732            | 43,994             | 43,844             | 43,128             | 42,920             | 44,026   | 44,226             | 43,376             | 43,676             | 1463   | 1492   |
| 45                          | 3          | 44,952   | 44,577            | 43,003             | 42,803             | 41,276             | 40,955             | 43,051   | 43,316             | 41,752             | 42,252             | 1341   | 1398   |
| 48                          | 1,5        | 47,968   | 47,732            | 46,994             | 46,834             | 46,128             | 45,910             | 47,026   | 47,238             | 46,376             | 46,676             | 1674   | 1705   |
| 48                          | 3          | 47,952   | 47,577            | 46,003             | 45,791             | 44,271             | 43,943             | 46,051   | 46,331             | 44,752             | 45,252             | 1543   | 1604   |
| 52                          | 1,5        | 51,968   | 51,732            | 50,994             | 50,834             | 50,128             | 49,910             | 51,026   | 51,238             | 50,376             | 50,676             | 1976   | 2010   |
| 52                          | 3          | 51,952   | 51,577            | 50,003             | 49,791             | 48,271             | 47,943             | 50,051   | 50,331             | 48,752             | 49,252             | 1834   | 1900   |
| 56                          | 2          | 55,962   | 55,682            | 54,663             | 54,483             | 53,508             | 53,251             | 54,701   | 54,937             | 53,835             | 54,210             | 2252   | 2301   |
| 56                          | 4          | 55,940   | 55,465            | 53,342             | 53,106             | 51,033             | 50,643             | 53,402   | 53,717             | 51,670             | 52,270             | 2050   | 2144   |
| 60                          | 4          | 59,940   | 59,465            | 57,342             | 57,106             | 55,033             | 54,643             | 57,402   | 57,717             | 55,670             | 56,270             | 2384   | 2485   |
| 64                          | 4          | 63,940   | 63,465            | 61,342             | 61,106             | 59,033             | 58,643             | 61,402   | 61,717             | 59,670             | 60,270             | 2743   | 2851   |
| 68                          | 4          | 67,940   | 67,465            | 65,342             | 65,106             | 63,033             | 62,643             | 65,402   | 65,717             | 63,670             | 64,270             | 3127   | 3242   |
| 72                          | 6          | 71,920   | 71,320            | 68,023             | 67,743             | 64,559             | 64,048             | 68,103   | 68,478             | 65,505             | 66,305             | 3287   | 3463   |
| 76                          | 6          | 75,920   | 75,320            | 72,023             | 71,743             | 68,559             | 68,048             | 72,103   | 72,478             | 69,505             | 70,305             | 3700   | 3889   |
| 80                          | 6          | 79,920   | 79,320            | 76,023             | 75,743             | 72,559             | 72,048             | 76,103   | 76,478             | 73,505             | 74,305             | 4144   | 4344   |
| 90                          | 6          | 89,920   | 89,320            | 86,023             | 85,743             | 82,559             | 82,048             | 86,103   | 86,478             | 83,505             | 84,305             | 5364   | 5590   |
| 100                         | 6          | 99,920   | 99,320            | 96,023             | 95,723             | 92,559             | 92,028             | 96,103   | 96,503             | 93,505             | 94,305             | 6740   | 7000   |
| 110                         | 6          | 109,920  | 109,320           | 106,023            | 105,723            | 102,559            | 102,028            | 106,103  | 106,503            | 103,505            | 104,305            | 8273   | 8560   |

1 For coated threads the maximum values of d, d<sub>2</sub> and d<sub>3</sub> are equal to the values of the basic profile. (d<sub>2max.</sub> = D<sub>2min.</sub> and d<sub>3max.</sub> = D<sub>3min.</sub>)  
 2 Metric screw thread, fine series, are designated by the basic diameter, preceded by the profile letter M and followed by the pitch separated by an x and then by the tolerance grade, e.g. 6, and the tolerance position, e.g. H. Example: M10x1,25-6H. If no tolerance class is mentioned, the fit 6H/6g applies.

### 3.3 Screw threads, fine versus coarse thread

#### 3.3.1 Explanation

The general trend for commercial fasteners has shown a gradual and noticeable shift in popularity towards coarse threads. And rightly so, as there are increasingly less reasons to justify the use of fine threads. Although fine threads are used in special cases (such as for adjusters, or for certain engine screws), these cases occur so infrequently that fasteners with fine thread are becoming more and more a special product with all the attendant economic disadvantages (higher price, poor availability, double stocking)  
The fine screw thread was mainly created for, and is still popular in, the automotive industry - and other related industries.

The most important arguments of the proponents of fine thread are:

- higher static tensile strength because of the thread's larger stress area
- because of the smaller helix angle, it offers more resistance to loosening when subjected to vibration
- improved adjustment accuracy

In practice however, most constructions are not loaded statically but dynamically, so fatigue strength is the criterion. Coarse thread exhibits better fatigue resistance because stress concentration at the root decreases as thread pitch increases. The argument of better resistance to loosening has been outdated by the development of mechanical and chemical locking systems, which offer a more effective solution for loss of preload especially when the fastener is exposed to dynamic transverse forces.

Further advantages of coarse thread are:

- less sensitive to damage, and generally easier and quicker assembly
- thicker coatings possible as a consequence of the larger thread allowances
- less danger of thread being stripped

The most important pros and cons are summarised in the following evaluation table:

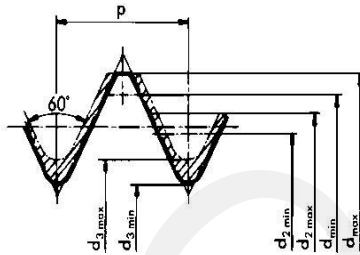
| functional properties         | screw thread coarse <sup>1)</sup> | screw thread fine |
|-------------------------------|-----------------------------------|-------------------|
| static strength               | +                                 | ++                |
| dynamic strength              | +                                 | -                 |
| Resistance to loosening       | -                                 | +                 |
| Insensitive to damage         | +                                 | -                 |
| Coating thickness             | +                                 | -                 |
| Insensitive to being stripped | +                                 | -                 |
| Ease of assembly              | +                                 | -                 |
| Low cost/availability         | +                                 | -                 |

1) Coarse thread is recommended for standardized fasteners in general constructions.



### 3.4 Metric screw threads with tolerance class Sk6 for DIN 939 studs

#### Basic profile and limiting profiles



The bold line indicates the minimum material profile.

- P = Pitch
- d = major diameter = basic size
- $d_2$  = pitch diameter
- $d_3$  = minor diameter

The tolerance class Sk6 is used for general applications e.g. the inserted end of studs as per DIN 939 (joints without a seal function) and in combination with internal thread, with the tolerance class fine (4H respectively. 4H5H) as per DIN 13 Part 14. In fact, these tolerance classes for the pitch diameter have to do with a transition fit, because in many cases no actual interference fit will be achieved.

Note:

A true interference fit for metric threads has been developed (MFS), which is achieved by including the oversize in the major diameter. Refer to DIN 8141 Part 1 for the tolerances and to DIN 8141 Part 2 for the associated sizes of the threads. However, these norms only apply to applications in aluminium cast alloys for the sizes M5 through M16. Further developments are dependent on the experience gained.

#### 3.4.1 Limit dimensions for metric screw thread with tolerance class Sk6

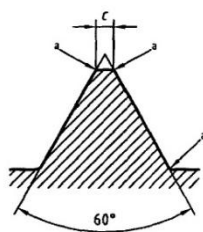
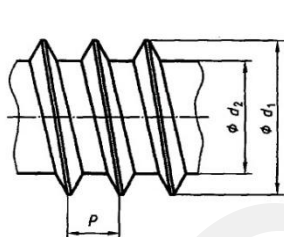
The table below is based on DIN 13-51 (2005). Dimensions in mm.

| Basic diameter     | Pitch | external thread (studs) |            |                |             |                |             |
|--------------------|-------|-------------------------|------------|----------------|-------------|----------------|-------------|
|                    |       | major diameter          |            | pitch diameter |             | minor diameter |             |
| d                  | P     | $d_{max.}$              | $d_{min.}$ | $d_{2max.}$    | $d_{2min.}$ | $d_{3max.}$    | $d_{3min.}$ |
| 6                  | 1     | 6                       | 5,776      | 5,406          | 5,335       | 4,773          | 4,663       |
| (7) <sup>1)</sup>  | 1     | 7                       | 6,776      | 6,406          | 6,335       | 5,773          | 5,633       |
| 8                  | 1,25  | 8                       | 7,750      | 7,244          | 7,173       | 6,466          | 6,343       |
| (9) <sup>1)</sup>  | 1,25  | 9                       | 8,750      | 8,244          | 8,173       | 7,466          | 7,343       |
| 10                 | 1,5   | 10                      | 9,720      | 9,082          | 9,011       | 8,160          | 8,017       |
| (11) <sup>1)</sup> | 1,5   | 11                      | 10,720     | 10,082         | 10,011      | 9,160          | 9,017       |
| 12                 | 1,75  | 12                      | 11,600     | 10,943         | 10,843      | 9,853          | 9,691       |
| 14                 | 2     | 14                      | 13,525     | 12,781         | 12,681      | 11,546         | 11,369      |
| 16                 | 2     | 16                      | 15,525     | 14,781         | 14,681      | 13,546         | 13,369      |
| 18                 | 2,5   | 18                      | 17,470     | 16,456         | 16,356      | 14,933         | 14,731      |
| 20                 | 2,5   | 20                      | 19,470     | 18,456         | 18,356      | 16,933         | 16,731      |
| 22                 | 2,5   | 22                      | 21,470     | 20,456         | 20,356      | 18,933         | 18,731      |
| 24                 | 3     | 24                      | 23,400     | 22,131         | 22,031      | 20,319         | 20,078      |

<sup>1)</sup> Preferably not to be used

Designation of this screw thread e.g. M12 Sk6

### 3.5 Tapping screw thread – ST



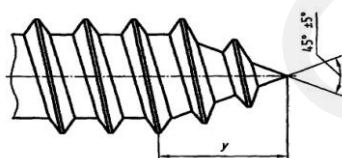
Edges slightly radiused at (a)

#### 3.5.1 Limit dimensions for tapping screw thread

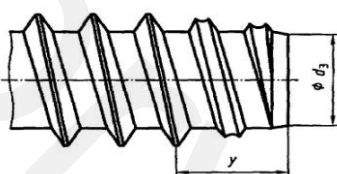
The table below is based on ISO 1478 (1999). Dimensions in mm.

| Basic diameter | No. | Pitch<br>P | major diameter     |                    | minor diameter     |                    | flat end diameter  |                    | crest flattening<br>C <sub>max.</sub> | point taper length y <sub>max</sub> |        |        |
|----------------|-----|------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------------------------|-------------------------------------|--------|--------|
|                |     |            | d <sub>1max.</sub> | d <sub>1min.</sub> | d <sub>2max.</sub> | d <sub>2min.</sub> | d <sub>3max.</sub> | d <sub>3min.</sub> |                                       | Type C                              | Type F | Type R |
| ST 2,2         | 2   | 0,8        | 2,24               | 2,1                | 1,63               | 1,52               | 1,47               | 1,37               | 0,1                                   | 2                                   | 1,6    | --     |
| ST 2,6         | 3   | 0,9        | 2,57               | 2,43               | 1,9                | 1,8                | 1,73               | 1,6                | 0,1                                   | 2,3                                 | 1,8    | --     |
| ST 2,9         | 4   | 1,1        | 2,9                | 2,76               | 2,18               | 2,08               | 2,01               | 1,88               | 0,1                                   | 2,6                                 | 2,1    | --     |
| ST 3,3         | 5   | 1,3        | 3,3                | 3,12               | 2,39               | 2,29               | 2,21               | 2,08               | 0,1                                   | 3                                   | 2,5    | --     |
| ST 3,5         | 6   | 1,3        | 3,53               | 3,35               | 2,64               | 2,51               | 2,41               | 2,26               | 0,1                                   | 3,2                                 | 2,5    | 2,7    |
| ST 3,9         | 7   | 1,4        | 3,91               | 3,73               | 2,92               | 2,77               | 2,67               | 2,51               | 0,1                                   | 3,5                                 | 2,7    | 3      |
| ST 4,2         | 8   | 1,4        | 4,22               | 4,04               | 3,10               | 2,95               | 2,84               | 2,69               | 0,1                                   | 3,7                                 | 2,8    | 3,2    |
| ST 4,8         | 10  | 1,6        | 4,8                | 4,62               | 3,58               | 3,43               | 3,3                | 3,12               | 0,15                                  | 4,3                                 | 3,2    | 3,6    |
| ST 5,5         | 12  | 1,8        | 5,46               | 5,28               | 4,17               | 3,99               | 3,86               | 3,68               | 0,15                                  | 5                                   | 3,6    | 4,3    |
| ST 6,3         | 14  | 1,8        | 6,25               | 6,03               | 4,88               | 4,7                | 4,55               | 4,34               | 0,15                                  | 6                                   | 3,6    | 5      |
| ST 8           | 16  | 2,1        | 8                  | 7,78               | 6,2                | 5,99               | 5,84               | 5,64               | 0,15                                  | 7,5                                 | 4,2    | 6,3    |

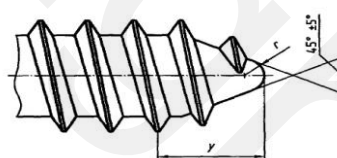
#### 3.5.2 Thread ends for tapping screw thread



Type C (Cone)



Type F (Flat)



Type R (Rounded)

### 3.6 Metric-fine tapered external screw thread – DIN 158-1



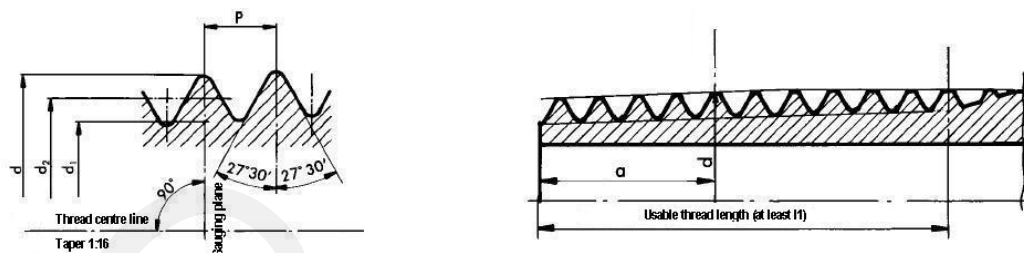
Metric-fine tapered external screw thread is intended to be used for liquid-/gas- tight joints such as pipe plugs as per DIN 906, lubricating nipples, etc. Up to and including M26 no sealing medium is required for oils, other liquids and gases; for sizes above M26 a sealing medium is recommended on the thread. The tapered external thread is normally combined with parallel internal thread as per DIN 158. The metric-fine tapered external thread is designated by the basic diameter, preceded by the profile letter M and followed by the pitch, separated by an "x". E.g.: M 20x1.5.

#### 3.6.1 Limit dimensions for tapered external screw thread, short type

The table below is based on DIN 158-1 (1997). Dimensions in mm.

| Basic diameter x P | major diameter    |                   | pitch diameter     |                    | minor diameter     |                    | Gauge length<br>b | Useful Thread length<br>l <sub>1</sub> |
|--------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--|
|                    | d <sub>max.</sub> | d <sub>min.</sub> | d <sub>2max.</sub> | d <sub>2min.</sub> | d <sub>1max.</sub> | d <sub>1min.</sub> |                   |  |
| M 8x1              | 8,093             | 8,033             | 7,443              | 7,383              | 6,866              | 6,806              | 3                 | 4                                      |
| M 10x1             | 10,093            | 10,033            | 9,443              | 9,383              | 8,866              | 8,806              | 3                 | 4                                      |
| M 12x1,5           | 12,235            | 12,141            | 11,261             | 11,167             | 10,395             | 10,301             | 5,5               | 7,5                                    |
| M 14x1,5           | 14,235            | 14,141            | 13,261             | 13,167             | 12,395             | 12,301             | 5,5               | 7,5                                    |
| M 16x1,5           | 16,235            | 16,141            | 15,261             | 15,167             | 14,395             | 14,301             | 5,5               | 7,5                                    |
| M 18x1,5           | 18,235            | 18,141            | 17,261             | 17,167             | 16,395             | 16,301             | 5,5               | 7,5                                    |
| M 20x1,5           | 20,235            | 20,141            | 19,261             | 19,167             | 18,395             | 18,301             | 5,5               | 7,5                                    |
| M 22x1,5           | 22,235            | 22,141            | 21,261             | 21,167             | 20,395             | 20,301             | 5,5               | 7,5                                    |
| M 24x1,5           | 24,235            | 24,141            | 23,261             | 23,167             | 22,395             | 22,301             | 5,5               | 7,5                                    |
| M 30x1,5           | 30,235            | 30,141            | 29,261             | 29,167             | 28,395             | 28,301             | 5,5               | 7,5                                    |
| M 36x1,5           | 36,282            | 36,141            | 35,308             | 35,182             | 34,442             | 34,316             | 6,9               | 9                                      |
| M 42x1,5           | 42,282            | 42,156            | 41,308             | 41,182             | 40,442             | 40,316             | 6,9               | 9                                      |

### 3.7 Whitworth tapered external pipe thread R – DIN 3858



#### 3.7.1 Nominal sizes for tapered external thread with tolerance 2, short type a

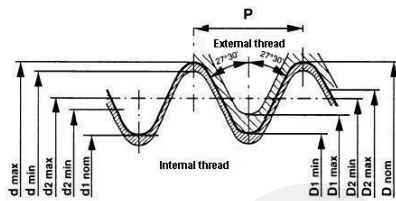
The table below is based on DIN 3858 (2005). Dimensions in mm.

| Designation                    | Number of threads N | Pitch P | external thread  |                      |                      |                |                            |
|--------------------------------|---------------------|---------|------------------|----------------------|----------------------|----------------|----------------------------|
|                                |                     |         | major diameter d | pitch diameter $d_2$ | minor diameter $d_1$ | Gauge length a | Useful thread length $l_1$ |
| R <sup>1</sup> / <sub>8</sub>  | 28                  | 0,907   | 9,728            | 9,147                | 8,566                | 3              | 5,5                        |
| R <sup>1</sup> / <sub>4</sub>  | 19                  | 1,337   | 13,157           | 12,301               | 11,445               | 4,5            | 8,2                        |
| R <sup>3</sup> / <sub>8</sub>  | 19                  | 1,337   | 16,662           | 15,806               | 14,950               | 4,5            | 8,2                        |
| R <sup>1</sup> / <sub>2</sub>  | 14                  | 1,814   | 20,955           | 19,793               | 18,631               | 5              | 10,0                       |
| R <sup>3</sup> / <sub>4</sub>  | 14                  | 1,814   | 26,441           | 25,279               | 24,117               | 6              | 11,0                       |
| R1                             | 11                  | 2,309   | 33,249           | 31,770               | 30,291               | 7              | 13,4                       |
| R1 <sup>1</sup> / <sub>4</sub> | 11                  | 2,309   | 41,910           | 40,431               | 38,952               | 7,5            | 13,9                       |
| R1 <sup>1</sup> / <sub>2</sub> | 11                  | 2,309   | 47,803           | 46,324               | 44,845               | 7,5            | 13,9                       |

The Whitworth tapered external pipe thread is designated by the profile letter R, followed by the basic diameter in inches, e.g.: R1/8.

### 3.8 Parallel pipe thread G – ISO 228-1

The bold line is the basic profile.



pitch  
number of threads per inch

**External thread**  
d = major diameter  
d<sub>1</sub> = minor diameter  
d<sub>2</sub> = pitch diameter

**Internal thread**  
D = major diameter  
D<sub>1</sub> = minor diameter  
D<sub>2</sub> = pitch diameter

Whitworth parallel pipe thread - G is intended to be used for mechanical pressure-tight joints for fittings, valves, cocks, etc. where the seal is not made on the thread. This screw thread is designated by the profile letter G, followed by the basic diameter in inches and, for external thread, followed by the capital A or B of the tolerance class. E.g.: for external thread G <sup>1</sup>/<sub>2</sub> A and for internal thread G <sup>1</sup>/<sub>2</sub>.

#### 3.8.1 Limit dimensions for parallel pipe thread - G

The table below is based on ISO 228-1 (2000). Dimensions in mm.

| external thread, tolerance class A |                   |                   |                   |                    |                    |                    | internal thread                |                   |                |                |                    |                    |                    |
|------------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------------------|-------------------|----------------|----------------|--------------------|--------------------|--------------------|
| Designation                        | number of threads | major diameter    |                   | pitch diameter     |                    | minor diameter     | Designation                    | number of threads | major diameter | pitch diameter |                    | minor diameter     |                    |
|                                    |                   | d <sub>max.</sub> | d <sub>min.</sub> | d <sub>2max.</sub> | d <sub>2min.</sub> | d <sub>1nom.</sub> |                                |                   |                | N              | D <sub>Basic</sub> | D <sub>2max.</sub> | D <sub>2min.</sub> |
| G <sup>1</sup> / <sub>8</sub> A    | 28                | 9,728             | 9,514             | 9,147              | 9,040              | 8,566              | G <sup>1</sup> / <sub>8</sub>  | 28                | 9,728          | 9,254          | 9,147              | 8,848              | 8,566              |
| G <sup>1</sup> / <sub>4</sub> A    | 19                | 13,157            | 12,907            | 12,301             | 12,176             | 11,445             | G <sup>1</sup> / <sub>4</sub>  | 19                | 13,157         | 12,426         | 12,301             | 11,890             | 11,445             |
| G <sup>3</sup> / <sub>8</sub> A    | 19                | 16,662            | 16,412            | 15,806             | 15,681             | 14,950             | G <sup>3</sup> / <sub>8</sub>  | 19                | 16,662         | 15,931         | 15,806             | 15,395             | 14,950             |
| G <sup>1</sup> / <sub>2</sub> A    | 14                | 20,955            | 20,671            | 19,793             | 19,651             | 18,631             | G <sup>1</sup> / <sub>2</sub>  | 14                | 20,995         | 19,935         | 19,793             | 19,172             | 18,631             |
| G <sup>5</sup> / <sub>8</sub> A    | 14                | 22,911            | 22,627            | 21,749             | 21,607             | 20,587             | G <sup>5</sup> / <sub>8</sub>  | 14                | 22,911         | 21,891         | 21,749             | 21,128             | 20,587             |
| G <sup>3</sup> / <sub>4</sub> A    | 14                | 26,441            | 26,157            | 25,279             | 25,137             | 24,117             | G <sup>3</sup> / <sub>4</sub>  | 14                | 26,441         | 25,421         | 25,279             | 24,658             | 24,117             |
| G <sup>7</sup> / <sub>8</sub> A    | 14                | 30,201            | 29,917            | 29,039             | 28,897             | 27,877             | G <sup>7</sup> / <sub>8</sub>  | 14                | 30,201         | 29,181         | 29,039             | 29,418             | 27,877             |
| G 1 A                              | 11                | 33,249            | 32,889            | 31,770             | 31,590             | 30,291             | G 1                            | 11                | 33,249         | 31,950         | 31,770             | 30,931             | 30,291             |
| G1 <sup>1</sup> / <sub>8</sub> A   | 11                | 37,897            | 37,537            | 36,418             | 36,238             | 34,939             | G1 <sup>1</sup> / <sub>8</sub> | 11                | 37,897         | 36,598         | 36,418             | 35,579             | 34,939             |
| G1 <sup>1</sup> / <sub>4</sub> A   | 11                | 41,910            | 41,550            | 40,431             | 40,251             | 38,952             | G1 <sup>1</sup> / <sub>4</sub> | 11                | 41,910         | 40,611         | 40,431             | 39,592             | 38,952             |
| G1 <sup>1</sup> / <sub>2</sub> A   | 11                | 47,803            | 47,443            | 46,324             | 46,144             | 44,845             | G1 <sup>1</sup> / <sub>2</sub> | 11                | 47,803         | 46,504         | 46,324             | 45,485             | 44,845             |

## 4 Basic standards

### 4.1 Drilling sizes for tapping screws and bolts

#### 4.1.1 Application guidelines

The essential characteristic of tapping screw thread is its ability to form a chipless internal thread in a core hole made in the materials to be joined. These core hole data, which are theoretically calculated and based on actual tests, apply to fasteners with tapping screw thread as per ISO 1478 and only for application in metals with the tensile strengths indicated in the tables. They do not apply for use in plastics for which several modified tapping screw threads have been developed. They also do not apply for use in stainless steel. It is not possible to provide general recommendations and a determination must be made on a case by case basis of the conditions under which such joints are possible. This also applies to stainless steel tapping screws.

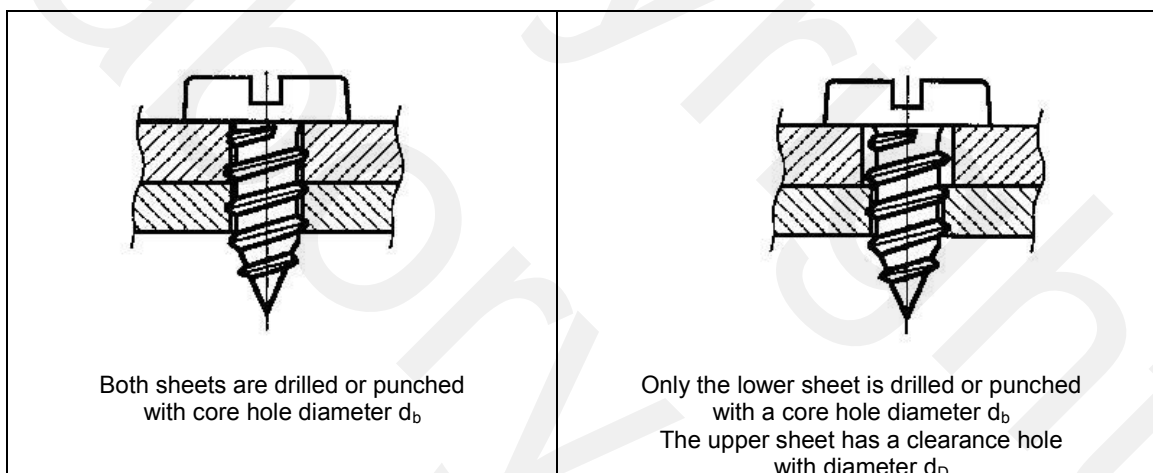
Surface coatings can have such an influence on coefficients of friction when driving in screws that the core hole size must be amended.

In sheet thickness up to 2 mm, the holes are usually punched, not drilled. Due to the cold work hardening of the hole wall, the holes must be made 0.1 to 0.3 mm larger, depending on material and sheet thickness. Ensure that the screw is inserted in the punch direction and not from the other side.

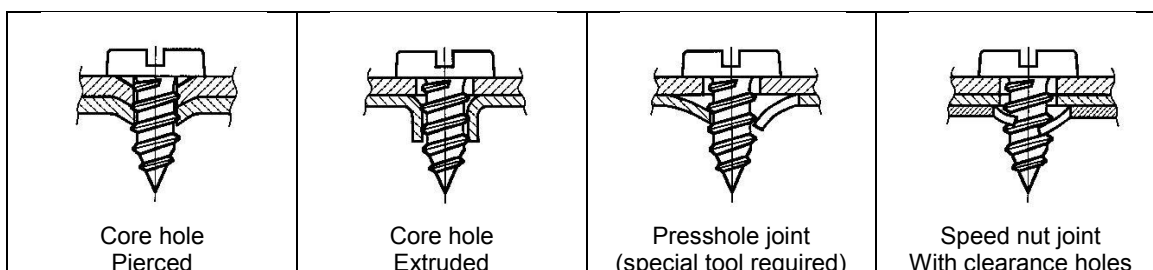
- Tapping screws with point type C and type R (see previous chapter) are most commonly used, especially through multiple sheets where the pilot point enables the holes to be aligned.
- Tapping screws with tap type F (see previous chapter) are preferred for use where protruding sharp points may cause problems e.g. injuries.

#### 4.1.2 Application possibilities

Sheet thicknesses not thinner than the pitch of the screw thread.



Thinner sheet thicknesses



### 4.1.3 Guidelines for core hole diameters db

The tables below are based on DIN 7975 (1989). Dimensions in mm.

| Core hole diameters for tapping screw thread ST2,2 |   |     |     |     |     |     |     |     |     | Core hole diameters for tapping screw thread ST2,9 |   |     |     |     |     |     |     |     |     |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|--|---|-----|-----|-----|-----|-----|-----|-----|-----|
| sheet thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     | sheet thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     |
|  | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |  | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 0,8  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,1  | 2,2   | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,3 |
| 0,9  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,2  | 2,2   | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,3 |
| 1,0  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,8 | 1,3  | 2,2   | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,3 | 2,3 |
| 1,1  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,8 | 1,8 | 1,4  | 2,2   | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,3 | 2,3 | 2,4 |
| 1,2  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | 1,8 | 1,8 | 1,8 | 1,5  | 2,2   | 2,2 | 2,2 | 2,2 | 2,2 | 2,3 | 2,3 | 2,4 | 2,4 |
| 1,3  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,8 | 1,8 | 1,8 | 1,8 | 1,6  | 2,2   | 2,2 | 2,2 | 2,2 | 2,3 | 2,3 | 2,4 | 2,4 | 2,4 |
| 1,4  | 1,7   | 1,7 | 1,7 | 1,7 | 1,7 | 1,8 | 1,8 | 1,8 | 1,9 | 1,7  | 2,2   | 2,2 | 2,2 | 2,2 | 2,3 | 2,4 | 2,4 | 2,4 | 2,4 |
| 1,5  | 1,7   | 1,7 | 1,7 | 1,7 | 1,8 | 1,8 | 1,8 | 1,9 | 1,9 | 1,8  | 2,2   | 2,2 | 2,2 | 2,3 | 2,3 | 2,4 | 2,4 | 2,4 | 2,5 |
| 1,6  | 1,7   | 1,7 | 1,7 | 1,8 | 1,8 | 1,8 | 1,9 | 1,9 | 1,9 | 1,9  | 2,2   | 2,2 | 2,2 | 2,3 | 2,4 | 2,4 | 2,4 | 2,5 | 2,5 |
| 1,7  | 1,7   | 1,7 | 1,7 | 1,8 | 1,8 | 1,9 | 1,9 | 1,9 | 1,9 | 2,0  | 2,2   | 2,2 | 2,3 | 2,3 | 2,4 | 2,4 | 2,5 | 2,5 | 2,5 |
| 1,8  | 1,7   | 1,7 | 1,8 | 1,8 | 1,8 | 1,9 | 1,9 | 1,9 | 1,9 | 2,2  | 2,2   | 2,2 | 2,3 | 2,4 | 2,4 | 2,5 | 2,5 | 2,5 | 2,5 |

| Core hole diameters for tapping screw thread ST3,5 |   |     |     |     |     |     |     |     |     | Core hole diameters for tapping screw thread ST3,9 |   |     |     |     |     |     |     |     |     |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|--|---|-----|-----|-----|-----|-----|-----|-----|-----|
| sheet thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     | sheet thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     |
|  | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |  | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 1,3  | 2,6   | 2,6 | 2,6 | 2,6 | 2,6 | 2,6 | 2,7 | 2,7 | 2,8 | 1,3  | 2,9   | 2,9 | 2,9 | 2,9 | 2,9 | 2,9 | 3,0 | 3,0 | 3,1 |
| 1,4  | 2,7   | 2,7 | 2,7 | 2,7 | 2,7 | 2,7 | 2,7 | 2,8 | 2,8 | 1,4  | 2,9   | 2,9 | 2,9 | 2,9 | 2,9 | 3,0 | 3,1 | 3,1 | 3,1 |
| 1,5  | 2,7   | 2,7 | 2,7 | 2,7 | 2,7 | 2,7 | 2,8 | 2,8 | 2,9 | 1,5  | 3,0   | 3,0 | 3,0 | 3,0 | 3,0 | 3,1 | 3,1 | 3,1 | 3,2 |
| 1,6  | 2,7   | 2,7 | 2,7 | 2,7 | 2,7 | 2,7 | 2,8 | 2,9 | 2,9 | 1,6  | 3,0   | 3,0 | 3,0 | 3,0 | 3,1 | 3,1 | 3,2 | 3,2 | 3,2 |
| 1,7  | 2,7   | 2,7 | 2,7 | 2,7 | 2,7 | 2,8 | 2,8 | 2,9 | 2,9 | 1,7  | 3,0   | 3,0 | 3,0 | 3,0 | 3,1 | 3,1 | 3,2 | 3,2 | 3,3 |
| 1,8  | 2,7   | 2,7 | 2,7 | 2,7 | 2,8 | 2,8 | 2,9 | 2,9 | 2,9 | 1,8  | 3,0   | 3,0 | 3,0 | 3,0 | 3,1 | 3,2 | 3,2 | 3,3 | 3,3 |
| 1,9  | 2,7   | 2,7 | 2,7 | 2,7 | 2,8 | 2,9 | 2,9 | 2,9 | 3,0 | 1,9  | 3,0   | 3,0 | 3,0 | 3,1 | 3,2 | 3,2 | 3,3 | 3,3 | 3,3 |
| 2,0  | 2,7   | 2,7 | 2,7 | 2,8 | 2,9 | 2,9 | 2,9 | 3,0 | 3,0 | 2,0  | 3,0   | 3,0 | 3,0 | 3,1 | 3,2 | 3,2 | 3,3 | 3,3 | 3,3 |
| 2,2  | 2,7   | 2,7 | 2,8 | 2,8 | 2,9 | 3,0 | 3,0 | 3,0 | 3,0 | 2,2  | 3,0   | 3,0 | 3,1 | 3,2 | 3,2 | 3,3 | 3,3 | 3,3 | 3,4 |
| 2,5  | 2,7   | 2,7 | 2,9 | 2,9 | 3,0 | 3,0 | 3,0 | 3,1 | 3,1 | 2,5  | 3,0   | 3,0 | 3,2 | 3,3 | 3,3 | 3,3 | 3,4 | 3,4 | 3,4 |
| 2,8  | 2,7   | 2,8 | 2,9 | 3,0 | 3,0 | 3,0 | 3,1 | 3,1 | 3,1 | 2,8  | 3,0   | 3,2 | 3,3 | 3,3 | 3,4 | 3,4 | 3,4 | 3,4 | 3,4 |
|  |   |     |     |     |     |     |     |     |     | 3,0  | 3,0   | 3,2 | 3,3 | 3,3 | 3,4 | 3,4 | 3,4 | 3,4 | 3,5 |

| Core hole diameters for tapping screw thread<br>ST4,2 |   |     |     |     |     |     |     |     |     | Core hole diameters for tapping screw thread<br>ST4,8 |   |     |     |     |     |     |     |     |     |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|---|---|-----|-----|-----|-----|-----|-----|-----|-----|
| sheet<br>thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     | sheet<br>thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     |
|   | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |   | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 1,4   | 3,1   | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 | 3,2 | 3,3 | 3,4 | 1,6   | 3,6   | 3,6 | 3,6 | 3,6 | 3,7 | 3,8 | 3,9 | 3,9 |     |
| 1,5   | 3,2   | 3,2 | 3,2 | 3,2 | 3,2 | 3,2 | 3,2 | 3,3 | 3,4 | 1,7   | 3,6   | 3,6 | 3,6 | 3,7 | 3,8 | 3,9 | 3,9 | 4,0 |     |
| 1,6   | 3,2   | 3,2 | 3,2 | 3,2 | 3,2 | 3,2 | 3,3 | 3,4 | 3,4 | 1,8   | 3,6   | 3,6 | 3,6 | 3,8 | 3,8 | 3,9 | 4,0 | 4,0 |     |
| 1,7   | 3,2   | 3,2 | 3,2 | 3,2 | 3,2 | 3,3 | 3,3 | 3,4 | 3,4 | 1,9   | 3,6   | 3,6 | 3,6 | 3,7 | 3,8 | 3,9 | 3,9 | 4,0 |     |
| 1,8   | 3,2   | 3,2 | 3,2 | 3,2 | 3,3 | 3,3 | 3,4 | 3,4 | 3,5 | 2,0   | 3,6   | 3,6 | 3,6 | 3,8 | 3,9 | 4,0 | 4,0 | 4,1 |     |
| 1,9   | 3,2   | 3,2 | 3,2 | 3,2 | 3,3 | 3,4 | 3,4 | 3,4 | 3,5 | 2,2   | 3,6   | 3,6 | 3,7 | 3,9 | 3,9 | 4,0 | 4,0 | 4,1 |     |
| 2,0   | 3,2   | 3,2 | 3,2 | 3,3 | 3,4 | 3,4 | 3,5 | 3,5 | 3,5 | 2,5   | 3,6   | 3,7 | 3,9 | 4,0 | 4,0 | 4,1 | 4,1 | 4,2 |     |
| 2,2   | 3,2   | 3,2 | 3,2 | 3,3 | 3,4 | 3,5 | 3,5 | 3,5 | 3,6 | 2,8   | 3,6   | 3,8 | 4,0 | 4,0 | 4,1 | 4,1 | 4,2 | 4,2 |     |
| 2,5   | 3,2   | 3,2 | 3,4 | 3,4 | 3,5 | 3,5 | 3,6 | 3,6 | 3,6 | 3,0   | 3,7   | 3,9 | 4,0 | 4,1 | 4,1 | 4,2 | 4,2 | 4,2 |     |
| 2,8   | 3,2   | 3,3 | 3,4 | 3,5 | 3,6 | 3,6 | 3,6 | 3,6 | 3,6 | 3,5   | 3,8   | 4,0 | 4,1 | 4,2 | 4,2 | 4,2 | 4,2 | 4,3 |     |
| 3,0   | 3,2   | 3,4 | 3,5 | 3,5 | 3,6 | 3,6 | 3,6 | 3,6 | 3,7 | 4,0   | 4,0   | 4,1 | 4,2 | 4,2 | 4,2 | 4,3 | 4,3 | 4,3 |     |
| 3,5   | 3,3   | 3,5 | 3,6 | 3,6 | 3,6 | 3,7 | 3,7 | 3,7 | 3,7 |   |   |     |     |     |     |     |     |     |     |

| Core hole diameters for tapping screw thread<br>ST5,5 |   |     |     |     |     |     |     |     |     | Core hole diameters for tapping screw thread<br>ST6,3 |   |     |     |     |     |     |     |     |     |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|---|---|-----|-----|-----|-----|-----|-----|-----|-----|
| sheet<br>thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     | sheet<br>thickness <sup>2</sup>                       | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     |
|   | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |   | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 1,8   | 4,2   | 4,2 | 4,2 | 4,2 | 4,3 | 4,4 | 4,5 | 4,6 | 4,6 | 1,8   | 4,9   | 4,9 | 4,9 | 4,9 | 5,0 | 5,2 | 5,3 | 5,3 |     |
| 1,9   | 4,2   | 4,2 | 4,2 | 4,2 | 4,4 | 4,5 | 4,6 | 4,6 | 4,7 | 1,9   | 4,9   | 4,9 | 4,9 | 5,0 | 5,1 | 5,2 | 5,3 | 5,4 |     |
| 2,0   | 4,2   | 4,2 | 4,2 | 4,3 | 4,4 | 4,5 | 4,6 | 4,6 | 4,7 | 2,0   | 4,9   | 4,9 | 4,9 | 5,1 | 5,2 | 5,3 | 5,4 | 5,5 |     |
| 2,2   | 4,2   | 4,2 | 4,3 | 4,4 | 4,5 | 4,6 | 4,7 | 4,7 | 4,8 | 2,2   | 4,9   | 4,9 | 5,0 | 5,2 | 5,3 | 5,4 | 5,5 | 5,6 |     |
| 2,5   | 4,2   | 4,2 | 4,4 | 4,6 | 4,7 | 4,7 | 4,8 | 4,8 | 4,8 | 2,5   | 4,9   | 5,0 | 5,2 | 5,4 | 5,4 | 5,5 | 5,6 | 5,6 |     |
| 2,8   | 4,2   | 4,4 | 4,6 | 4,7 | 4,7 | 4,8 | 4,8 | 4,8 | 4,9 | 2,8   | 4,9   | 5,2 | 5,3 | 5,5 | 5,5 | 5,6 | 5,6 | 5,7 |     |
| 3,0   | 4,2   | 4,5 | 4,6 | 4,7 | 4,8 | 4,8 | 4,8 | 4,9 | 4,9 | 3,0   | 4,9   | 5,3 | 5,4 | 5,5 | 5,6 | 5,6 | 5,7 | 5,7 |     |
| 3,5   | 4,4   | 4,6 | 4,7 | 4,8 | 4,8 | 4,9 | 4,9 | 4,9 | 4,9 | 3,5   | 5,2   | 5,4 | 5,5 | 5,6 | 5,7 | 5,7 | 5,7 | 5,8 |     |
| 4,0   | 4,6   | 4,7 | 4,8 | 4,9 | 4,9 | 4,9 | 4,9 | 4,9 | 5,0 | 4,0   | 5,3   | 5,5 | 5,6 | 5,7 | 5,7 | 5,7 | 5,8 | 5,8 |     |
| 4,5   | 4,7   | 4,8 | 4,9 | 4,9 | 4,9 | 4,9 | 5,0 | 5,0 | 5,0 | 4,5   | 5,5   | 5,6 | 5,7 | 5,7 | 5,8 | 5,8 | 5,8 | 5,8 |     |
|   |   |     |     |     |     |     |     |     |     | 5,0   | 5,5   | 5,7 | 5,7 | 5,8 | 5,8 | 5,8 | 5,8 | 5,8 |     |



| Core hole diameters for tapping screw thread<br>ST8 |   |     |     |     |     |     |     |     |     |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|
| sheet thickness <sup>2</sup>                        | tensile strength material R <sub>m</sub> in N/mm <sup>2</sup> |     |     |     |     |     |     |     |     |
|   | 100   | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 2,1   | 6,3   | 6,3 | 6,3 | 6,3 | 6,5 | 6,6 | 6,7 | 6,8 | 6,9 |
| 2,2   | 6,3   | 6,3 | 6,3 | 6,5 | 6,6 | 6,8 | 6,8 | 6,9 | 7,0 |
| 2,5   | 6,3   | 6,3 | 6,5 | 6,7 | 6,8 | 6,9 | 7,0 | 7,0 | 7,1 |
| 2,8   | 6,3   | 6,4 | 6,7 | 6,8 | 6,9 | 7,0 | 7,1 | 7,1 | 7,2 |
| 3,0   | 6,3   | 6,5 | 6,8 | 6,9 | 7,0 | 7,1 | 7,1 | 7,2 | 7,2 |
| 3,5   | 6,4   | 6,8 | 7,0 | 7,1 | 7,1 | 7,2 | 7,2 | 7,3 | 7,3 |
| 4,0   | 6,7   | 6,9 | 7,1 | 7,2 | 7,2 | 7,3 | 7,3 | 7,3 | 7,3 |
| 4,5   | 6,8   | 7,1 | 7,2 | 7,2 | 7,3 | 7,3 | 7,3 | 7,3 | 7,4 |
| 5,0   | 7,0   | 7,1 | 7,2 | 7,3 | 7,3 | 7,3 | 7,4 | 7,4 | 7,4 |
| 5,5   | 7,1   | 7,2 | 7,3 | 7,3 | 7,3 | 7,4 | 7,4 | 7,4 | 7,4 |
| 6,0   | 7,1   | 7,2 | 7,3 | 7,3 | 7,4 | 7,4 | 7,4 | 7,4 | 7,4 |
| 6,5   | 7,2   | 7,3 | 7,3 | 7,4 | 7,4 | 7,4 | 7,4 | 7,4 | 7,4 |

<sup>1</sup> These core hole diameter values apply for a simple tapping screw joint with a clearance hole in the upper sheet and a drilled hole in the lower sheet and for uncoated tapping screws.

<sup>2</sup> The minimum sheet thickness has been chosen in such a way that the drive-in torque will not exceed 50 % of the minimum breaking torque according to ISO 2702. This upper limit is about 0.8 of the nominal diameter of the screw e.g. ST4,2 can be used in sheet that is no more than 0.8 x 4.2 = 3.5 mm thick.

Guidelines for the diameter of clearance holes:

The minimum diameter of clearance holes can be calculated using the formula:

$$d_D = d_1 + 1/3(d_1 - d_b) \text{ mm}$$

where:  $d_D$  = diameter clearance hole  
 $d_1$  = nominal diameter of tapping screw thread  
 $d_b$  = core hole diameter

*Example:*

The minimum diameter of the clearance hole for a tapping screw with an ST6,3 screw thread in material that is 4 mm thick and that has a tensile strength of 350 N/mm<sup>2</sup> will be  $d_D = 6,3 + 1/3(6,3 - 5,7) = 6,5$  mm.

## 4.2 Core holes for thread forming screws in metals (Taptite 2000)

### 4.2.1 Recommendations for drilled and punched holes in materials in the hardness range up to 150 HB, 500 N/mm<sup>2</sup>

The core hole diameters (between bolt marked horizontal blue lines) in below table are determined experimentally by manufacturers and users, dependent on the various types of material, material thicknesses or drive-in depths. These values are **for guidance only**.

Manufacturing processes (e.g. punching) that cause cold work hardening of the hole wall, require a somewhat larger diameter. This may also apply to cast holes (harder casting scale).

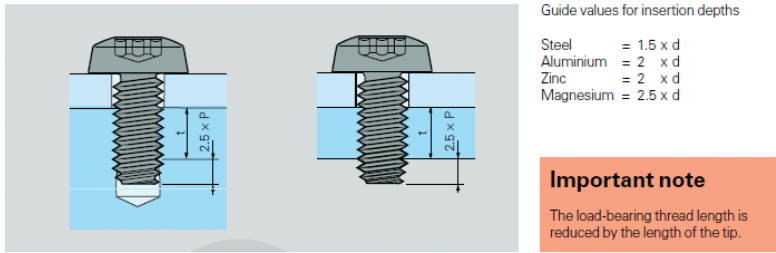
Recommended tolerance class for the core holes: H11.

Especially for mass production purposes, it is recommended to perform tests in order to achieve an optimum result with respect to the combination of mechanical properties of the screw, the drive-in depth and the mechanical properties of the material in which the screws are to be mounted. It is recommended to start testing with the smallest advised diameter.

| d                                 | M2,5                              | M3                 | M3,5               | M4                 | M5                 | M6                 | M8                 |
|-----------------------------------|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Material thickness or drive depth | Hole Diameter D <sub>h</sub> (mm) |                    |                    |                    |                    |                    |                    |
| 0,8<br>0,9<br>1                   | 2,20                              | 2,65               |                    |                    |                    |                    |                    |
| 1,2<br>1,5<br>1,6                 | 2,20                              | 2,65               | 3,15               | 3,6                |                    |                    |                    |
| 1,7<br>1,8<br>2                   | 2,25                              |                    |                    |                    | 4,45<br>to<br>4,50 | 5,25<br>to<br>5,30 |                    |
| 2,2<br>2,5<br>3                   | 2,25<br>to<br>2,30                | 2,65<br>to<br>2,70 | 3,15<br>to<br>3,20 | 3,60<br>to<br>3,65 |                    |                    |                    |
| 3,2<br>3,5<br>4                   | 2,25                              |                    |                    |                    |                    | 5,30<br>to<br>5,40 | 7,10<br>to<br>7,20 |
| 5<br>5,5<br>6                     | 2,30                              |                    |                    |                    | 4,50<br>to<br>4,55 | 5,40<br>to<br>5,45 | 7,20<br>to<br>7,30 |
| 6,5<br>7                          |                                   | 2,70<br>to<br>2,75 | 3,20<br>to<br>3,25 | 3,65<br>to<br>3,70 |                    |                    |                    |
| 7,5<br>8<br>10<br>12              |                                   |                    |                    |                    | 4,55<br>to<br>4,65 | 5,45<br>to<br>5,55 | 7,30<br>to<br>7,35 |
| >12-16<br>>16-20                  |                                   |                    |                    |                    |                    |                    | 7,35<br>to<br>7,45 |

Colored = Preferred zone

Guideline for dimensioning the insertion depth.



For castings, e.g. tapered, cast blind and through holes specific information is available on request.

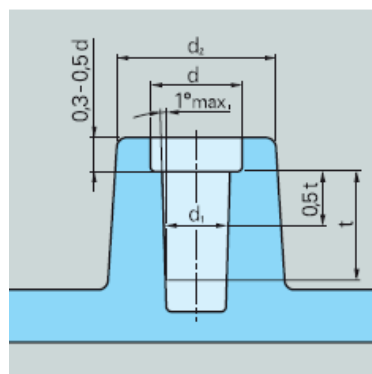
FABORY

### 4.3 Core holes for thread forming screws in plastics (Remform)

#### 4.3.1 Recommendations for the geometry of holes and bosses for Remform screws

In principle, the geometry of the boss must conform to below picture.

These core hole diameters are determined experimentally using various types of plastics. These values are for guidance only and, especially in mass production, it is recommended that one's own tests be carried out in order to achieve an optimum result with respect to the different mechanical properties (e.g. temperature, load, time, speed).



d nominal screw diameter  
d<sub>1</sub> bore diameter  
d<sub>2</sub> tube external diameter  
t insertion depth

| screw size Ød | tube geometry  | soft |          |      |          |      |      |         |      |      |        |          |      |      |       |           | hard     |          |     |
|---------------|----------------|------|----------|------|----------|------|------|---------|------|------|--------|----------|------|------|-------|-----------|----------|----------|-----|
|               |                | PP   | PE-LD/HD | PS   | PA6/PA66 | PBT  | PET  | ASA/SAN | ABS  | POM  | ABS/PC | PA6-GF30 | PMMA | PC * | PPE * | PC-GF30 * | PBT-GF30 | PET-GF30 |     |
| Ø2.0          | d <sub>1</sub> | 1.45 | 1.45     | 1.45 | 1.45     | 1.5  | 1.5  | 1.5     | 1.5  | 1.5  | 1.5    | 1.6      | 1.6  | 1.6  | 1.6   | 1.7       | 1.7      | 1.7      | 1.7 |
|               | d <sub>2</sub> | 4.4  | 4.4      | 4.4  | 4.4      | 4.2  | 4.2  | 4.2     | 4.2  | 4.2  | 4.0    | 4.0      | 4.0  | 4.4  | 4.4   | 4.4       | 3.8      | 3.8      |     |
|               | t              | 5.0  | 5.0      | 5.0  | 5.0      | 5.0  | 5.0  | 4.5     | 4.5  | 4.5  | 4.5    | 4.5      | 4.5  | 4.0  | 4.0   | 4.0       | 4.0      | 4.0      |     |
| Ø2.2          | d <sub>1</sub> | 1.6  | 1.6      | 1.6  | 1.6      | 1.7  | 1.7  | 1.7     | 1.7  | 1.7  | 1.8    | 1.8      | 1.8  | 1.8  | 1.9   | 1.9       | 1.9      | 1.9      |     |
|               | d <sub>2</sub> | 4.9  | 4.9      | 4.9  | 4.9      | 4.7  | 4.7  | 4.7     | 4.7  | 4.7  | 4.4    | 4.4      | 4.4  | 4.9  | 4.9   | 4.9       | 4.2      | 4.2      |     |
|               | t              | 5.5  | 5.5      | 5.5  | 5.5      | 5.5  | 5.5  | 5.0     | 5.0  | 5.0  | 5.0    | 5.0      | 5.0  | 4.5  | 4.5   | 4.5       | 4.5      | 4.5      |     |
| Ø2.5          | d <sub>1</sub> | 1.8  | 1.8      | 1.8  | 1.8      | 1.9  | 1.9  | 1.9     | 1.9  | 1.9  | 2.0    | 2.0      | 2.0  | 2.0  | 2.1   | 2.1       | 2.1      | 2.1      |     |
|               | d <sub>2</sub> | 5.5  | 5.5      | 5.5  | 5.5      | 5.3  | 5.3  | 5.3     | 5.3  | 5.3  | 5.0    | 5.0      | 5.5  | 5.5  | 5.5   | 5.8       | 4.8      | 4.8      |     |
|               | t              | 6.0  | 6.0      | 6.0  | 6.0      | 6.0  | 6.0  | 5.5     | 5.5  | 5.5  | 5.5    | 5.5      | 5.5  | 5.0  | 5.0   | 5.0       | 5.0      | 5.0      |     |
| Ø3.0          | d <sub>1</sub> | 2.25 | 2.25     | 2.25 | 2.25     | 2.3  | 2.3  | 2.3     | 2.3  | 2.3  | 2.4    | 2.4      | 2.4  | 2.4  | 2.6   | 2.6       | 2.6      | 2.6      |     |
|               | d <sub>2</sub> | 6.6  | 6.6      | 6.6  | 6.6      | 6.3  | 6.3  | 6.3     | 6.3  | 6.3  | 6.0    | 6.0      | 6.0  | 6.6  | 6.6   | 6.6       | 5.7      | 5.7      |     |
|               | t              | 7.0  | 7.0      | 7.0  | 7.0      | 7.0  | 7.0  | 6.5     | 6.5  | 6.5  | 6.5    | 6.5      | 6.5  | 6.0  | 6.0   | 6.0       | 6.0      | 6.0      |     |
| Ø3.5          | d <sub>1</sub> | 2.6  | 2.6      | 2.6  | 2.6      | 2.7  | 2.7  | 2.7     | 2.7  | 2.7  | 2.8    | 2.8      | 2.8  | 2.8  | 3.0   | 3.0       | 3.0      | 3.0      |     |
|               | d <sub>2</sub> | 7.8  | 7.8      | 7.8  | 7.8      | 7.4  | 7.4  | 7.4     | 7.4  | 7.4  | 7.0    | 7.0      | 7.0  | 7.8  | 7.8   | 7.8       | 6.7      | 6.7      |     |
|               | t              | 8.0  | 8.0      | 8.0  | 8.0      | 8.0  | 8.0  | 7.5     | 7.5  | 7.5  | 7.5    | 7.5      | 7.5  | 7.0  | 7.0   | 7.0       | 7.0      | 7.0      |     |
| Ø4.0          | d <sub>1</sub> | 2.9  | 2.9      | 2.9  | 2.9      | 3.0  | 3.0  | 3.0     | 3.0  | 3.0  | 3.2    | 3.2      | 3.2  | 3.2  | 3.4   | 3.4       | 3.4      | 3.4      |     |
|               | d <sub>2</sub> | 9.0  | 9.0      | 9.0  | 9.0      | 8.5  | 8.5  | 8.5     | 8.5  | 8.5  | 8.0    | 8.0      | 8.0  | 9.0  | 9.0   | 9.0       | 7.5      | 7.5      |     |
|               | t              | 9.0  | 9.0      | 9.0  | 9.0      | 9.0  | 9.0  | 8.5     | 8.5  | 8.5  | 8.5    | 8.5      | 8.5  | 8.0  | 8.0   | 8.0       | 8.0      | 8.0      |     |
| Ø5.0          | d <sub>1</sub> | 3.7  | 3.7      | 3.7  | 3.7      | 3.8  | 3.8  | 3.8     | 3.8  | 3.8  | 4.0    | 4.0      | 4.0  | 4.0  | 4.2   | 4.2       | 4.2      | 4.2      |     |
|               | d <sub>2</sub> | 11.0 | 11.0     | 11.0 | 11.0     | 10.5 | 10.5 | 10.5    | 10.5 | 10.5 | 10.0   | 10.0     | 10.0 | 11.0 | 11.0  | 11.0      | 9.5      | 9.5      |     |
|               | t              | 11.0 | 11.0     | 11.0 | 11.0     | 11.0 | 11.0 | 10.5    | 10.5 | 10.5 | 10.5   | 10.5     | 10.5 | 10.0 | 10.0  | 10.0      | 10.0     | 10.0     |     |
| Ø6.0          | d <sub>1</sub> | 4.3  | 4.3      | 4.3  | 4.3      | 4.5  | 4.5  | 4.5     | 4.5  | 4.5  | 4.8    | 4.8      | 4.8  | 4.8  | 5.1   | 5.1       | 5.1      | 5.1      |     |
|               | d <sub>2</sub> | 13.5 | 13.5     | 13.5 | 13.5     | 12.5 | 12.5 | 12.5    | 12.5 | 12.5 | 12.0   | 12.0     | 12.0 | 13.5 | 13.5  | 13.5      | 11.5     | 11.5     |     |
|               | t              | 13.5 | 13.5     | 13.5 | 13.5     | 13.5 | 13.5 | 13.0    | 13.0 | 13.0 | 13.0   | 13.0     | 13.0 | 12.0 | 12.0  | 12.0      | 12.0     | 12.0     |     |
| Ø8.0          | d <sub>1</sub> | 5.7  | 5.7      | 5.7  | 5.7      | 6.0  | 6.0  | 6.0     | 6.0  | 6.0  | 6.4    | 6.4      | 6.4  | 6.4  | 6.8   | 6.8       | 6.8      | 6.8      |     |
|               | d <sub>2</sub> | 17.5 | 17.5     | 17.5 | 17.5     | 16.5 | 16.5 | 16.5    | 16.5 | 16.5 | 16.0   | 16.0     | 16.0 | 17.5 | 17.5  | 17.5      | 15.5     | 15.5     |     |
|               | t              | 18.0 | 18.0     | 18.0 | 18.0     | 18.0 | 18.0 | 17.0    | 17.0 | 17.0 | 17.0   | 17.0     | 17.0 | 16.0 | 16.0  | 16.0      | 16.0     | 16.0     |     |

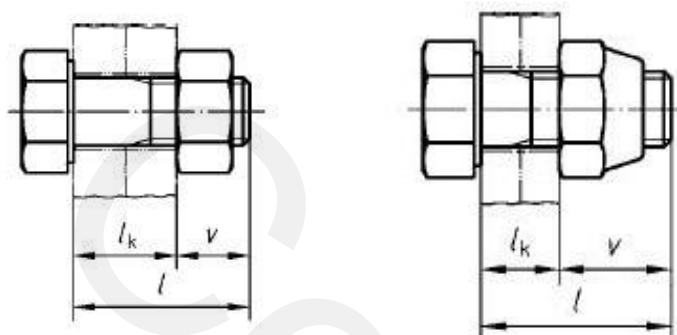
Dimensions in mm. tolerance acc. DIN 16901

\*Plastics sensitive for stress cracking

## 4.4 Length of protrusion of bolt ends (v)

Hexagon nut

Prev. torque nut



Length of protrusion of the bolt end (v) is based on DIN 78 (2001)

For hexagon nuts:  $v = \text{nut height} + 2P$

For prevailing torque nuts:  $v = \text{nut height} + 3P$

Nominal length (l) = clamping length ( $l_k$ ) + protrusion length (v). The calculated values must be rounded off to the next (longer) standardized length.

Length of protrusion for hexagon slotted nuts, see DIN 34803

## 4.5 Drill sizes before tapping screw threads

### 4.5.1 General notes

These drill sizes are guide values for core hole diameters for tapping screw thread.

The tolerance limits of the screw thread must not be exceeded. Depending on material, tools and manufacturing method it may be necessary to deviate from these guide values and to determine the actual drill size experimentally.

For metric and unified screw threads (ISO-profile), in principle the following formula applies:  
drill size = nominal screw thread size - pitch, if necessary rounded off.

### 4.5.2 Drill sizes Metric (ISO) screw thread - coarse - M

Based on ISO 2306 (1972). Dimensions in mm.

| screw thread size | drill size |
|-------------------|------------|
| M1                | 0,75       |
| M1,1              | 0,85       |
| M1,2              | 0,95       |
| M1,4              | 1,1        |
| M1,6              | 1,25       |
| M1,8              | 1,45       |
| M2                | 1,6        |

| screw thread size | drill size |
|-------------------|------------|
| M2,2              | 1,75       |
| M2,5              | 2,05       |
| M3                | 2,5        |
| M3,5              | 2,9        |
| M4                | 3,3        |
| M4,5              | 3,7        |
| M5                | 4,2        |

| screw thread size | drill size |
|-------------------|------------|
| M6                | 5          |
| M7                | 6          |
| M8                | 6,8        |
| M9                | 7,8        |
| M10               | 8,5        |
| M11               | 9,5        |
| M12               | 10,2       |

| screw thread size | drill size |
|-------------------|------------|
| M14               | 12         |
| M16               | 14         |
| M18               | 15,5       |
| M20               | 17,5       |
| M22               | 19,5       |
| M24               | 21         |
| M27               | 24         |

| screw thread size | drill size |
|-------------------|------------|
| M30               | 26,5       |
| M33               | 29,5       |
| M36               | 32         |
| M39               | 35         |
| M42               | 37,5       |
| M45               | 40,5       |
| M48               | 43         |

| screw thread size | drill size |
|-------------------|------------|
| M52               | 47         |
| M56               | 50,5       |
| M60               | 54,5       |
| M64               | 58         |
| M68               | 62         |
|                   |            |
|                   |            |

### 4.5.3 Drill sizes Metric (ISO) screw thread - fine - MF

Based on ISO 2306 (1972). Dimensions in mm.

| thread size x pitch | drill size | thread size x pitch | drill size | thread size x pitch | drill size |
|---------------------|------------|---------------------|------------|---------------------|------------|
| M3 x 0,35           | 2,65       | M5 x 0,5            | 4,5        | M10 x 1,25          | 8,8        |
| M3,5 x 0,35         | 3,15       | M6 x 0,75           | 5,2        | M12 x 1             | 11         |
| M4 x 0,5            | 3,5        | M8 x 1              | 7          | M12 x 1,25          | 10,8       |
| M4,5 x 0,5          | 4          | M10 x 1             | 9          | M12 x 1,5           | 10,5       |

| thread size x pitch | drill size | thread size x pitch | drill size | thread size x pitch | drill size |
|---------------------|------------|---------------------|------------|---------------------|------------|
| M14 x 1,5           | 12,5       | M20 x 1,5           | 18,5       | M24 x 1,5           | 22,5       |
| M16 x 1,5           | 14,5       | M20 x 2             | 18         | M24 x 2             | 22         |
| M18 x 1,5           | 16,5       | M22 x 1,5           | 20,5       | M27 x 1,5           | 25,5       |
| M18 x 2             | 16         | M22 x 2             | 20         | M27 x 2             | 25         |

### 4.5.4 Drill sizes Whitworth parallel pipe thread – G

Based on ISO 2306 (1972). Dimensions in mm.

| screw thread size x threads/inch | drill size | screw thread size x threads/inch | drill size | screw thread size x threads/inch | drill size |
|----------------------------------|------------|----------------------------------|------------|----------------------------------|------------|
| G $1/8$ x 28                     | 8,8        | G $5/8$ x 14                     | 21         | G $1 1/8$ x 11                   | 35,3       |
| G $1/4$ x 19                     | 11,8       | G $3/4$ x 14                     | 24,5       | G $1 1/4$ x 11                   | 39,5       |
| G $3/8$ x 19                     | 15,25      | G $7/8$ x 14                     | 28,25      | G $1 1/2$ x 11                   | 45         |
| G $1/2$ x 14                     | 19         | G 1 x 11                         | 30,75      | G $1 3/4$ x 11                   | 51         |

### 4.6 Width across flats according to ISO

The width across flats of some ISO-standardized hexagon nuts and bolts have changed compared to the obsolete DIN-standards. This only concerns fasteners with thread diameter M10, M12, M14 and M22.

Comparison of DIN and ISO widths across flats in the table below is based on ISO 272 (1982).

Dimensions in mm.

| Basic diameter                          | M10 | M12 | M14 | M22 |
|---|-----|-----|-----|-----|
| Width across flats according to DIN     | 17  | 19  | 22  | 32  |
| Width across flats according to ISO 272 | 16  | 18  | 21  | 34  |

## 5 Surface coatings for fasteners

### 5.1 Introduction

According to DIN 50900-1, corrosion of a metal is a reaction of this material with its environment that results in a measurable change of the metal and which can lead to a lower performance of the metal part or a complete system.

Several types of corrosion exist.

Some types of corrosion appear without the effect of a mechanical load on the product: surface corrosion, pitting, crevice corrosion, galvanic corrosion, chemical corrosion.

Others are initiated due to a combination with mechanical load: stress corrosion cracking, erosion.

The corrosion resistance of a coating is often expressed in a number of hours until white (zinc corrosion) or red (base metal corrosion) corrosion in a salt spray test acc. ISO 9227. Salt spray testing is a method to check whether the comparative quality of a corrosion protection is maintained. There is however seldom a direct relation between resistance to the action of salt spray and resistance to corrosion in other media, because several factors influencing the progress of corrosion vary greatly with the conditions encountered. Therefore the performance of different coating types during such corrosion test should not be taken as a direct guide to the corrosion resistance in service.

Several measures can be taken to prevent or delay corrosion of fasteners, such as proper design of the fastening, proper choice of materials, application of a suitable coating system.

In the table section of this manual, one can find a Contact corrosion table and a Chemical corrosion table which can be a first help to determine an acceptable material type in a corrosive environment.

This chapter only handles surface coatings which are suitable for fasteners.

#### 5.1.1 Overview of coating systems

Coatings can be divided into metallic and non-metallic systems.

Metallic (inorganic) coatings:

- Electrolytical applied coatings (acc. ISO 4042) such as zinc, zinc-iron, nickel, ...
- Chemical (electroless) plating: chemical nickel plating
- Hot dip galvanized (ISO 10684): thick coating of zinc, applied by dipping in melted zinc
- Diffusion coatings: metal powder applied at elevated temperature (sherardizing, chromating)
- Mechanical plating (ISO 12683): zinc powder mechanically applied
- Dispersion coatings(ISO 10683): zincflakes applied in a dispersive solution

Non-metallic coatings:

- Oil: generally applied on plain fasteners to reduce risk of corrosion during storage
- Black oxidized: not a real coating, conversion of the steel surface to iron oxide by immersion in a hot alkaline liquid
- Phosphating (ISO 3892): chemically applied zinc- of manganesephosphate coating, normally combined with oil to give some corrosion protection
- Chromate passivation (EN12329): supplementary coating on e.g. zinc to further improve its corrosion resistance
- Thin lacquer coatings: several coatings such as PTFE, Teflon, KTL

Most often applied on fasteners are "active" coatings. Such coatings (e.g. zinc) provide "cathodical" protection, which means that the coating will sacrifice in favour of the metal to be protected. The advantage of active coatings is that even with small damages they will delay severe base metal corrosion.

"Passive" coatings are those that seal the material from the environment, e.g. Teflon. Such coatings have the disadvantage that corrosion will proceed rapidly once the coating is damaged.

Sometimes a combination of coatings is applied, often called "duplex coating".

### 5.1.2 Coating thickness limits

The degree of protection against corrosion is generally proportional to the thickness of the applied coating. For threaded fasteners the maximum layer thickness that can be applied depends on the allowance between the maximum size of the external thread and the minimum size of the internal thread. To prevent the nut/bolt thread seizing during assembly, the maximum nominal layer thickness should not exceed ¼ of this allowance.

The table below (acc ISO 4042) provides the allowance and maximum layer thickness for each pitch. Most coatings have a thickness that may vary depending on the location on the fastener. For electroplated coatings, ISO 4042 has defined the relationship between length/diameter ratio and the maximum coating thickness.

| External thread |  |                       |                                 |                  |              |               |
|-----------------|--|-----------------------|---------------------------------|------------------|--------------|---------------|
| Pitch P         | Nominal thread diameter d <sup>1</sup> | Fundamental allowance | Tolerance position g            |                  |              |               |
|                 |  |                       | Nominal maximum layer thickness |                  |              |               |
|                 |  |                       | All nominal lengths             | Nominal length L |              |               |
|                 |  |                       |                                 | L ≤ 5d           | 5d < L ≤ 10d | 10d < L ≤ 15d |
| mm              | µm                                     | µm                    | µm                              | µm               | µm           |               |
| 0,2             |  | -17                   | 3                               | 3                | 3            | 3             |
| 0,25            | 1; 1,2                                 | -18                   | 3                               | 3                | 3            | 3             |
| 0,3             | 1,4                                    | -18                   | 3                               | 3                | 3            | 3             |
| 0,35            | 1,6 (1,8)                              | -19                   | 3                               | 3                | 3            | 3             |
| 0,4             | 2                                      | -19                   | 3                               | 3                | 3            | 3             |
| 0,45            | 2,5 (2,2)                              | -20                   | 5                               | 5                | 3            | 3             |
| 0,5             | 3                                      | -20                   | 5                               | 5                | 3            | 3             |
| 0,6             | 3,5                                    | -21                   | 5                               | 5                | 3            | 3             |
| 0,7             | 4                                      | -22                   | 5                               | 5                | 3            | 3             |
| 0,75            | 4,5                                    | -22                   | 5                               | 5                | 3            | 3             |
| 0,8             | 5                                      | -24                   | 5                               | 5                | 3            | 3             |
| 1               | 6 (7)                                  | -26                   | 5                               | 5                | 3            | 3             |
| 1,25            | 8                                      | -28                   | 5                               | 5                | 5            | 3             |
| 1,5             | 10                                     | -32                   | 8                               | 8                | 5            | 5             |
| 1,75            | 12                                     | -34                   | 8                               | 8                | 5            | 5             |
| 2               | 16 (14)                                | -38                   | 8                               | 8                | 5            | 5             |
| 2,5             | 20 (18; 22)                            | -42                   | 10                              | 10               | 8            | 8             |
| 3               | 24 (27)                                | -48                   | 12                              | 12               | 8            | 8             |
| 3,5             | 30 (33)                                | -53                   | 12                              | 12               | 10           | 8             |
| 4               | 36 (30)                                | -60                   | 15                              | 15               | 12           | 10            |
| 4,5             | 42 (45)                                | -63                   | 15                              | 15               | 12           | 10            |
| 5               | 48 (52)                                | -71                   | 15                              | 15               | 12           | 10            |
| 5,5             | 56 (60)                                | -75                   | 15                              | 15               | 15           | 12            |
| 6               | 64                                     | -80                   | 20                              | 20               | 15           | 12            |

<sup>1</sup> This information concerning coarse screw threads is only provided for reasons of convenience. The pitch is normative.  
<sup>2</sup> Maximum nominal layer thicknesses for local measurement.  
<sup>3</sup> Maximum nominal layer thicknesses if a measurement based on the average layer thickness of a batch is agreed in accordance with the method shown in ISO 4042, annex B.

### 5.1.3 Hydrogen embrittlement

When atomic hydrogen enters steel, it can cause catastrophic brittle cracking at applied stresses well below the yield strength. This phenomenon is often referred to as hydrogen induced delayed brittle failure or hydrogen embrittlement. Typical is that failure due to hydrogen embrittlement occurs a few hours or days after assembly.

Hydrogen can be introduced during several treatments such as cleaning, pickling, electroplating...but also in the service environment as a result of cathodic protection reactions or corrosion reactions.

Hydrogen embrittlement is most likely to occur in products:

- With tensile strength  $\geq 1000 \text{ N/mm}^2$
- With a hardness  $\geq 320 \text{ HV}$
- That are case hardened.

In order to reduce the risk of failure by hydrogen embrittlement, susceptible parts shall be baked within 4 hours after electroplating and before passivation to a part temperature of 200°C to 230°C. Nevertheless a guarantee cannot be given that parts are free of brittleness after such baking treatment.

Especially for very high tensile screws, such as class 12.9, it is strongly desencouraged to apply coatings that carry a risk for H-embrittlement (e.g. electroplating).

Standard coatings that are generally with low risk for H-embrittlement: zinc flake coatings, hot dip galvanized.



### 5.1.4 European directives RoHS and ELV

RoHS: Restriction on Hazardous Substances (European Directive 2002/95/EC).

ELV: End of Live Vehicles (European Directive 2000/53/EC).

Both directives restrict the use of lead (Pb), mercury (Hg), cadmium (Cd) and hexavalent chromium (Cr<sup>6+</sup>).

RoHS is applicable to electric and electronic equipment, while ELV affects passenger cars.

Particularly the restriction on Cr<sup>6+</sup> is of importance for fastener coatings, as popular passivation layers such as yellow and black passivation, but also zincflake coatings such as Dacromet, contain an unacceptable high level of this substance.

As for standard stock parts, Fabory has a broad assortment of Cr<sup>6+</sup>-free fasteners mainly

- Electrozinc plated, white passivated (Cr<sup>3+</sup>)
- Zinc flake coating flZnnc-600-L

On demand also many other Cr<sup>6+</sup>-free coatings are available.



### 5.2 Electroplating

An electroplated coating is a metallic layer that is deposited onto the surface of metal parts by immersing them in a solution containing an electrolyte and through which an electric current is passed.

The requirements for electroplated coatings on fasteners are defined in ISO 4042:1999.

A coding system can be used to define the coating metal, its thickness and the passivation layer.

The code consists of two capitals and a number in between.

- Code letter for the coating metal
- Code number for the minimum layer thickness
- Code letter for the type of passivation on top of the coating metal.

Code letter for the coating metal:

| code letter | coating metal                       | chemical symbol |
|-------------|-------------------------------------|-----------------|
| A           | Zinc                                | Zn              |
| B           | Cadmium                             | Cd              |
| C           | Copper                              | Cu              |
| D           | Brass                               | CuZn            |
| E           | Nickel                              | Ni              |
| F           | Nickel-Chromium <sup>1</sup>        | NiCr            |
| G           | Copper-Nickel                       | CuNi            |
| H           | Copper-Nickel-Chromium <sup>1</sup> | CuNiCr          |
| J           | Tin                                 | Sn              |
| K           | Copper-Tin                          | CuSn            |
| L           | Silver                              | Ag              |
| N           | Copper-Silver                       | CuAg            |
| P           | Zinc-nicle                          | ZnNi            |
| Q           | Zinc-cobalt                         | ZnCo            |
| R           | Zinc-iron                           | ZnFe            |

<sup>1</sup>Thickness of chrome layer ≈ 0.3µm.

Code number for the coating thickness:

| code number    | minimum layer thickness (coating structure) in $\mu\text{m}$ |                  |
|----------------|--|------------------|
|                | 1 coating metal  | 2 coating metals |
| 0 <sup>2</sup> | -  | -                |
| 1              | 3  | -                |
| 2              | 5  | 2+3              |
| 3              | 8  | 3+5              |
| 4              | 12   | 4+8              |
| 5              | 15   | 5+10             |
| 6              | 20   | 8+12             |
| 7 <sup>3</sup> | 25   | 10+15            |
| 8 <sup>3</sup> | 30   | 12+18            |

<sup>2</sup> Code number 0 applies to screw threads below M1.6 where no specific layer thickness can be specified.  
<sup>3</sup> Does not apply to threaded components.

Code letter for the chromate passivation layer:

| code letter | finish      | colour of the chromate passivation       |
|-------------|-------------|--|
| A           | dull        | no colour                                |
| B           |             | bluish to bluish iridescent <sup>1</sup> |
| C           |             | yellowish to yellowish-brown, iridescent |
| D           |             | olive green to olive brown               |
| E           | semi-bright | no colour                                |
| F           |             | bluish to bluish iridescent <sup>1</sup> |
| G           |             | yellowish to yellowish-brown, iridescent |
| H           |             | olive green to olive brown               |
| J           | bright      | no colour                                |
| K           |             | bluish to bluish iridescent <sup>1</sup> |
| L           |             | yellowish to yellowish-brown, iridescent |
| M           |             | olive green to olive brown               |
| N           | high bright | no colour                                |
| P           | optional    | like method B, C or D                    |
| R           | dull        | brownish black to black                  |
| S           | semi-bright |  |
| T           | bright      |  |

<sup>1</sup> Applies to Zn coating only

Example of coding: A3L

“A” means zinc-plated

“3” indicates the layer thickness of at least 8  $\mu\text{m}$

“L” refers to yellow chromating with a degree of gloss equal to “bright”

Example of designation: hexagon bolt ISO 4014 – M16 x 60 – 8.8 – A3L.

As a result of RoHS/ELV legislation and the high requirements of automotive industry for the corrosion resistance of Cr<sup>6+</sup>-free coatings, other passivation coatings and seals have been developed that are not yet standardized. More information can be requested at Fabory.

### 5.3 Hot dip galvanizing

Hot dip galvanized is defined as a protective zinc layer deposited onto the surface of steel parts, by immersing them in liquid zinc. Threaded parts generally need a spinning process immediately after the dip process. ISO 10684 (formerly DIN 267-10) specifies the material, process, dimensional and performance requirements for hot dip galvanized coatings applied to coarse thread steel fasteners from M8 up to M64.

Due to its high corrosion resistance in outdoor environment, hot dip galvanizing is the most applied coating system for fasteners in steel construction and building industry.

Internal thread is normally cut after the hot dip galvanizing process and is thus normally not coated. After assembly the internal thread is protected against corrosion by the hot dip galvanized external thread of the mating bolt.

The hot dip galvanizing of fasteners property class 10.9 involves specific procedures in order to prevent hydrogen embrittlement and microcracks in bolts  $\geq$  M27.

Coating thickness: minimum 40  $\mu\text{m}$ .

Due to the thickness of the coating, being more than the normal allowance between 6g and 6H thread tolerance class, special measures must be taken:

1. "Oversize thread" system:  
 Standard bolts with thread tolerance class 6g are hot dip galvanized and become "oversize" thread. These bolts have to be combined with nuts that have been tapped "oversize" (about 0.3 mm larger) after galvanizing. Therefore, they are not the usual thread fit. These bolts and nuts must be used as a set. This combination is usually employed and is recommended.
2. ISO-thread system:  
 For the second method, in accordance with ISO 10684, the thread size after hot dip galvanizing complies with ISO 965-1 class 6h/6H. Before hot dip galvanizing the external thread must therefore be thinner than the normal tolerance class 6g (undersized thread). This means that the bolts after hot dip galvanizing have to meet the tolerance position 6h. These "ISO metric" hot dip galvanized bolts must be mated with nuts that have been normally tapped after galvanizing and so must meet the go-gauge with tolerance position 6H. This method creates the usual thread fit and can therefore be used with nuts or in tapped holes that have the standard ISO metric thread.

**Important remarks:**

- **Care must be taken not to mix bolts and nuts of the "oversize thread" system with "ISO-thread" system, as failure of the fastening is inevitable !**
- **Attention is drawn to the fact that the proof loads of oversize tapped nuts and the proof loads of undersized threaded bolts and screws can be reduced as compared to the values specified in ISO 898-2 and ISO 898-1 respectively.**

## 5.4 Zinc flake coatings

A zinc flake coating (acc. ISO 10683) is a non-electrolytically applied coating which is produced by applying to the surface of a fastener a zinc flake dispersion, possibly with the addition of aluminum flakes. A suitable medium generates a bonding amongst the flakes and also between flakes and steel through heat curing. The thus formed inorganic surface coating is electrically conducting and ensures cathodic protection.

Compared to most electro zinc coatings, these zinc flake treatments offer a much higher corrosion resistance, without risk for hydrogen embrittlement.

ISO 10683 defines zinc flake coatings both with or without  $\text{Cr}^{6+}$ . The standard assortment of Fabory is the chromium-free type of zinc flake coating. This is indicated in the ISO-standard as flZnnc (fl = flake, Zn = Zinc, nc = no chrome).

The corrosion resistance of zinc flake coatings overperform conventional electro zinc plating by a multiple, with a comparable coating thickness. For its standard assortment, Fabory has chosen for a corrosion resistance of 480 hours for smaller thread diameters and 600 hours for the bigger sizes ( $>$ M8). This is specified in the ISO-standard as flZnnc-600.

Often neglected when specifying a coating, is the coefficient of friction. In most applications threaded fasteners must be tightened until a minimum clamping force is reached, without overloading nor the clamped parts, nor the fasteners themselves. Often this tightening process is controlled by a specified torque. Fabory has decided to choose for a lubricated zinc flake coating, with a coefficient of friction that is close to that of plain and normal zinc plated fasteners:  $\mu_{\text{tot}} = 0,12 - 0,18$ . The application of a lubricant is indicated with "L".

The zinc flake coatings selected for the standard Fabory assortment are specified compliant to ISO 10683 as "flZnnc-480-L" for fasteners up to M8 and as "flZnnc-600-L" for bigger sizes.

## 6 Inspection documents for fasteners

### 6.1 Test reports and certificates EN 10204

Originally inspection documents (certificate types) were specified in standard DIN 50049. The definitions of material testing and certificate types in DIN 50049 were the basis for European standard EN 10204, which was first published in 1991.

Both DIN 50049 and EN 10204 defined the certificate types 2.1, 2.2, 2.3, 3.1A, 3.1B, 3.1C and 3.2.

EN 10204 was last revised in 2004 with a simplified range of inspection documents (certificate types). These now only include types 2.1, 2.2, 3.1 and 3.2.

Type 2.3 has been deleted.

Type 3.1 replaces 3.1B

Type 3.2 replaces 3.1A, 3.1C and 3.2 of the previous edition.

The table below shows the full range of current (C= edition 2004) and withdrawn (W=edition 1995) EN 10204 certificate types, with some interpretation of what they cover.

| Certificate type | Title                                    | Status | Summary of EN10204 requirements   | Notes   |
|------------------|--|--------|---|---|
| 2.1              | Declaration of compliance with the order | C      | Statement of compliance with the order by the manufacturer.   | No test results shown.  |
| 2.2              | Test report                              | C      | Statement of compliance with the order by the manufacturer based on non-specific inspections (tests) by the manufacturer. | Sample test results from another lot number, manufactured by the same process route, can be used.   |
| 2.3              | Specific test report                     | W      | With mention of test results from specific inspection and testing   | Test results of the supplied lot number are needed on the certificate. Certificate issued and signed by manufacturer's representative, who does not need to be independent of the manufacturing department.   |
| 3.1              | Inspection certificate                   | C      | Statement of compliance with the order by the manufacturer with results of specific inspection                            | Replaces 3.1B. Common certificate type issued for the supplied lot number. Cert. issued and signed by manufacturer's representative, who must be independent of the manufacturing department. E.g. Inspection department manager/supervisor.  |
| 3.1A             | Inspection certificate 3.1A              | W      | With mention of test results from specific inspection and testing   | Test results for supplied lot number. Cert. issued by independent inspector required by releasing authority (eg TUV for German pressure vessels). Replaced by 3.2 in 2004   |
| 3.1B             | Inspection certificate 3.1B              | W      | With mention of test results from specific inspection and testing   | Test results for supplied lot number. Cert. issued and signed by manufacturer's representative. Replaced by 3.1 in 2004   |
| 3.1C             | Inspection certificate 3.1C              | W      | With mention of test results from specific inspection and testing   | Test results for supplied lot number. Cert. issued by independent inspector appointed by customer (eg Lloyds, accredited laboratory). Replaced by 3.2 in 2004   |
| 3.2              | Inspection certificate                   | C      | Statement of compliance with order with indication of results of specific inspection                                      | Test results for supplied lot number. Cert. issued by both manufacturer's representative and an independent inspector appointed either by the customer (cf withdrawn 3.1C) or an inspector designated by official regulations (cf withdrawn 3.1A). ie 3.2 now covers scope of both 3.1A and 3.1C of previous edition. |

The laboratory of Fabory is accredited according ISO/IEC 17025 as an independent testing laboratory for mechanical testing of fasteners, including chemical analyses. Inspection certificates issued by the laboratory are according EN 10204 type 3.1.C (1995 edition).



Testing Certificate No.: 931.01

## 6.2 PPAP documents

PPAP is an acronym for “Production Part Approval Process” and is usually pronounced “pee-pap”. The primary purpose of PPAP quality related documentation is to verify a manufacturer’s ability to produce and to consistently provide an automotive part that fully complies with purchase order requirements.

The PPAP system is unique to the automotive industry, however some other industries also are making use of it. The large amount of documentation is necessary to reduce the likelihood of an automotive part failure, which can reduce vehicle safety, vehicle reliability and customer satisfaction as well as interrupt new vehicle production.

Several PPAP Submission Levels are defined in the PPAP manual, published by the Automotive Industry Action Group (AIAG).

Five PPAP Submission Levels exist:

Level 1: Part Submission Warrant (PSW) only.

Level 2: PSW with product samples and limited supporting data.

Level 3: PSW with product samples and complete supporting data.

Level 4: PSW and other requirements as defined by the customer.

Level 5: PSW with product samples and complete supporting data available for review at the manufacturing location.

Generally a “Level 3” is required, for which the manufacturer must address an extensive list of topics:

- Design records
- Engineering changes
- Engineering approvals
- Design Failure Mode and Effects Analyses (DFMEA)
- Process flow diagrams
- Process failure mode and effects analysis (PFMEA)
- Control plan
- Measurement system analysis studies
- Dimensional results
- Material performance test results
- Initial process studies
- Qualified laboratory documentation
- Appearance Approval Report (if applicable)
- Sample product
- Records of compliance with customer-specific requirements
- Part Submission Warrant (PSW)

For (ISO, DIN, ...) standardized parts and in agreement with the customer, often the number of topics can be reduced significantly. Although generally PPAP documents must be set up by the manufacturer – by specific order - a customer can agree with Fabory to create a reduced PPAP by its accredited laboratory.

PPAP submissions generally are valid until a design or process change is made to a part by the manufacturer.

## 6.3 CE-certification

A large number of industrial products must be produced by a CE-certified manufacturer or given a CE mark. In the course of time, the number of products that require CE marking will be extended further.

The CE mark indicates that the product satisfies the European fundamental health and safety requirements required to bring the product to the market. These minimum requirements are listed in the European Guidelines.

The Guidelines do not contain the detailed technical specifications of the products. These technical specifications have been included in – mostly European - standards for many products.

Fasteners for which CE-marking is required:



**Due to Machinery directive (2006/42/EC):**

DIN 580 resp. DIN 582: Lifting eye bolts and -nuts if used as lifting equipment.

**Due to Construction Products Directive (89/106/EEC):**

EN 14399: High-strength structural bolting assemblies for preloading.

EN 15048: Non-preloaded structural bolting assemblies.

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## 7 Directions for the design and assembly of fastenings

In order to ensure that threaded fastenings fulfil their function and do not work loose or fail, careful selection of the fasteners and the assembly method must be made for each individual application. Below information is based on the guideline VDI 2230:2003 "Systematic calculation of high duty bolted joints". Depending on the real assembly situation, it may be necessary to further investigate on the design and assembly directions.

### 7.1 Tightening torque tables for steel bolted joints

#### 7.1.1 Assembly preload / tightening torques - coarse pitch

The table below applies to shank bolts with metric thread according to ISO 262, head dimensions of hexagon bolts as per ISO 4014 – 4018 respectively hexagon (hexalobular) socket screws as per ISO 4762, and in clearance holes "medium" according to EN 20273.

Recommendations for tightening torques for other products different from the above mentioned standards and conditions can not be taken from this table and are available on request.

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| Nom. diameter | Property class | Assembly preload in N<br>for $\mu_s =$ |         |         |         |         |         |         | Tightening torques $M_A$ in Nm<br>for $\mu_k = \mu_s =$ |       |       |       |       |       |       |
|---------------|----------------|--|---------|---------|---------|---------|---------|---------|---|-------|-------|-------|-------|-------|-------|
|               |                | 0,08                                   | 0,10    | 0,12    | 0,14    | 0,16    | 0,20    | 0,24    | 0,08  | 0,10  | 0,12  | 0,14  | 0,16  | 0,20  | 0,24  |
| M 4           | 8.8            | 4 600                                  | 4 500   | 4 400   | 4 300   | 4 200   | 3 900   | 3 700   | 2,3   | 2,6   | 3,0   | 3,3   | 3,6   | 4,1   | 4,5   |
|               | 10.9           | 6 800                                  | 6 700   | 6 500   | 6 300   | 6 100   | 5 700   | 5 400   | 3,3   | 3,9   | 4,6   | 4,8   | 5,3   | 6,0   | 6,6   |
|               | 12.9           | 8 000                                  | 7 800   | 7 600   | 7 400   | 7 100   | 6 700   | 6 300   | 3,9   | 4,5   | 5,1   | 5,6   | 6,2   | 7,0   | 7,8   |
| M 5           | 8.8            | 7 600                                  | 7 400   | 7 200   | 7 000   | 6 800   | 6 400   | 6 000   | 4,4   | 5,2   | 5,9   | 6,5   | 7,1   | 8,1   | 9,0   |
|               | 10.9           | 11 100                                 | 10 800  | 10 600  | 10 300  | 10 000  | 9 400   | 8 800   | 6,5   | 7,6   | 8,6   | 9,5   | 10,4  | 11,9  | 13,2  |
|               | 12.9           | 13 000                                 | 12 700  | 12 400  | 12 000  | 11 700  | 11 000  | 10 300  | 7,6   | 8,9   | 10,0  | 11,2  | 12,2  | 14,0  | 15,5  |
| M 6           | 8.8            | 10 700                                 | 10 400  | 10 200  | 9 900   | 9 600   | 9 000   | 8 400   | 7,7   | 9,0   | 10,1  | 11,3  | 12,3  | 14,1  | 15,6  |
|               | 10.9           | 15 700                                 | 15 300  | 14 900  | 14 500  | 14 100  | 13 200  | 12 400  | 11,3  | 13,2  | 14,9  | 16,5  | 18,0  | 20,7  | 22,9  |
|               | 12.9           | 18 400                                 | 17 900  | 17 500  | 17 000  | 16 500  | 15 500  | 14 500  | 13,2  | 15,4  | 17,4  | 19,3  | 21,3  | 24,2  | 26,8  |
| M 7           | 8.8            | 15 500                                 | 15 100  | 14 800  | 14 400  | 14 000  | 13 100  | 12 300  | 12,6  | 14,8  | 16,8  | 18,7  | 20,5  | 23,6  | 26,2  |
|               | 10.9           | 22 700                                 | 22 500  | 21 700  | 21 100  | 20 500  | 19 300  | 18 100  | 18,5  | 21,7  | 24,7  | 27,5  | 30,1  | 34,7  | 38,5  |
|               | 12.9           | 26 600                                 | 26 000  | 25 400  | 24 700  | 24 000  | 22 600  | 21 200  | 21,6  | 25,4  | 28,9  | 32,2  | 35,2  | 40,6  | 45,1  |
| M 8           | 8.8            | 19 500                                 | 19 100  | 18 600  | 18 100  | 17 600  | 16 500  | 15 500  | 18,5  | 21,6  | 24,6  | 27,3  | 29,8  | 34,3  | 38,0  |
|               | 10.9           | 28 700                                 | 28 000  | 27 300  | 26 600  | 25 800  | 24 300  | 22 700  | 27,2  | 31,8  | 36,1  | 40,1  | 43,8  | 50,3  | 55,8  |
|               | 12.9           | 33 600                                 | 32 800  | 32 000  | 31 100  | 30 200  | 28 400  | 26 600  | 31,8  | 37,2  | 42,2  | 46,9  | 51,2  | 58,9  | 65,3  |
| M 10          | 8.8            | 31 000                                 | 30 300  | 29 600  | 28 800  | 27 900  | 26 300  | 24 700  | 36  | 43    | 48    | 54    | 59    | 68    | 75    |
|               | 10.9           | 45 600                                 | 44 500  | 43 400  | 42 200  | 41 000  | 38 600  | 36 200  | 53  | 63    | 71    | 79    | 87    | 100   | 110   |
|               | 12.9           | 53 300                                 | 52 100  | 50 800  | 49 400  | 48 000  | 45 200  | 42 400  | 62  | 73    | 83    | 93    | 101   | 116   | 129   |
| M 12          | 8.8            | 45 200                                 | 44 100  | 43 000  | 41 900  | 40 700  | 38 300  | 35 900  | 63  | 73    | 84    | 93    | 102   | 117   | 130   |
|               | 10.9           | 66 300                                 | 64 800  | 63 200  | 61 500  | 59 800  | 56 300  | 52 800  | 92  | 108   | 123   | 137   | 149   | 172   | 191   |
|               | 12.9           | 77 600                                 | 75 900  | 74 000  | 72 000  | 70 000  | 65 800  | 61 800  | 108   | 126   | 144   | 160   | 175   | 201   | 223   |
| M 14          | 8.8            | 62 000                                 | 60 600  | 59 100  | 57 500  | 55 900  | 52 600  | 49 300  | 100   | 117   | 133   | 148   | 162   | 187   | 207   |
|               | 10.9           | 91 000                                 | 88 900  | 86 700  | 84 400  | 82 100  | 77 200  | 72 500  | 146   | 172   | 195   | 218   | 238   | 274   | 304   |
|               | 12.9           | 106 500                                | 104 100 | 101 500 | 98 800  | 96 000  | 90 400  | 84 800  | 171   | 201   | 229   | 255   | 279   | 321   | 356   |
| M 16          | 8.8            | 84 700                                 | 82 900  | 80 900  | 78 800  | 76 600  | 72 200  | 67 800  | 153   | 180   | 206   | 230   | 252   | 291   | 325   |
|               | 10.9           | 124 400                                | 121 700 | 118 800 | 115 700 | 112 600 | 106 100 | 99 600  | 224   | 264   | 302   | 338   | 370   | 428   | 477   |
|               | 12.9           | 145 500                                | 142 400 | 139 000 | 135 400 | 131 700 | 124 100 | 116 600 | 262   | 309   | 354   | 395   | 433   | 501   | 558   |
| M 18          | 8.8            | 107 000                                | 104 000 | 102 000 | 99 000  | 96 000  | 91 000  | 85 000  | 220   | 259   | 295   | 329   | 360   | 415   | 462   |
|               | 10.9           | 152 000                                | 149 000 | 145 000 | 141 000 | 137 000 | 129 000 | 121 000 | 314   | 369   | 421   | 469   | 513   | 592   | 657   |
|               | 12.9           | 178 000                                | 174 000 | 170 000 | 165 000 | 160 000 | 151 000 | 142 000 | 367   | 432   | 492   | 549   | 601   | 692   | 769   |
| M 20          | 8.8            | 136 000                                | 134 000 | 130 000 | 127 000 | 123 000 | 116 000 | 109 000 | 308   | 363   | 415   | 464   | 509   | 588   | 655   |
|               | 10.9           | 194 000                                | 190 000 | 186 000 | 181 000 | 176 000 | 166 000 | 156 000 | 438   | 517   | 592   | 661   | 725   | 838   | 933   |
|               | 12.9           | 227 000                                | 223 000 | 217 000 | 212 000 | 206 000 | 194 000 | 182 000 | 513   | 605   | 692   | 773   | 848   | 980   | 1092  |
| M 22          | 8.8            | 170 000                                | 166 000 | 162 000 | 158 000 | 154 000 | 145 000 | 137 000 | 417   | 495   | 567   | 634   | 697   | 808   | 901   |
|               | 10.9           | 242 000                                | 237 000 | 231 000 | 225 000 | 219 000 | 207 000 | 194 000 | 595   | 704   | 807   | 904   | 993   | 1 151 | 1 284 |
|               | 12.9           | 283 000                                | 277 000 | 271 000 | 264 000 | 257 000 | 242 000 | 228 000 | 696   | 824   | 945   | 1057  | 1 162 | 1 347 | 1 502 |
| M 24          | 8.8            | 196 000                                | 192 000 | 188 000 | 183 000 | 178 000 | 168 000 | 157 000 | 529   | 625   | 714   | 798   | 875   | 1 011 | 1 126 |
|               | 10.9           | 280 000                                | 274 000 | 267 000 | 260 000 | 253 000 | 239 000 | 224 000 | 754   | 890   | 1 017 | 1 136 | 1 246 | 1 440 | 1 604 |
|               | 12.9           | 327 000                                | 320 000 | 313 000 | 305 000 | 296 000 | 279 000 | 262 000 | 882   | 1 041 | 1 190 | 1 329 | 1 458 | 1 685 | 1 877 |
| M 27          | 8.8            | 257 000                                | 252 000 | 246 000 | 240 000 | 234 000 | 220 000 | 207 000 | 772   | 915   | 1 050 | 1 176 | 1 292 | 1 498 | 1 672 |
|               | 10.9           | 367 000                                | 359 000 | 351 000 | 342 000 | 333 000 | 314 000 | 295 000 | 1 100   | 1 304 | 1 496 | 1 674 | 1 840 | 2 134 | 2 381 |
|               | 12.9           | 429 000                                | 420 000 | 410 000 | 400 000 | 389 000 | 367 000 | 345 000 | 1 287   | 1 526 | 1 750 | 1 959 | 2 153 | 2 497 | 2 787 |
| M 30          | 8.8            | 313 000                                | 307 000 | 300 000 | 292 000 | 284 000 | 268 000 | 252 000 | 1 053   | 1 246 | 1 428 | 1 597 | 1 754 | 2 031 | 2 265 |
|               | 10.9           | 446 000                                | 437 000 | 427 000 | 416 000 | 405 000 | 382 000 | 359 000 | 1 500   | 1 775 | 2 033 | 2 274 | 2 498 | 2 893 | 3 226 |
|               | 12.9           | 522 000                                | 511 000 | 499 000 | 487 000 | 474 000 | 447 000 | 420 000 | 1 755   | 2 077 | 2 380 | 2 662 | 2 923 | 3 386 | 3 775 |
| M 33          | 8.8            | 389 000                                | 381 000 | 373 000 | 363 000 | 354 000 | 334 000 | 314 000 | 1 415   | 1 679 | 1 928 | 2 161 | 2 377 | 2 759 | 3 081 |
|               | 10.9           | 554 000                                | 543 000 | 531 000 | 517 000 | 504 000 | 475 000 | 447 000 | 2 015   | 2 392 | 2 747 | 3 078 | 3 385 | 3 930 | 4 388 |
|               | 12.9           | 649 000                                | 635 000 | 621 000 | 605 000 | 589 000 | 556 000 | 523 000 | 2 358   | 2 799 | 3 214 | 3 601 | 3 961 | 4 598 | 5 135 |
| M 36          | 8.8            | 458 000                                | 448 000 | 438 000 | 427 000 | 415 000 | 392 000 | 368 000 | 1 825   | 2 164 | 2 482 | 2 778 | 3 054 | 3 541 | 3 951 |
|               | 10.9           | 652 000                                | 638 000 | 623 000 | 608 000 | 591 000 | 558 000 | 524 000 | 2 600   | 3 082 | 3 535 | 3 957 | 4 349 | 5 043 | 5 627 |
|               | 12.9           | 763 000                                | 747 000 | 729 000 | 711 000 | 692 000 | 653 000 | 614 000 | 3 042   | 3 607 | 4 136 | 4 631 | 5 089 | 5 902 | 6 585 |
| M 39          | 8.8            | 548 000                                | 537 000 | 525 000 | 512 000 | 498 000 | 470 000 | 443 000 | 2 348   | 2 791 | 3 208 | 3 597 | 3 958 | 4 598 | 5 137 |
|               | 10.9           | 781 000                                | 765 000 | 748 000 | 729 000 | 710 000 | 670 000 | 630 000 | 3 345   | 3 975 | 4 569 | 5 123 | 5 637 | 6 549 | 7 317 |
|               | 12.9           | 914 000                                | 895 000 | 875 000 | 853 000 | 831 000 | 784 000 | 738 000 | 3 914   | 4 652 | 5 346 | 5 994 | 6 596 | 7 664 | 8 562 |



### 7.1.2 Assembly preload / tightening torques - fine pitch

The table below applies to shank bolts with fine metric thread according to ISO 262, head dimensions of hexagon bolts as per ISO 4014 – 4018 respectively hexagon (hexalobular) socket screws as per ISO 4762, and in clearance holes “medium” according to EN 20273.

Recommendations for tightening torques for other products different from the above mentioned standards and conditions can not be taken from this table and are available on request.

| Nom. diameter | Property class | Assembly preload $F_M$ in N<br>for $\mu_G =$ |          |         |         |         |         | Tightening torques $M_A$ in Nm<br>for $\mu_K = \mu_G =$ |      |      |      |      |      |      |       |
|---------------|----------------|--|----------|---------|---------|---------|---------|---|------|------|------|------|------|------|-------|
|               |                | 0,08   | 0,10     | 0,12    | 0,14    | 0,16    | 0,20    | 0,24  | 0,08 | 0,10 | 0,12 | 0,14 | 0,16 | 0,20 | 0,24  |
| M 8x1         | 8.8            | 21 200                                       | 20 700   | 20 200  | 19 700  | 19 200  | 18 100  | 17 000  | 19,3 | 22,8 | 26,1 | 29,2 | 32,0 | 37,0 | 41,2  |
|               | 10.9           | 31 100                                       | 30 400   | 29 700  | 28 900  | 28 100  | 26 500  | 24 900  | 28,4 | 33,5 | 38,3 | 42,8 | 47,0 | 54,3 | 60,5  |
|               | 12.9           | 36 400                                       | 35 600   | 34 700  | 33 900  | 32 900  | 31 000  | 29 100  | 33,2 | 39,2 | 44,9 | 50,1 | 55,0 | 63,6 | 70,8  |
| M 9x1         | 8.8            | 27 700                                       | 27 200   | 26 500  | 25 900  | 25 200  | 23 700  | 22 300  | 28,0 | 33,2 | 38,1 | 42,6 | 46,9 | 54,4 | 60,7  |
|               | 10.9           | 40 700                                       | 39 900   | 39 000  | 38 000  | 37 000  | 34 900  | 32 800  | 41,1 | 48,8 | 55,9 | 62,6 | 68,8 | 79,8 | 89,1  |
|               | 12.9           | 47 700                                       | 46 700   | 45 600  | 44 400  | 43 300  | 40 800  | 38 400  | 48,1 | 57,0 | 65,4 | 73,3 | 80,6 | 93,4 | 104,3 |
| M 10x1        | 8.8            | 35 200                                       | 34 500   | 33 700  | 32 900  | 32 000  | 30 200  | 28 400  | 39   | 46   | 53   | 60   | 66   | 76   | 85    |
|               | 10.9           | 51 700                                       | 50 600   | 49 500  | 48 300  | 47 000  | 44 400  | 41 700  | 57   | 68   | 78   | 88   | 97   | 112  | 125   |
|               | 12.9           | 60 400                                       | 59 200   | 57 900  | 56 500  | 55 000  | 51 900  | 48 800  | 67   | 80   | 91   | 103  | 113  | 131  | 147   |
| M 10x1,25     | 8.8            | 33 100                                       | 32 400   | 31 600  | 30 800  | 29 900  | 28 200  | 26 500  | 38   | 44   | 51   | 57   | 62   | 72   | 80    |
|               | 10.9           | 48 600                                       | 47 500   | 46 400  | 45 200  | 44 000  | 41 400  | 38 900  | 55   | 65   | 75   | 83   | 92   | 106  | 118   |
|               | 12.9           | 56 800                                       | 55 600   | 54 300  | 52 900  | 51 400  | 48 500  | 45 500  | 65   | 76   | 87   | 98   | 107  | 124  | 138   |
| M 12x1,25     | 8.8            | 50 100                                       | 49 100   | 48 000  | 46 800  | 45 600  | 43 000  | 40 400  | 66   | 79   | 90   | 101  | 111  | 129  | 145   |
|               | 10.9           | 73 600                                       | 72 100   | 70 500  | 68 700  | 66 900  | 63 200  | 59 400  | 97   | 116  | 133  | 149  | 164  | 190  | 212   |
|               | 12.9           | 86 200                                       | 84 400   | 82 500  | 80 400  | 78 300  | 73 900  | 69 500  | 114  | 135  | 155  | 174  | 192  | 222  | 249   |
| M 12x1,5      | 8.8            | 47 600                                       | 46 600   | 45 500  | 44 300  | 43 100  | 40 600  | 38 200  | 64   | 76   | 87   | 97   | 107  | 123  | 137   |
|               | 10.9           | 70 000                                       | 68 500   | 66 800  | 65 100  | 63 300  | 59 700  | 56 000  | 95   | 112  | 128  | 143  | 157  | 181  | 202   |
|               | 12.9           | 81 900                                       | 80 100   | 78 200  | 76 200  | 74 100  | 69 800  | 65 600  | 111  | 131  | 150  | 167  | 183  | 212  | 236   |
| M 14x1,5      | 8.8            | 67 800                                       | 66 400   | 64 800  | 63 200  | 61 500  | 58 100  | 54 600  | 104  | 124  | 142  | 159  | 175  | 203  | 227   |
|               | 10.9           | 99 500                                       | 97 500   | 95 200  | 92 900  | 90 400  | 85 300  | 80 200  | 153  | 182  | 209  | 234  | 257  | 299  | 333   |
|               | 12.9           | 116 500                                      | 114 100  | 111 400 | 108 700 | 105 800 | 99 800  | 93 900  | 179  | 213  | 244  | 274  | 301  | 349  | 390   |
| M 16x1,5      | 8.8            | 91 400                                       | 89 600   | 87 600  | 85 500  | 83 200  | 78 600  | 74 000  | 159  | 189  | 218  | 244  | 269  | 314  | 351   |
|               | 10.9           | 134 200                                      | 131 600  | 128 700 | 125 500 | 122 300 | 115 500 | 108 700   | 233  | 278  | 320  | 359  | 396  | 461  | 515   |
|               | 12.9           | 157 100                                      | 154 000  | 150 600 | 146 900 | 143 100 | 135 100 | 127 200   | 273  | 325  | 374  | 420  | 463  | 539  | 603   |
| M 18x1,5      | 8.8            | 122 000                                      | 120 000  | 117 000 | 115 000 | 112 000 | 105 000 | 99 000  | 237  | 283  | 327  | 368  | 406  | 473  | 530   |
|               | 10.9           | 174 000                                      | 171 000  | 167 000 | 163 000 | 159 000 | 150 000 | 141 000   | 337  | 403  | 465  | 523  | 578  | 674  | 755   |
|               | 12.9           | 204 000                                      | 200 000  | 196 000 | 191 000 | 186 000 | 176 000 | 166 000   | 394  | 472  | 544  | 613  | 676  | 789  | 884   |
| M 18x2        | 8.8            | 114 000                                      | 112 000  | 109 000 | 107 000 | 104 000 | 98 000  | 92 000  | 229  | 271  | 311  | 348  | 383  | 444  | 495   |
|               | 10.9           | 163 000                                      | 160 000  | 156 000 | 152 000 | 148 000 | 139 000 | 131 000   | 326  | 386  | 443  | 496  | 545  | 632  | 706   |
|               | 12.9           | 191 000                                      | 187 000  | 182 000 | 178 000 | 173 000 | 163 000 | 153 000   | 381  | 452  | 519  | 581  | 638  | 740  | 826   |
| M 20x1,5      | 8.8            | 154 000                                      | 151 000  | 148 000 | 144 000 | 141 000 | 133 000 | 125 000   | 327  | 392  | 454  | 511  | 565  | 660  | 741   |
|               | 10.9           | 219 000                                      | 215 000  | 211 000 | 206 000 | 200 000 | 190 000 | 179 000   | 466  | 558  | 646  | 728  | 804  | 940  | 1055  |
|               | 12.9           | 257 000                                      | 252 000  | 246 000 | 241 000 | 234 000 | 222 000 | 209 000   | 545  | 653  | 756  | 852  | 941  | 1100 | 1234  |
| M 22x1,5      | 8.8            | 189 000                                      | 186 000  | 182 000 | 178 000 | 173 000 | 164 000 | 154 000   | 440  | 529  | 613  | 692  | 765  | 896  | 1006  |
|               | 10.9           | 269 000                                      | 264 000  | 259 000 | 253 000 | 247 000 | 233 000 | 220 000   | 627  | 754  | 873  | 985  | 1090 | 1276 | 1433  |
|               | 12.9           | 315 000                                      | 309 000  | 303 000 | 296 000 | 289 000 | 273 000 | 257 000   | 734  | 882  | 1022 | 1153 | 1275 | 1493 | 1677  |
| M 24x1,5      | 8.8            | 228 000                                      | 224 000  | 219 000 | 214 000 | 209 000 | 198 000 | 187 000   | 570  | 686  | 796  | 899  | 995  | 1166 | 1311  |
|               | 10.9           | 325 000                                      | 319 000  | 312 000 | 305 000 | 298 000 | 282 000 | 266 000   | 811  | 977  | 1133 | 1280 | 1417 | 1661 | 1867  |
|               | 12.9           | 380 000                                      | 373 000  | 366 000 | 357 000 | 347 000 | 330 000 | 311 000   | 949  | 1143 | 1326 | 1498 | 1658 | 1943 | 2185  |
| M 24x2        | 8.8            | 217 000                                      | 213 000  | 209 000 | 204 000 | 198 000 | 187 000 | 177 000   | 557  | 666  | 769  | 865  | 955  | 1114 | 1248  |
|               | 10.9           | 310 000                                      | 304 000  | 297 000 | 290 000 | 282 000 | 267 000 | 251 000   | 793  | 949  | 1095 | 1232 | 1360 | 1586 | 1777  |
|               | 12.9           | 362 000                                      | 355 000  | 348 000 | 339 000 | 331 000 | 312 000 | 294 000   | 928  | 1110 | 1282 | 1442 | 1591 | 1856 | 2080  |
| M 27x1,5      | 8.8            | 293 000                                      | 288 000  | 282 000 | 276 000 | 269 000 | 255 000 | 240 000   | 822  | 992  | 1153 | 1304 | 1445 | 1697 | 1910  |
|               | 10.9           | 418 000                                      | 410 000  | 402 000 | 393 000 | 383 000 | 363 000 | 342 000   | 1171 | 1413 | 1643 | 1858 | 2059 | 2417 | 2720  |
|               | 12.9           | 489 000                                      | 480 000  | 470 000 | 460 000 | 448 000 | 425 000 | 401 000   | 1370 | 1654 | 1922 | 2174 | 2409 | 2828 | 3183  |
| M 27x2        | 8.8            | 281 000                                      | 276 000  | 270 000 | 264 000 | 257 000 | 243 000 | 229 000   | 806  | 967  | 1119 | 1262 | 1394 | 1630 | 1829  |
|               | 10.9           | 400 000                                      | 393 000  | 384 000 | 375 000 | 366 000 | 346 000 | 326 000   | 1149 | 1378 | 1594 | 1797 | 1986 | 2322 | 2605  |
|               | 12.9           | 468 000                                      | 460 000  | 450 000 | 439 000 | 428 000 | 405 000 | 382 000   | 1344 | 1612 | 1866 | 2103 | 2324 | 2717 | 3049  |
| M 30x2        | 8.8            | 353 000                                      | 347 000  | 339 000 | 331 000 | 323 000 | 306 000 | 288 000   | 1116 | 1343 | 1556 | 1756 | 1943 | 2276 | 2557  |
|               | 10.9           | 503 000                                      | 494 000  | 483 000 | 472 000 | 460 000 | 436 000 | 411 000   | 1590 | 1912 | 2216 | 2502 | 2767 | 3241 | 3641  |
|               | 12.9           | 588 000                                      | 578 000  | 565 000 | 552 000 | 539 000 | 510 000 | 481 000   | 1861 | 2238 | 2594 | 2927 | 3238 | 3793 | 4261  |
| M 33x2        | 8.8            | 433 000                                      | 425 000  | 416 000 | 407 000 | 397 000 | 376 000 | 354 000   | 1489 | 1794 | 2082 | 2352 | 2605 | 3054 | 3435  |
|               | 10.9           | 617 000                                      | 606 000  | 593 000 | 580 000 | 565 000 | 535 000 | 505 000   | 2120 | 2555 | 2965 | 3350 | 3710 | 4350 | 4892  |
|               | 12.9           | 722 000                                      | 709 000  | 694 000 | 678 000 | 662 000 | 626 000 | 591 000   | 2481 | 2989 | 3470 | 3921 | 4341 | 5090 | 5725  |
| M 36x2        | 8.8            | 521 000                                      | 512 000  | 502 000 | 490 000 | 478 000 | 453 000 | 427 000   | 1943 | 2345 | 2725 | 3082 | 3415 | 4010 | 4513  |
|               | 10.9           | 742 000                                      | 729 000  | 714 000 | 698 000 | 681 000 | 645 000 | 609 000   | 2767 | 3340 | 3882 | 4390 | 4864 | 5711 | 6428  |
|               | 12.9           | 869 000                                      | 853 000  | 836 000 | 817 000 | 797 000 | 755 000 | 712 000   | 3238 | 3908 | 4542 | 5137 | 5692 | 6683 | 7522  |
| M 39x2        | 8.8            | 618 000                                      | 607 000  | 595 000 | 581 000 | 567 000 | 537 000 | 507 000   | 2483 | 3002 | 3493 | 3953 | 4383 | 5151 | 5801  |
|               | 10.9           | 880 000                                      | 864 000  | 847 000 | 828 000 | 808 000 | 765 000 | 722 000   | 3537 | 4267 | 4974 | 5631 | 6243 | 7336 | 8263  |
|               | 12.9           | 1030 000                                     | 1011 000 | 991 000 | 969 000 | 945 000 | 896 000 | 845 000   | 4139 | 5003 | 5821 | 6589 | 7306 | 8585 | 9669  |

## 7.2 Tightening torque tables for stainless steel bolted joints

### 7.2.1 Assembly preload / tightening torques

The values below apply to austenitic stainless steel hexagon bolts ISO 4014 – 4018 respectively hexagon (hexalobular) socket screws as per ISO 4762. The torques are theoretically calculated values depending on the chosen friction coefficient and based on a preload, utilizing 90% of the minimum yield strength during assembly.

Recommendations for tightening torques for other products different from the above mentioned standards and conditions can not be taken from this table and are available on request.

| Friction coefficient |       | Assembly preload $F_M$ in kN<br>for $\mu_G=$ |       |       |       |       |       |       |      | Tightening torque $M_A$ in Nm<br>for $\mu_K= \mu_G=$ |       |       |       |       |       |       |       |
|----------------------|-------|--|-------|-------|-------|-------|-------|-------|------|--|-------|-------|-------|-------|-------|-------|-------|
|                      |       | 0,10   | 0,12  | 0,14  | 0,16  | 0,18  | 0,20  | 0,30  | 0,40 | 0,10   | 0,12  | 0,14  | 0,16  | 0,18  | 0,20  | 0,30  | 0,40  |
| Basic diameter       | class |  |       |       |       |       |       |       |      |  |       |       |       |       |       |       |       |
| M4                   | 50    | 1,46   | 1,41  | 1,37  | 1,32  | 1,28  | 1,24  | 1,04  | 0,88 | 0,83   | 0,94  | 1,04  | 1,12  | 1,20  | 1,28  | 1,55  | 1,72  |
|                      | 70    | 3,12   | 3,03  | 2,93  | 2,84  | 2,74  | 2,65  | 2,22  | 1,88 | 1,79   | 2,01  | 2,22  | 2,41  | 2,58  | 2,73  | 3,32  | 3,68  |
|                      | 80    | 4,16   | 4,04  | 3,91  | 3,78  | 3,65  | 3,53  | 2,96  | 2,51 | 2,38   | 2,68  | 2,96  | 3,21  | 3,44  | 3,64  | 4,42  | 4,91  |
| M5                   | 50    | 2,38   | 2,32  | 2,25  | 2,17  | 2,10  | 2,03  | 1,71  | 1,45 | 1,65   | 1,86  | 2,06  | 2,24  | 2,41  | 2,55  | 3,12  | 3,47  |
|                      | 70    | 5,11   | 4,96  | 4,81  | 4,66  | 4,51  | 4,36  | 3,67  | 3,11 | 3,54   | 4,00  | 4,42  | 4,80  | 5,15  | 5,47  | 6,68  | 7,43  |
|                      | 80    | 6,81   | 6,62  | 6,41  | 6,21  | 6,01  | 5,81  | 4,89  | 4,15 | 4,72   | 5,33  | 5,89  | 6,40  | 6,87  | 7,30  | 8,91  | 9,90  |
| M6                   | 50    | 3,36   | 3,26  | 3,16  | 3,06  | 2,96  | 2,86  | 2,40  | 2,04 | 2,86   | 3,23  | 3,57  | 3,88  | 4,16  | 4,42  | 5,38  | 5,98  |
|                      | 70    | 7,20   | 6,99  | 6,77  | 6,56  | 6,34  | 6,13  | 5,15  | 4,37 | 6,14   | 6,92  | 7,65  | 8,31  | 8,91  | 9,46  | 11,53 | 12,81 |
|                      | 80    | 9,60   | 9,32  | 9,03  | 8,74  | 8,45  | 8,17  | 6,87  | 5,83 | 8,18   | 9,23  | 10,20 | 11,08 | 11,88 | 12,62 | 15,37 | 17,08 |
| M8                   | 50    | 6,2  | 6,0   | 5,8   | 5,6   | 5,5   | 5,3   | 4,4   | 3,8  | 7,0  | 7,9   | 8,7   | 9,5   | 10,2  | 10,8  | 13,3  | 14,8  |
|                      | 70    | 13,2   | 12,8  | 12,5  | 12,1  | 11,7  | 11,3  | 9,5   | 8,1  | 14,9   | 16,9  | 18,7  | 20,3  | 21,8  | 23,2  | 28,4  | 31,6  |
|                      | 80    | 17,6   | 17,1  | 16,6  | 16,1  | 15,6  | 15,1  | 12,7  | 10,8 | 19,9   | 22,5  | 24,9  | 27,1  | 29,1  | 30,9  | 37,9  | 42,2  |
| M10                  | 50    | 9,8  | 9,5   | 9,3   | 9,0   | 8,7   | 8,4   | 7,1   | 6,0  | 13,7   | 15,6  | 17,2  | 18,8  | 20,2  | 21,5  | 26,4  | 29,4  |
|                      | 70    | 21,0   | 20,5  | 19,9  | 19,2  | 18,6  | 18,0  | 15,2  | 12,9 | 29,4   | 33,3  | 37,0  | 40,3  | 43,3  | 46,1  | 56,5  | 63,0  |
|                      | 80    | 28,1   | 27,3  | 26,5  | 25,7  | 24,8  | 24,0  | 20,3  | 17,2 | 39,2   | 44,5  | 49,3  | 53,7  | 57,7  | 61,4  | 75,4  | 84,0  |
| M12                  | 50    | 14,3   | 13,9  | 13,5  | 13,1  | 12,7  | 12,3  | 10,4  | 8,8  | 23,7   | 26,9  | 29,8  | 32,5  | 35,0  | 37,2  | 45,8  | 51,1  |
|                      | 70    | 30,7   | 29,8  | 29,0  | 28,1  | 27,2  | 26,3  | 22,2  | 18,9 | 50,8   | 57,7  | 63,9  | 69,7  | 75,0  | 79,8  | 98,1  | 109,4 |
|                      | 80    | 40,9   | 39,8  | 38,6  | 37,4  | 36,2  | 35,1  | 29,6  | 25,2 | 67,8   | 76,9  | 85,3  | 93,0  | 100,0 | 106,4 | 130,8 | 145,9 |
| M14                  | 50    | 19,6   | 19,0  | 18,5  | 17,9  | 17,4  | 16,8  | 14,2  | 12,1 | 38,2   | 43,4  | 48,2  | 52,6  | 56,6  | 60,3  | 74,2  | 82,9  |
|                      | 70    | 41,9   | 40,8  | 39,6  | 38,4  | 37,2  | 36,0  | 30,4  | 25,9 | 81,9   | 93,0  | 103,3 | 112,7 | 121,3 | 129,2 | 159,0 | 177,6 |
|                      | 80    | 55,9   | 54,4  | 52,8  | 51,2  | 49,6  | 48,0  | 40,6  | 34,5 | 109,3  | 124,1 | 137,7 | 150,3 | 161,8 | 172,3 | 212,0 | 236,7 |
| M16                  | 50    | 27,0   | 26,3  | 25,6  | 24,8  | 24,1  | 23,3  | 19,8  | 16,8 | 58,3   | 66,4  | 74,0  | 80,9  | 87,3  | 93,1  | 115,3 | 129,2 |
|                      | 70    | 57,8   | 56,4  | 54,8  | 53,2  | 51,6  | 49,9  | 42,4  | 36,1 | 124,8  | 142,3 | 158,5 | 173,4 | 187,1 | 199,6 | 247,1 | 276,8 |
|                      | 80    | 77,1   | 75,1  | 73,1  | 70,9  | 68,8  | 66,6  | 56,5  | 48,1 | 166,4  | 189,8 | 211,4 | 231,2 | 249,5 | 266,1 | 329,5 | 369,1 |
| M18                  | 50    | 32,9   | 32,0  | 31,1  | 30,2  | 29,3  | 28,3  | 24,0  | 20,4 | 81,7   | 92,8  | 103,1 | 112,6 | 121,2 | 129,1 | 159,2 | 177,9 |
|                      | 70    | 70,6   | 68,7  | 66,7  | 64,7  | 62,7  | 60,7  | 51,4  | 43,7 | 175,0  | 198,9 | 220,9 | 241,2 | 259,8 | 276,7 | 341,1 | 381,2 |
|                      | 80    | 94,1   | 91,6  | 89,0  | 86,3  | 83,6  | 80,9  | 68,5  | 58,3 | 233,3  | 265,2 | 294,6 | 321,6 | 346,4 | 369,0 | 454,8 | 508,3 |
| M20                  | 50    | 42,1   | 41,1  | 39,9  | 38,8  | 37,6  | 36,4  | 30,9  | 26,3 | 114,0  | 130,0 | 144,8 | 158,5 | 171,0 | 182,4 | 226,0 | 253,2 |
|                      | 70    | 90,3   | 88,0  | 85,5  | 83,0  | 80,5  | 78,0  | 66,2  | 56,4 | 244,4  | 278,6 | 310,4 | 339,6 | 366,4 | 390,9 | 484,3 | 542,6 |
|                      | 80    | 120,4  | 117,3 | 114,1 | 110,7 | 107,4 | 104,0 | 88,2  | 75,2 | 325,8  | 371,5 | 413,8 | 452,8 | 488,6 | 521,2 | 645,7 | 723,5 |
| M22                  | 50    | 52,4   | 51,1  | 49,8  | 48,3  | 46,9  | 45,5  | 38,6  | 33,0 | 153,0  | 174,9 | 195,2 | 214,0 | 231,2 | 247,0 | 307,2 | 344,9 |
|                      | 70    | 112,4  | 109,6 | 106,6 | 103,6 | 100,5 | 97,4  | 82,8  | 70,6 | 327,8  | 374,8 | 418,4 | 458,6 | 495,5 | 529,3 | 658,3 | 739,1 |
|                      | 80    | 149,8  | 146,1 | 142,2 | 138,1 | 134,0 | 129,9 | 110,4 | 94,1 | 437,1  | 499,7 | 557,8 | 611,4 | 660,7 | 705,7 | 877,8 | 985,5 |
| M24                  | 50    | 61   | 59    | 58    | 56    | 54    | 52    | 45    | 38   | 197  | 224   | 250   | 273   | 295   | 314   | 389   | 436   |
|                      | 70    | 130  | 127   | 123   | 120   | 116   | 112   | 95    | 81   | 421  | 480   | 535   | 585   | 632   | 674   | 835   | 935   |
|                      | 80    | 173  | 169   | 164   | 160   | 155   | 150   | 127   | 108  | 562  | 640   | 713   | 781   | 842   | 898   | 1113  | 1247  |
| M27                  | 50    | 80   | 78    | 76    | 73    | 71    | 69    | 59    | 50   | 289  | 331   | 369   | 405   | 438   | 468   | 583   | 655   |
|                      | 70    | 170  | 166   | 162   | 157   | 153   | 148   | 126   | 107  | 619  | 708   | 791   | 868   | 938   | 1003  | 1249  | 1403  |
| M30                  | 50    | 97   | 95    | 92    | 89    | 87    | 84    | 71    | 61   | 394  | 450   | 502   | 550   | 594   | 635   | 789   | 886   |
|                      | 70    | 208  | 203   | 197   | 191   | 186   | 180   | 153   | 130  | 843  | 964   | 1.076 | 1.179 | 1.273 | 1.360 | 1.691 | 1.898 |
| M33                  | 50    | 121  | 118   | 115   | 111   | 108   | 105   | 89    | 76   | 531  | 609   | 681   | 747   | 808   | 864   | 1.079 | 1.213 |
| M36                  | 50    | 142  | 138   | 134   | 131   | 127   | 123   | 105   | 89   | 684  | 782   | 874   | 959   | 1.036 | 1.108 | 1.380 | 1.551 |
| M39                  | 50    | 170  | 166   | 161   | 157   | 152   | 148   | 126   | 108  | 883  | 1.013 | 1.133 | 1.245 | 1.347 | 1.441 | 1.802 | 2.028 |

### 7.3 Coefficients of friction $\mu_G$ and $\mu_K$

Table below gives guidance for the choice of friction coefficients  $\mu_G$  and  $\mu_K$  ( $\mu_G$  = coefficient of friction of screw thread /  $\mu_K$  = coefficient of friction of bolt head or nut bearing surface). Depending on the detailed specification of the applied materials and lubricants, the friction coefficient can vary significantly.

| Typical examples   |   | Friction coefficient<br>$\mu_G$ and $\mu_K$ |
|--|---|---|
| Material / surface   | Lubricant   |   |
| Metallically bright<br>Black oxide<br>Phosphated<br>Galvanic coatings such as:<br>Zn, Zn/Fe, Zn/Ni<br>Zincflake coatings                     | Solid lubricants, such as:<br>MoS <sub>2</sub> , graphite, PTFE, PA, PE, PI in<br>lubricating varnishes as top coating or<br>in pastes;<br>Liquefied wax<br>Wax dispersions                                   | 0,04 to 0,10                                |
| Metallically bright<br>Black oxide<br>Phosphated<br>Galvanic coatings such as:<br>Zn, Zn/Fe, Zn/Ni<br>Zincflake coatings<br>Al and Mg alloys | Solid lubricants, such as:<br>MoS <sub>2</sub> , graphite, PTFE, PA, PE, PI in<br>lubricating varnishes as top coating or<br>in pastes;<br>Liquefied wax<br>Wax dispersions, greases;<br>Oils; delivery state | 0,08 to 0,16                                |
| Hot- galvanized  | MoS <sub>2</sub> , graphite;<br>Wax dispersions   |   |
| Organic coatings   | With integrated solid lubricant or wax<br>dispersion  |   |
| Austenitic steel   | Solid lubricants or waxes;<br>pastes  |   |
| Austenitic steel   | Wax dispersion, pastes  | 0,14 to 0,24                                |
| Metallically bright<br>Phosphated<br>Galvanic coatings such as:<br>Zn, Zn/Fe, Zn/Ni<br>Zincflake coatings<br>adhesive                        | Delivery state (light oiled)  |   |
| Austenitic steel   | none  |   |
| Galvanic coatings such as:<br>Zn, Zn/Fe;<br>Hot- galvanized  | oil   | 0,20 to 0,35                                |
| Galvanic coatings such as:<br>Zn/Fe, Zn/Ni;<br>Austenitic steel<br>Al and Mg alloys  | none  |   |

Note: If the coefficients of frictions are not experimentally determined, application of the smallest friction values from this table will reduce the risk of overtightening. (Fabory Technology dept. is able to do frictional test on special request and for critical applications.)

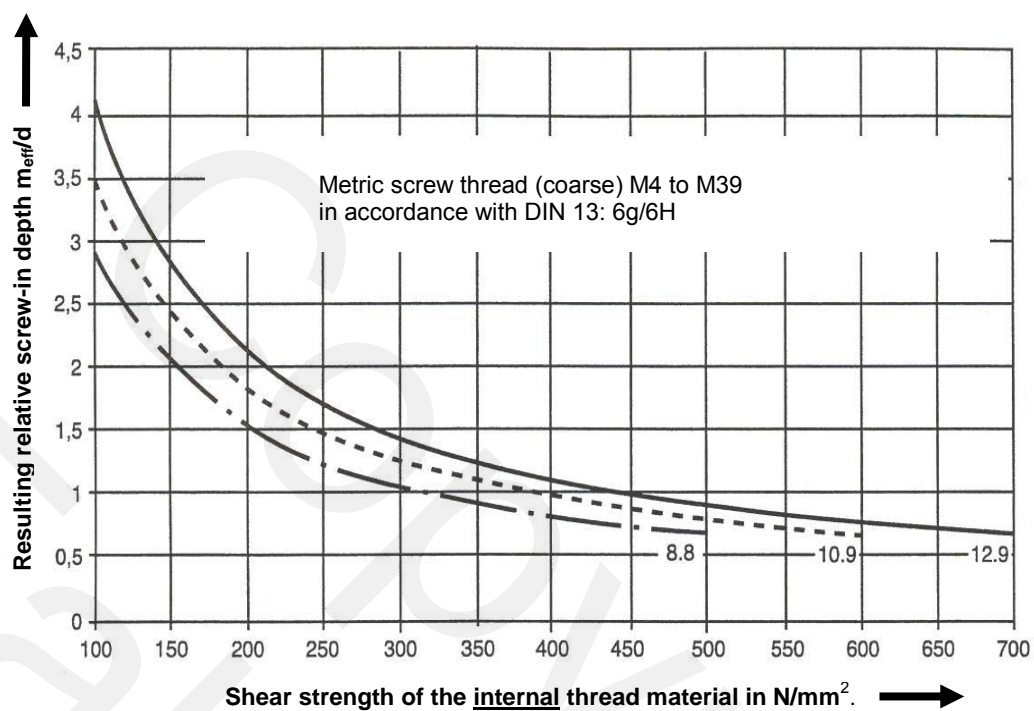
### 7.4 Galling (seizing) of stainless steel

The high ductility of austenitic stainless steel means that it is in general more susceptible to galling than normal steels. To avoid galling, the product must be clean, free of burs, foreign matter, chips, sand, etc. and one-sided clamping due to damage to the screw thread or crooked assembly must be avoided. Rigid joints perform better than elastic ones.

It is advisable to torque as uniformly as possible at low speed and not to use impact wrenches. It is noted that to induce a certain preload, it is not only the coefficients of friction that are important, but also the accuracy of the method used to tighten the bolts. The combination of two different grades of stainless steel (e.g. A2 and A4) is not advantageous as far as galling is concerned. In special circumstances and for special requirements a suitable (anti galling) lubricant / paste or pre-applied dry coating should be used. e.g.: lubricant/paste; chloride-paraffin, molykote lacquer, high pressure oil, corrosion-resistant grease or dry coating; Metalform and Combiflon, etc.

## 7.5 Screw-in depths for blind holes

The figure below shows the recommended minimum screw-in depths for blind holes in combination with various property classes, related to the shear strength of the material in which the bolt is attached.



$M_{eff}$  = effective screw-in depth.  
d = nominal diameter

## 7.6 Ratio of shear strength to tensile strength

The table below is based on VDI 2230 (2003)

| Property class | 4.6  | 5.6  | 8.8  | 10.9 | 12.9 |
|----------------|------|------|------|------|------|
| $\tau_B / R_m$ | 0,70 | 0,70 | 0,65 | 0,62 | 0,60 |

## 7.7 Clamping length table for preloaded bolts HV according to EN 14399-4

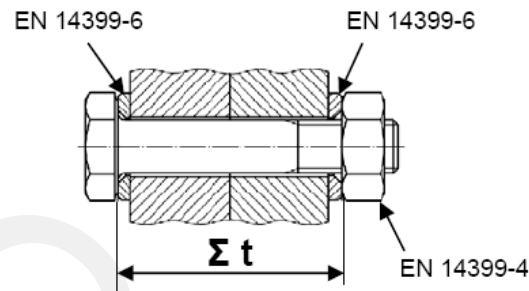


Table below is based on EN14399-4:2005. EN 14399 replaces the obsolete standard for HV fasteners DIN 6914, 6915, 6916.

| d   | M12                                 |      | M16  |      | M20  |      | M22  |      | M24  |      | M27  |      | M30  |      | M36  |      |      |
|-----|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|     | $\Sigma t$ min. and $\Sigma t$ max. |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| L   | nom.                                | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. |
| 35  | 16                                  | 21   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 40  | 21                                  | 26   | 17   | 22   |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 45  | 26                                  | 31   | 22   | 27   | 18   | 23   |      |      |      |      |      |      |      |      |      |      |      |
| 50  | 31                                  | 36   | 27   | 32   | 23   | 28   | 22   | 27   |      |      |      |      |      |      |      |      |      |
| 55  | 36                                  | 41   | 32   | 37   | 28   | 33   | 27   | 32   |      |      |      |      |      |      |      |      |      |
| 60  | 41                                  | 46   | 37   | 42   | 33   | 38   | 32   | 37   | 29   | 34   |      |      |      |      |      |      |      |
| 65  | 46                                  | 51   | 42   | 47   | 38   | 43   | 37   | 42   | 34   | 39   |      |      |      |      |      |      |      |
| 70  | 51                                  | 56   | 47   | 52   | 43   | 48   | 42   | 47   | 39   | 44   | 36   | 41   |      |      |      |      |      |
| 75  | 56                                  | 61   | 52   | 57   | 48   | 53   | 47   | 52   | 44   | 49   | 41   | 46   | 39   | 44   |      |      |      |
| 80  | 61                                  | 66   | 57   | 62   | 53   | 58   | 52   | 57   | 49   | 54   | 46   | 51   | 44   | 49   |      |      |      |
| 85  | 66                                  | 71   | 62   | 67   | 58   | 63   | 57   | 62   | 54   | 59   | 51   | 56   | 49   | 54   | 43   | 48   |      |
| 90  | 71                                  | 76   | 67   | 72   | 63   | 68   | 62   | 67   | 59   | 64   | 56   | 61   | 54   | 59   | 48   | 53   |      |
| 95  | 76                                  | 81   | 72   | 77   | 68   | 73   | 67   | 72   | 64   | 69   | 61   | 66   | 59   | 64   | 53   | 58   |      |
| 100 |                                     |      | 77   | 82   | 73   | 78   | 72   | 77   | 69   | 74   | 66   | 71   | 64   | 69   | 58   | 63   |      |
| 105 |                                     |      | 82   | 87   | 78   | 83   | 77   | 82   | 74   | 79   | 71   | 76   | 69   | 74   | 63   | 68   |      |
| 110 |                                     |      | 87   | 92   | 83   | 88   | 82   | 87   | 79   | 84   | 76   | 81   | 74   | 79   | 68   | 73   |      |
| 115 |                                     |      | 92   | 97   | 88   | 93   | 87   | 92   | 84   | 89   | 81   | 86   | 79   | 84   | 73   | 78   |      |
| 120 |                                     |      | 97   | 102  | 93   | 98   | 92   | 97   | 89   | 94   | 86   | 91   | 84   | 89   | 78   | 83   |      |
| 125 |                                     |      | 102  | 107  | 98   | 103  | 97   | 102  | 94   | 99   | 91   | 96   | 89   | 94   | 83   | 88   |      |
| 130 |                                     |      | 107  | 112  | 103  | 108  | 102  | 107  | 99   | 104  | 96   | 101  | 94   | 99   | 88   | 93   |      |
| 135 |                                     |      |      |      | 108  | 113  | 107  | 112  | 104  | 109  | 101  | 106  | 99   | 104  | 93   | 98   |      |
| 140 |                                     |      |      |      | 113  | 118  | 112  | 117  | 109  | 114  | 106  | 111  | 104  | 109  | 98   | 103  |      |
| 145 |                                     |      |      |      | 118  | 123  | 117  | 122  | 114  | 119  | 111  | 116  | 109  | 114  | 103  | 108  |      |
| 150 |                                     |      |      |      | 123  | 128  | 122  | 127  | 119  | 124  | 116  | 121  | 114  | 119  | 108  | 113  |      |
| 155 |                                     |      |      |      | 128  | 133  | 127  | 132  | 124  | 129  | 121  | 126  | 119  | 124  | 113  | 118  |      |
| 160 |                                     |      |      |      |      |      | 132  | 137  | 129  | 134  | 126  | 131  | 124  | 129  | 118  | 123  |      |
| 165 |                                     |      |      |      |      |      | 137  | 142  | 134  | 139  | 131  | 136  | 129  | 134  | 123  | 128  |      |
| 170 |                                     |      |      |      |      |      |      |      | 139  | 144  | 136  | 141  | 134  | 139  | 128  | 133  |      |
| 175 |                                     |      |      |      |      |      |      |      | 144  | 149  | 141  | 146  | 139  | 144  | 133  | 138  |      |
| 180 |                                     |      |      |      |      |      |      |      | 149  | 154  | 146  | 151  | 144  | 149  | 138  | 143  |      |
| 185 |                                     |      |      |      |      |      |      |      | 154  | 159  | 151  | 156  | 149  | 154  | 143  | 148  |      |
| 190 |                                     |      |      |      |      |      |      |      | 159  | 164  | 156  | 161  | 154  | 159  | 148  | 153  |      |
| 195 |                                     |      |      |      |      |      |      |      | 164  | 169  | 161  | 166  | 159  | 164  | 153  | 158  |      |
| 200 |                                     |      |      |      |      |      |      |      |      |      | 166  | 171  | 164  | 169  | 158  | 163  |      |

## 7.8 Locking

Correctly designed bolted joints, if correctly assembled, will not come loose. However, it is not always possible to design a joint so that it can optimally resist all causes of loosening. Additional articles such as spring washers or serrated washers can compensate loss of preload or prevent loosening.

### 7.8.1 Loss of preload

Loss of preload occurs through:

- Loosening due to change of length resulting from relaxation (embedding) and creep.
- Spontaneous loosening as a result of relative movement between the contact faces of the joint from dynamic load or load components acting transversely to the axis of the bolt. The joint then appears to become free of friction due to the elimination of the self-locking effect.

### 7.8.2 Classification of locking systems

Because of the various causes of loss of preload, a distinction is made in:

*Securing against embedding & creep*: add elements to compensate for embedding and creep.

*Securing against loss*: add elements to ensure that the joint does not fall apart if the preload is lost.

*Securing against rotating loose*: add elements to prevent spontaneous loosening by blocking the internal loosening moment.

The overview below gives, in addition to the classification of the three main groups mentioned above, a sub classification dependent on the function of the locking system.

The mentioned examples are no guarantee for optimum effect, because many other parameters will have influence on the joint behaviour.

| Cause of loss of preload   | Classification of locking systems with respect to: |                                       | Examples  | Reference <sup>2)</sup>  |
|--|--|---------------------------------------|---|--|
|  | Objective  | Function                              |   |  |
| Loosening due to embedment / creep   | Securing against embedding                         | Elastic elements clamped in the joint | Spring lock washers<br>Disc springs<br>Conical spring washers   | DIN 127/128/137<br>DIN 2093<br>DIN 6796 / 6908                                     |
| Loosening due to internal loosening moment and transverse displacement           | Securing against loss                              | Locking elements                      | Castle nuts<br>Locking plates<br>Locking wire<br>Products with a split pin hole   | DIN 935<br>DIN 93/432/463<br>----<br>DIN 962                                       |
|  |  | Clamping elements                     | Locking nuts with plastic washer <sup>1)</sup><br>All metal nuts with prevailing torque features<br>Bolts with plastic patch <sup>1)</sup><br>Self tapping screws | DIN 982/985/6926<br>DIN 980<br>---<br>Driloc Plastic<br>DIN 7500                   |
|  | Securing against rotating loose                    | Blocking elements                     | Toothed flange bolts<br>Toothed flange nuts<br>Locking washers<br>Locking rings   | E.g. Tensilock, Ripp.<br>E.g. Tensilock, Ripp.<br>E.g. Schnorr.<br>E.g. Nord-Lock. |
|  |  | Locking agent                         | Micro-encapsulated bolts <sup>1)</sup><br>Anaerobic locking agent <sup>1)</sup>   | E.g. Dri-loc 2015.<br>E.g. Loctite.  |
| <sup>1)</sup> Temperature dependent<br><sup>2)</sup> contains obsolete standards |  |                                       |   |  |

For more specific information on this subject a brochure is available on request.

In order to determine the effectiveness of a certain locking system, use is often made of a generally accepted test, the "Junker machine". This machine subjects the products to dynamic transverse forces and graphically records the loss of preload, depending on the number of alternating loads. Fabory has the ability to perform these tests.

### 7.8.3 Some practical suggestions for an optimum bolted joint

- Applying a high preload will limit critical displacements on the contact faces significantly. (Take into account the surface pressure of the clamped material).
- Controlled tightening.
- The greatest possible clamping length/diameter ratio, preferably  $L_k / d > 5$ .
- Prevent displacement of construction elements by using e.g. dowels and clamping bushes, etc.
- Increase the friction between contact faces by applying friction coatings or by roughening the surface by blasting.
- Make the contact faces smooth and parallel.
- When there is only static axial load and the assembly is correct, there is no need for locking mechanisms.
- The improper use of embedment and retention systems is more likely to make the reliability of the joint worse than better. Do not use them for dynamic transverse loads.

*Note:*

Locking systems must be used under both the bolt head and the nut. A locking washer assembled on a flat washer is useless.

## 8 Tables

### 8.1 SI units

In the following table a selection is given of those measuring units that are commonly used in fastening engineering.

| Name         | Symbol           | Unit of                       | Replaces   | Mutual conversion (rounded off)                             |  |
|--------------|------------------|-------------------------------|--|---|--|
| newton       | N                | force                         | kgf, kp  | 1N ≈ 0,1 kgf ≈ kp   | 1 kgf ≈ 1 kp ≈ 10N   |
| joule        | J                | energy, work, heat            | kcal, cal, kgf.m or kgm Btu (British thermal unit) | 1J ≈ 1Nm ≈ 0,1 kgf.m<br>1J = 0,739 cal                      | 1 kgf.m ≈ 10J ≈ 10Nm<br>1 cal = 4,187J                       |
| bar          | bar              | pressure of liquids and gases | at, kgf/cm <sup>2</sup> of kg/cm <sup>2</sup>      | 1 bar ≈ 1 at ≈ 1kgf/cm <sup>2</sup> ≈ kg/cm <sup>2</sup>    | 1 at = 1 bar   |
| kelvin       | K                | temperature                   | partly the °C                                      | Tk-273,15+T °C  | T °C =Tk-273,15  |
| metre        | m                | length                        | -  |   |  |
| second       | s                | time                          | -  |   |  |
| kilogram     | kg               | mass (quantity)               | unit of weight                                     | 1 kg (mass) = 10 N (weight) on earth                        |  |
| volt         | V                | electrical voltage            | -  |   |  |
| ampère       | A                | electrical current            | -  |   |  |
| watt         | W                | power (not only electrical)   | pk, hp and kcal/h                                  | 1 kW = 1.359 pk<br>1 kW = 1.341 hp<br>1 kW = 959.845 kcal/h | 1 pk = 0.7355 kW<br>1 hp = 0.7457 kW<br>1 kcal/h=0.001163 kW |
| Pascal       | N/m <sup>2</sup> | pressure, stress              | m <sup>-1</sup> ·kg·s <sup>-2</sup>                | 1 Pa<br>1MPa  | 1 N/m <sup>2</sup><br>1 N/mm <sup>2</sup>                    |
| Newton metre | Nm               | torque                        | kgfm   | 1 Nm = 0.1 kgf.m  | 1kgf.m = 10 Nm   |



## 8.2 Conversion of tensile strength, Vickers, Brinell and Rockwell hardnesses

The table below is for information only and based on the withdrawn standard DIN 50150 (2000) and applies when the values are determined as follows:

- The tensile strength according to ISO 6892-1, Vickers hardness according to ISO 6507-1, Brinell hardness according to ISO 6506-1, the Rockwell hardness according to ISO 6508-1 and applies for unalloyed and low alloyed steels. Considerable deviations can usually be expected with high alloy and/ or cold-worked steels.
- In principle, every conversion of hardness results in a certain degree of inaccuracy and may only be used when a measuring method cannot be carried out. Conversion cannot lead to rejection, unless a certain measurement method has been agreed at the time of ordering.
- A conversion between tensile strength and hardness will result in an even greater deviation and therefore can only be used as an indicative value. This can never replace the tensile strength determined by tensile testing.

| Tensile strength<br>N/mm <sup>2</sup> | Vickers Hardness<br>HV10 | Brinell Hardness<br>HB | Rockwell Hardness |       |      |      |                   |       |       |       |
|---------------------------------------|--------------------------|------------------------|-------------------|-------|------|------|-------------------|-------|-------|-------|
|                                       |                          |                        | HRB               | HRF   | HRC  | HRA  | HRD <sup>1)</sup> | HR15N | HR30N | HR45N |
| 255                                   | 80                       | 76,0                   |                   |       |      |      |                   |       |       |       |
| 285                                   | 90                       | 85,5                   | 48,0              | 82,6  |      |      |                   |       |       |       |
| 320                                   | 100                      | 95,0                   | 56,2              | 87,0  |      |      |                   |       |       |       |
| 350                                   | 110                      | 105                    | 62,3              | 90,5  |      |      |                   |       |       |       |
| 385                                   | 120                      | 114                    | 66,7              | 93,6  |      |      |                   |       |       |       |
| 415                                   | 130                      | 124                    | 71,2              | 96,4  |      |      |                   |       |       |       |
| 450                                   | 140                      | 133                    | 75,0              | 99,0  |      |      |                   |       |       |       |
| 480                                   | 150                      | 143                    | 78,7              | 101,4 |      |      |                   |       |       |       |
| 510                                   | 160                      | 152                    | 81,7              | 103,6 |      |      |                   |       |       |       |
| 545                                   | 170                      | 162                    | 85,0              | 105,5 |      |      |                   |       |       |       |
| 575                                   | 180                      | 171                    | 87,1              | 107,2 |      |      |                   |       |       |       |
| 610                                   | 190                      | 181                    | 89,5              | 108,7 |      |      |                   |       |       |       |
| 640                                   | 200                      | 190                    | 91,5              | 110,1 |      |      |                   |       |       |       |
| 675                                   | 210                      | 199                    | 93,5              | 111,3 |      |      |                   |       |       |       |
| 705                                   | 220                      | 209                    | 95,0              | 112,4 |      |      |                   |       |       |       |
| 740                                   | 230                      | 219                    | 96,7              | 113,4 |      |      |                   |       |       |       |
| 770                                   | 240                      | 228                    | 98,1              | 114,3 | 20,3 | 60,7 | 40,3              | 69,6  | 41,7  | 19,9  |
| 800                                   | 250                      | 238                    | 99,5              | 115,1 | 22,2 | 61,6 | 41,7              | 70,6  | 43,4  | 22,2  |
| 835                                   | 260                      | 247                    | (101)             |       | 24,0 | 62,4 | 43,1              | 71,6  | 45,0  | 24,3  |
| 865                                   | 270                      | 257                    | (102)             |       | 25,6 | 63,1 | 44,3              | 72,6  | 46,4  | 26,2  |
| 900                                   | 280                      | 266                    | (104)             |       | 27,1 | 63,8 | 45,3              | 73,4  | 47,8  | 27,9  |
| 930                                   | 290                      | 276                    | (105)             |       | 28,5 | 64,5 | 46,5              | 74,2  | 49,0  | 29,5  |
| 965                                   | 300                      | 285                    |                   |       | 29,8 | 65,2 | 47,5              | 74,9  | 50,2  | 31,1  |
| 995                                   | 310                      | 295                    |                   |       | 31,0 | 65,8 | 48,4              | 75,6  | 51,3  | 32,5  |
| 1030                                  | 320                      | 304                    |                   |       | 32,2 | 66,4 | 49,4              | 76,2  | 52,3  | 33,9  |
| 1060                                  | 330                      | 314                    |                   |       | 33,3 | 67,0 | 50,2              | 76,8  | 53,6  | 35,2  |
| 1095                                  | 340                      | 323                    |                   |       | 34,4 | 67,6 | 51,1              | 77,4  | 54,4  | 36,5  |
| 1125                                  | 350                      | 333                    |                   |       | 35,5 | 68,1 | 51,9              | 78,0  | 55,4  | 37,8  |
| 1155                                  | 360                      | 342                    |                   |       | 36,6 | 68,7 | 52,8              | 78,6  | 56,4  | 39,1  |
| 1190                                  | 370                      | 352                    |                   |       | 37,7 | 69,2 | 53,6              | 79,2  | 57,4  | 40,4  |
| 1220                                  | 380                      | 361                    |                   |       | 38,8 | 69,8 | 54,4              | 79,8  | 58,4  | 41,7  |
| 1255                                  | 390                      | 371                    |                   |       | 39,8 | 70,3 | 55,3              | 80,3  | 59,3  | 42,9  |
| 1290                                  | 400                      | 380                    |                   |       | 40,8 | 70,8 | 56,0              | 80,8  | 60,2  | 44,1  |
| 1320                                  | 410                      | 390                    |                   |       | 41,8 | 71,4 | 56,8              | 81,4  | 61,1  | 45,3  |
| 1350                                  | 420                      | 399                    |                   |       | 42,7 | 71,8 | 57,5              | 81,8  | 61,9  | 46,4  |
| 1385                                  | 430                      | 409                    |                   |       | 43,6 | 72,3 | 58,2              | 82,3  | 62,7  | 47,4  |
| 1420                                  | 440                      | 418                    |                   |       | 44,5 | 72,8 | 58,8              | 82,8  | 63,5  | 48,4  |
| 1455                                  | 450                      | 428                    |                   |       | 45,3 | 73,3 | 59,4              | 83,2  | 64,3  | 49,4  |
| 1485                                  | 460                      | 437                    |                   |       | 46,1 | 73,6 | 60,1              | 83,6  | 64,9  | 50,4  |
| 1520                                  | 470                      | 447                    |                   |       | 46,9 | 74,1 | 60,7              | 83,9  | 65,7  | 51,3  |
| 1555                                  | 480                      | (456)                  |                   |       | 47,7 | 74,5 | 61,3              | 84,3  | 66,4  | 52,2  |

1) Rockwell hardness HRD is not DIN standardized, but is provided for reference, because it is used internationally, e.g. in the American ASTM E18.

## 8.3 Contact and chemical corrosion tables

### 8.3.1 Contact corrosion table

| S = severe corrosion of the metal, shown in the row                                      |                       |                  |      |                             |                  |                |            |                   |            |                |      |     |        |                 |
|--|-----------------------|------------------|------|-----------------------------|------------------|----------------|------------|-------------------|------------|----------------|------|-----|--------|-----------------|
| G = no or limited corrosion of the metal, shown in the row                               |                       |                  |      |                             |                  |                |            |                   |            |                |      |     |        |                 |
| M = moderate corrosion (in an extremely damp atmosphere) of the metal, shown in the row. |                       |                  |      |                             |                  |                |            |                   |            |                |      |     |        |                 |
| Metal  | Surface <sup>1)</sup> | Magnesium alloys | Zinc | Hot dipped galvanized steel | Aluminium alloys | Cadmium layers | Mild steel | Low alloyed steel | Cast steel | Chromium steel | Lead | Tin | Copper | Stainless steel |
| Magnesium alloy  | small                 |                  | S    | S                           | S                | S              | S          | S                 | S          | S              | S    | S   | S      | S               |
|  | large                 |                  | M    | M                           | M                | M              | S          | S                 | S          | S              | S    | S   | S      | S               |
| Zinc   | small                 | M                |      | G                           | S                | S              | S          | S                 | S          | S              | S    | S   | S      | S               |
|  | large                 | G                |      | G                           | G                | G              | G          | G                 | G          | G              | G    | G   | G      | G               |
| Hot dipped galvanized steel  | small                 | M                | G    |                             | M                | M              | S          | S                 | S          | S              | S    | S   | S      | S               |
|  | large                 | G                | G    |                             | G                | G              | G          | G                 | G          | G              | G    | G   | G      | G               |
| Aluminium alloy  | small                 | M                | G    | G                           |                  | G              | S          |                   | S          |                | S    |     | S      | S               |
|  | large                 | G                | G    | M                           |                  | G              | G          | G                 | M          | M              | S    | S   | S      | S               |
| Cadmium layers   | small                 | G                | G    | G                           | G                |                | S          | S                 | S          | S              | S    | S   | S      | S               |
|  | large                 | M                | G    | M                           | G                |                | G          | G                 | G          | G              | G    | G   | G      | G               |
| Mild steel   | small                 | G                | G    | G                           | G                | G              |            | M                 | S          | S              | S    | S   | S      | S               |
|  | large                 | G                | G    | G                           | G                | G              |            | G                 | G          | G              | G    | G   | G      | G               |
| Low alloyed steel  | small                 | G                | G    | G                           | G                | G              | G          |                   | G          | S              | S    | S   | S      | S               |
|  | large                 | G                | G    | G                           | G                | G              | G          |                   | G          | G              | G    | G   | G      | G               |
| Cast steel   | small                 | G                | G    | G                           | G                | G              | G          | M                 |            | S              | S    | S   | S      | S               |
|  | large                 | G                | G    | G                           | G                | G              | G          | G                 |            | G              | G    | G   |        |                 |
| Chromium steel   | small                 | G                | G    | G                           | G                | G              | G          | G                 |            |                | M    | M   | S      | S               |
|  | large                 | G                | G    | G                           | G                | G              | G          | G                 |            |                | G    | G   |        | G               |
| Lead   | small                 | G                | G    | G                           | G                | G              | G          | G                 | G          | G              |      | G   | G      |                 |
|  | large                 | G                | G    | G                           | G                | G              | G          | G                 | M          | G              |      | G   |        | G               |
| Tin  | small                 | G                | G    | G                           | G                | G              | G          | G                 |            | G              |      | G   |        |                 |
|  | large                 | G                | G    | G                           | G                | G              | G          | G                 | G          | M              |      | G   |        |                 |
| Copper   | small                 | G                | G    | G                           | G                | G              | G          | G                 |            | M              | M    | S   |        |                 |
|  | large                 | G                | G    | G                           | G                | G              | G          | G                 | G          | G              | G    | M   |        | G               |
| Stainless steel  | small                 | G                | G    | G                           | G                | G              |            | G                 | G          |                | G    | G   |        |                 |
|  | large                 | G                | G    | M                           | G                | G              | G          | G                 | G          | M              | M    | M   | G      |                 |

<sup>1)</sup> Relative relationship of this metal surface area with respect to the areas of the metals shown in the columns shown at the side.

#### Example:

**A zinc plated screw assembled on a large stainless steel construction: the relatively small zinc surface will tend to corrode quickly (S); the stainless steel will not corrode (G)**

- A stainless steel screw assembled on a large zinc plated construction: the small stainless screw will not tend to corrode on the zinc plated construction (G), nor will the relatively large zinc surface corrode due to contact with the stainless steel (G).

### 8.3.2 Chemical corrosion table

| CHEMICAL AGENT               | Hot dip<br>galvanized steel | Stainless steel |     | Brass | Aluminium<br>Sopral | Plastic<br>PA 6.6 |
|------------------------------|-----------------------------|-----------------|-----|-------|---------------------|-------------------|
|                              |                             | A2              | A4  |       |                     |                   |
| Acetates                     |                             | 0-1             | 0   | 1-2   | 0                   | 2-3               |
| Acetone                      |                             | 0               | 0   | 0     | 0                   | 0                 |
| Acetylene                    |                             | 0               | 0   | 3     | 0                   |                   |
| Alcohols                     | 3                           | 0               | 0   | 0     | 0-1                 | 0                 |
| Alum                         |                             | 2               | 1   | 2     | 0                   | 2                 |
| Ammonia gas                  |                             | 0               | 0   | 3     | 0                   | 1                 |
| Ammonia                      | 3                           | 0               | 0   | 3     | 1                   | 1                 |
| Benzene/Toluene/Xylene       | 0                           | 0               | 0   | 0     | 0                   | 0                 |
| Chlorine gas                 |                             | 1               | 1   | 1     | 3                   | 3                 |
| Chlorine solution (in water) |                             | 1               | 1   |       |                     |                   |
| Hydrochloric acid            |                             | 2-3             | 2-3 | 3     | 3                   | 3                 |
| Chlorides                    |                             |                 |     |       |                     |                   |
| - Sodium/ potassium chloride | 0                           | 1               | 1   | 2     | 2-3                 | 0                 |
| - Ammonium- / zinc chloride  |                             | 2               | 1   | 2     | 3                   | 2                 |
| - Iron chloride              |                             | 3               | 3   | 3     | 3                   | 3                 |
| Citric acid                  |                             | 1               | 0   | 2     | 1                   | 1                 |
| Phosphoric acid              |                             | 2-3             | 0-1 | 3     | 2-3                 | 2-3               |
| Phosphates                   | 0                           | 1               | 0   | 2     | 2-3                 | 1-2               |
| Glycol                       |                             | 0               | 0   | 1     | 1                   | 1                 |
| Glycerine                    | 0                           | 0               | 0   | 0-1   | 0                   | 1                 |
| Resins                       | 2-3                         | 1               | 1   | 2-3   | 0-1                 | 0                 |
| Hydrocarbons                 |                             |                 |     |       |                     |                   |
| - Butane, Petrol, Tar        | 0                           | 0               | 0   | 0-1   | 0                   | 0                 |
| Chlorinated hydrocarbons     |                             |                 |     |       |                     |                   |
| - Trichloroethylene          | 0                           | 0               | 0   | 0-1   | 0                   | 0-1               |
| - Tetrachloride              | 0                           | 0               | 0   | 0-1   | 0                   | 0-1               |
| Carbonic acid                |                             | 0               | 0   | 2     | 0                   | 0                 |
| Sodium carbonate (soda)      |                             | 0               | 0   | 1-2   | 0                   | 0                 |
| Lacquers                     | 0                           | 0               | 0   | 1     | 0                   | 1                 |
| Formic acid                  |                             | 1               | 0   | 2     | 3                   | 3                 |
| Oil fuel/ vegetable          | 1                           | 0               | 0   | 0     | 0                   | 0                 |
| Palmitine / Stearin acid     |                             | 1               | 0   | 2     | 0                   | 0                 |
| Nitric acid                  |                             | 1               | 0-1 | 3     | 2                   | 3                 |
| - Sodium/ Ammonia nitrate    |                             | 0               | 0   | 2-3   | 0                   | 2                 |
| Water                        |                             |                 |     |       |                     |                   |
| - drinking water             |                             | 0               | 0   | 2     | 0                   | 0                 |
| - acid water                 | 1-2                         |                 |     | 3     | 2                   | 1                 |
| - salt water                 | 0                           | 1               | 1   | 2     | 1                   | 0                 |
| Sulphur dioxide dry          |                             | 0               | 0   | 0-1   | 1                   | 1                 |
| Sulphur dioxide wet          |                             | 1               | 0   | 3     | 2                   | 2                 |
| Sulphuric acid               | 3                           | 3               | 2-3 | 3     | 3                   | 3                 |
| - Sodium/ Ammonia sulphate   | 1                           | 0               | 0   | 1     | 0-1                 | 0                 |
| - Nickel / Copper sulphate   |                             | 0-1             | 0   | 2-3   | 2-3                 | 2-3               |
| Hydrogen Sulphide            |                             | 0-1             | 0   | 2     | 0                   | 1                 |

0 = good resistance

1 = reasonable resistance

2 = poor resistance

3 = no resistance