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# DuPont™ Kalrez® 4079

Technical Information — September 2010

## Product Description

DuPont™ Kalrez® 4079 perfluoroelastomer parts are a low compression set product for general purpose use in o-rings, diaphragms, seals and other parts used in the chemical process and aircraft industries. It is a carbon black filled product with excellent chemical resistance, good mechanical properties, and outstanding hot air aging properties. It exhibits low swell in organic acids, inorganic acids and aldehydes, and has good response to temperature cycling effects. A maximum upper service temperature of 316°C (600°F) is recommended, with short excursions to higher temperatures possible. Kalrez® 4079 is not recommended for use in hot water/steam applications or in contact with certain hot aliphatic amines, ethylene oxide, or propylene oxide.

### Typical Physical Properties<sup>1</sup>

Color	Black
Maximum Application Temperature <sup>2</sup> , °C (°F)	316 (600)
Maximum Application Pressure <sup>2</sup> , MPa (psi)	8.27 (1200)
Durometer, Shore A <sup>3</sup>	75
Durometer, Shore M (o-ring)	83
100% Modulus <sup>4</sup> , MPa (psi)	7.24 (1050)
Elongation at break <sup>4</sup> , %	150
Tensile at break <sup>4</sup> , MPa (psi)	16.88 (2450)
Compression set <sup>5</sup> , % (70 hours at 204°C (400°F))	
Pellet	25
Size 214 O-Ring	35
Specific Gravity, g/cc	2.02

<sup>1</sup>Not to be used for specification

<sup>2</sup>DuPont proprietary test method – maximum application temperature and pressure may vary with seal design and application specifics

<sup>3</sup>ASTM D2240 (pellet test specimen)

<sup>4</sup>ASTM D412, 500mm/min

<sup>5</sup>ASTM D395B



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### Additional Physical Properties<sup>1</sup>

Tg <sup>2</sup> , °C (°F)	-6.7 (19)
TR-10 <sup>3</sup> , °C (°F)	-2 (28)
Brittle Point <sup>4</sup> , °C (°F)	-50 (-58)
Linear Coefficient of Thermal Expansion, /°C (/°F)	3.61X10 <sup>-4</sup> (2.01X10 <sup>-4</sup> )
Abrasion Resistance <sup>5</sup> , (volume loss, cubic mm)	119.7
Coefficient of friction <sup>6</sup> (to steel)	
Static	
Dynamic	
Volume resistivity <sup>7</sup> , ohms/square	4.87 x 10E11
Surface resistivity <sup>7</sup> , Ohm-cm	5.61 x 10E14
Dielectric Constant <sup>8</sup> at 150°C and 1 MHz	9
Dissipation Factor <sup>8</sup> at 150°C and 1MHz	0.08506

<sup>1</sup>Not to be used for specification

<sup>2</sup>DuPont proprietary test method – maximum application temperature and pressure may vary with seal design and application specifics

<sup>3</sup>ASTM D1329

<sup>4</sup>ASTM D746

<sup>5</sup>Din 53 516

<sup>6</sup>ASTM 1894

<sup>7</sup>ASTM D 257

<sup>8</sup>ASTM D150

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**Caution:** Do not use in medical applications involving permanent implantation in the human body. For other medical applications, discuss with your DuPont customer service representative and read Medical Caution Statement H-50103-3.

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