

Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Acetaldehyde								A
Acetyl Chloride					A		A	A
Acetylene	A				A		A	A
Acid								
Arsenic					A		A	
Benzoic					A			
Carbolic					A		A	
Carbonic	A				A		A	
Citric	A				A		A	
Cresylic					A		A	
Fatty					A			
Fruit	A		A		A		A	
Fumaric					A			
Gallic					A		A	
Hydrocyanic	A		A		A		A	
Maleic					A			
Naphthenic	A	A			A	A	A	
Nitric					A			
Nitrous -10%					A			
Palmitic					A			
Phosphoric					A			
Picric					A			
Stearic	A		A		A			
Sulfuric								
Sulfurous					A			
Tannic	A		A		A		A	
Tartaric	A		A		A		A	
Alcohols (ethyl & methyl)	A		A		A	A	A	
Alcohol Lub OL	A	A	A	A	A	A	A	
Alkanes	A	A			A	A	A	
Alkyl - Aryl Sulphonics		A			A		A	
Alkyl Benzene					A		A	
Allyl Alcohol	A				A	A	A	
Allyl Amine	A	A			A	A	A	
Aluminum Hydroxide	A				A	A	A	
Ammonia Anhydrous (liquid)			A					
Ammonium								
Bicarbonate	A			A	A		A	
Carbonate					A		A	
Chloride	A			A	A			
Flouride					A			
Hydroxide			A					
Persulfate (aqueous)					A		A	
Phosphate Di-basic					A		A	
Phosphate Mono-basic					A		A	
Phosphate Tri-basic					A		A	
Sulfate (liquid)					A			
Sulfate (w/ sulfuric acid)					A			
Sulfide					A		A	
Thiocyanate			A		A		A	
Amyl Alcohol	A	A	A	A	A	A	A	
Aniline	A				A		A	
Anti-freeze, Water, Alcohol or Glycols	A	A			A	A	A	

Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Argon Gas	A	A			A	A	A	
Arochlor 1248					A		A	
Aromatic Fuels - 50%					A		A	
Barium								
Chloride (20% liquid)					A			
Hydroxide					A		A	
Nitrate Solution	A							
Sulfide							A	
Beer	A	A	A	A	A	A	A	
Beer Wort	A	A	A	A	A	A	A	
Beet								
Juice	A	A	A	A	A	A	A	
Pulp	A	A	A	A	A	A	A	
Sugar Solution	A	A			A	A	A	
Benzene								
Coal Tar Product					C		C	
Petroleum Ether					A		A	
Benzoic Acid	A	A			A		A	
Benzol					A		A	
Benzophenone					A		A	
Borax Solution	A		A		A		A	
Brine								
Calcium PH-8	A	A			A	A	A	
Chloride PH-8	A	A			A	A	A	
Calcium & Magnesium Cl	A	A			A	A	A	
Calcium & Sodium Cl	A	A			A	A	A	
Sea Water	A	A			A	A	A	
Sodium Chloride	A	A			A	A	A	
Bunker C Fuel Oil	C	C			A	A	A	
Butadiene					A	A	A	
Butane (liquid)	A	A	A	A	A	A	A	
Butanol	A	A			A	A	A	
Butyl								
Alcohol	A	A	A	A	A	A	A	
Amine	A							
Benzoate					A		A	
Stearate					A		A	
Butylene	A	A			A	A	A	
Calcium								
Bisulfide	A		A		A		A	
Carbonate	A	A	A	A	A	A	A	
Chloride Brine	A	A			A	A	A	
Chromate	A	A			A	A	A	
Nitrate					A			
Oxide					A		A	
Phosphate	A	A			A	A	A	
Sulfide					A			
Cane Juice	A	A			A	A	A	
Carbinol	A	A	A	A	A	A	A	
Carbon								
Bisulfide					A		A	
Dioxide (dry)					C	C	C	C
Dioxide (wet)	A	A			A	A	A	
Disulfide					A		A	

A. Acceptable

C. Use with Caution

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Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Carbon (continued)								
Monoxide							A	
Tetrachloride (anhydrous)					A			
Catsup			A					
Caustic								
Sodium Chloride	A	A			A	A	A	
Soda (sodium hydroxide)			A					
Chlorobenzene					A		A	
Chlorobromomethane					A		A	
Chloroform					A		A	
Chloronapthalene					A		A	
Chlorophenol					A		A	
Chloratoluene					A			
Cocoa Butter	A	A			A	A	A	
Copper								
Carbonate					A		A	
Cyanide					A		A	
Nitrate			A		A		A	
Sulfate	A	A	A		A		A	
Creosote					A		A	
Cumene					A		A	
DDT Solutions								
Kerosene Solvent	A				A	A	A	
Toluene Solvent					A		A	
De-Butanizer Reflux	A	A			A	A	A	
De-Ethanizer Charge	A	A			A	A	A	
De-Propanizer Reflux	A	A			A	A	A	
Diamylamine	A							
Dibutyl Sebacate					A			
Dichlorobenzene					A		A	
Dichlorobutane					A		A	
Diesel Fuel	A	A			A	A	A	
Diethyl Benzene					A			
Diethylene Glycol	A	A	A	A	A	A	A	
Diocetyl Amine	A							
Diocetyl Phthalate							A	
DiphenylOxade					A		A	
Dish Water	A	A	A	A	A	A	A	A
Dow Corning Silicone					A		A	
Dowtherm "A"					A		A	
Ethane	A	A		A	A	A	A	
Ethanol (alcohol, ethyl)	A	A	A	A				
Ethyl								
Alcohol	A	A	A	A	A		A	
Benzene					A	A	A	
Benzoate					A		A	
Chloride					A		A	
Chlorocarbonate					A		A	
Formate					A		A	
Mercaptan					A		A	
Silicate					A		A	
Ethylene		A		A	A	A	A	
Ethylene Chloride or Di-Cl	A				A			
Ethylene Glycol	A				A	A	A	

Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Ferric								
Chloride					A			
Sulfate					A			
Formaldehyde - Formalin	A				A		A	
Freon & Refrigeration Oil								
Freon 11					A	A	A	
Freon 12	A	A			A	A	A	
Freon 22					C	C	C	
Freon 113	A	A	A	A				
Freon 114	A	A	A	A	A	A	A	
Freon Liquid			A	A				
Fruit Juices	A	A	A	A	A	A	A	
Gas Oil	A	A	A	A	A	A	A	
Gasoline								
Aromatic					A		A	
Auto Grades	A	A			A	A	A	
Hi-test w/ Mercaptan & H2S					A	A	A	
Glaubers Salt (sulfate solution)	A	A			A	A	A	
Glucose	A	A	A	A	A	A	A	
Glue	A	A	A	A	A	A	A	
Glue Sizing	A	A	A	A	A	A	A	
Glycerol (glycerine)	A	A	A	A	A	A	A	
Grape Juice	A	A	A	A	A	A	A	
Grease	A	A			A	A	A	
Green Liquor					A	A	A	A
Hepthane	A	A			A	A	A	A
Hexane	A	A			A	A	A	A
Hydrogen Peroxide					A		A	
Hydrogen Sulfide					A			C
Insecticides								
Aromatic					A	A	A	
Non-aromatic	A	A			A	A	A	
Iodine								
ISO								
Butane	A	A	A	A	A		A	
Butyl Alcohol	A	A	A	A	A	A	A	
Butylene	A	A			A	A	A	
Butylene Glycol	A	A			A	A	A	
Octane					A	A	A	
Pentane	A	A			A	A	A	
Propanol					A	A	A	
Propyl-Alcohol	A	A	A	A	A	A	A	
Propyl-Amine	A	A			A	A	A	
Jet Fuel (JP)								
JP-3	A	A			A	A	A	
JP-4	A	A			A	A	A	
JP-5	A	A			A		A	
JP-6	A	A			A	A	A	
JPX	A	A			A	A	A	
Kerosene	A	A						
Lard	A	A	A	A	A	A	A	
Lead Acetate								A
Lead Nitrate	A		A					A
Liquid Petroleum Gas (LPG)	A	A			A	A	A	A

A. Acceptable

C. Use with Caution

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Seal Material Compatibility Guide

Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Lime Water	A	A	A	A	A	A	A	A
Lithium Bromide Brine	A	A			A	A	A	
Magnesium								
Hydroxide	A	A	A	A	A	A	A	A
Sulfate (epsom salts)	A	A	A	A	A	A	A	A
Maleic Anhydride					A			
Mayonnaise	A				A		A	
Mercury	A	A	A	A	A	A	A	
Mercury Salts	A	A	A	A	A	A	A	A
Methanol	A	A	A	A				A
Methyl								
Alcohol	A	A	A	A				A
Bromide					A			A
Chloride (dry)					A		A	
Dichloride					A	A	A	
Ethyl Ketone								A
Formate				A				
Milk	A		A		A		A	A
Milk of Lime					A		A	
MIL								
F-25558 (RJ-1)	A		A		A		A	
L-7808	A				A		A	
H-5605 (J43)	A		A		A		A	
H-5606 (HFA)	A		A		A		A	
0-8515			A		A		A	
0-8200 (HYDR)			A		A		A	
Mineral Spirits	A	A	A	A	A	A	A	
Mine Water					A	A	A	
Molasses	A	A	A	A	A	A	A	
Monochlorobenzene					A		A	
Monoethanolamine								A
Naphtha	A	A			A	A	A	
Naphtha Crude	A				A		A	
Naphthalene					A	A	A	
Nickel								
Chloride					A			
Sulfate	A		A		A			A
Nitro								
Benzene					A		A	
Ethane				A				A
Propane								A
Nitrogen Gas	A	A	A	A	A	A	A	A
Octyl Alcohol					A		A	
Oil								
w/ Ammonia		A		A				
Animal, bone	A	A	A	A	A	A	A	
Animal, cod	A	A	A	A	A	A	A	
Animal, menhadden	A	A			A	A	A	
Animal, neatsfoot	A	A	A	A	A	A	A	A
Animal, sperm	A	A	A	A	A	A	A	A
Animal, whale	A	A	A	A	A	A	A	A
Bunker C Fuel	C	C			A	A	A	
Creosote, sweet					A	A	A	
Crude, cold sweet	A				A	A	A	

Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Oil (continued)								
Diesel	A	A			A	A	A	
Essential	A	A	A	A	A	A	A	A
Fuel #1	A	A	C	C	A	A	A	
Fuel #2	A	A	C	C	A	A	A	
Fuel #3	A	A	C	C	A	A	A	
Fuel #5A	A	A	C	C	A	A	A	
Fuel #5B	A	A	C	C	A	A	A	
Fuel #6	C	C			A	A	A	
Insulating	A				A	A	A	
Kerosene	A	A	C	C	A	A	A	
Linseed (raw)	A	A	C	C	A	A	A	
Lubricating #8	A	A	C	C	A	A	A	
Fed. Spec. #10	A	A	C	C	A	A	A	
Fed. Spec. #20	A	A	C	C	A	A	A	
Fed. Spec. #30	A	A	C	C	A	A	A	
Fed. Spec. #9110	A	A	C	C	A	A	A	
Fed. Spec. #9170	A	A	C	C	A	A	A	
Fed. Spec. #9250	A	A	C	C	A	A	A	
Fed. Spec. #9370	A	A	C	C	A	A	A	
Fed. Spec. #9500	A	A	C	C	A	A	A	
Mineral SAE 10	A	A	C	C	A	A	A	
SAE 20 to 70	A	A	C	C	A	A	A	
Mineral SAE 90	A	A	C	C	A	A	A	
SAE 140	A	A	C	C	A	A	A	
SAE 250	A	A	C	C	A	A	A	
Federal Spec. #1	A	A	C	C	A	A	A	
Federal Spec. #2	A	A	C	C	A	A	A	
Navy Spec. Navy II	A	A	C	C	A	A	A	
Pine	A	A			A	A	A	
Quenching	A	A	C	C	A	A	A	
Rich	A	A			A	A	A	
Turbine Lube	A	A	C	C	A	A	A	
Vegetable, Castor	A	A	C	C	A	A	A	A
Vegetable, China Wood	A	A	C	C	A	A	A	
Vegetable, Coconut	A	A	C	C	A	A	A	A
Vegetable, Corn	A	A	C	C	A	A	A	
Vegetable, Linseed (raw)	A	A	C	C	A	A	A	
Vegetable, Olive	A	A	C	C	A	A	A	C
Vegetable, Palm	A	A	C	C	A	A	A	C
Vegetable, Peanut	A	A	C	C	A	A	A	
Vegetable, Rape Seed	A	A	C	C	A	A	A	A
Vegetable, Sesame	A	A			A	A	A	
Vegetable, Soya Bean	A	A	C	C	A	A	A	
Olefin (crude)				A				
Oleums					A			
Oxygen (liquid)		C		A		A	A	
Paraffin (liquid)	A	A			A	A	A	
Pectin Liquor	A				A		A	
Penicillin (liquid)					A		A	
Pentane	A	A	A	A	A	A	A	
Perchloroethylene	A	A			A	A	A	
Petrolatum	A	A	C	C	A	A	A	
Petroleum Ether	A	A	C	C	A	A	A	

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Liquid	B	B	N	N	V	V	V	E
	C	C	C	C	C	C	C	C
	F	F	F	F	F	F	F	F
Phenol (carbolic acid)								C
Phosphoric Acid			C		C			
Phosphoric Trichloride (dry)	C						C	
Photographic Developers					A		A	
Phthalic Anhydride	C	C						
Poly Glycols	A	A	A	A	A	A	A	A
Potash Alum	A				A		A	
Potassium								
Bicarbonate	A							
Bichromate (aqueous)	A							
Bromide	A				A		A	
Carbonate (aqueous)	A	A	A	A	A	A	A	
Chlorate	A	A	A	A	A	A	A	
Chloride (aqueous)	A	A	A	A	A	A	A	A
Cyanides	A	A	A	A	A	A	A	A
Dichromate	A	A	A	A	A	A	A	A
Hydroxide (<50%)	C		C					A
Hydroxide (>50%)	C		C					A
Nitrate (aqueous)	A		A		A		A	A
Persulfate					A		A	
Sulfate	A	A	A	A	A	A	A	A
Propane	A				A		A	
Propylene					A	A	A	
Propylene Glycol					A	A	A	
Rafflnate	A							
Rosin	A	A						
Sal Ammoniac	A	A	A	A	A	A	A	A
Salt Cake (sodium sulfate)	A	A	A	A	A	A	A	A
Salt water, Sea Water	A	A	A	A	A	A	A	A
Sewage	A				A		A	A
Silicone Oils & Grease	A	A	A	A				A
Silver Nitrate (10%)				A	A		A	A
Skydrol 500 & 7000								A
Soap								
Liquors	A		C		A		A	A
Solutions	A		C		A		A	A
Soda Ash (cold)	A	A	A	A	A	A	A	A
Sodium Acetate								
Anhydrous	C	C	C	C				A
Aluminate	A	A			A	A	A	
Benzoate					C			
Bicarbonate (aqueous)	A	A	A	A	A	A	A	A
Bisulfate	A		A		A		A	A
Bisulfite	A		A		A		A	A
Borate (borox solution)	C	C			A	A	A	A
Carbonate (aqueous)	C	C	C	C	C	C	C	C
Chlorate					A		A	
Chloride Solution	A	A	A	A	A	A	A	A
Cyanide (aqueous)	A		A		A		A	A
Ferricyanide					A			
Hydrosulfite	C		A		A		A	A
Hydroxide (<50% @150°F)		A		A				A
Hypochlorite 20%	C				A			C
Iodide					A			

Liquid	B	B	N	N	V	V	V	E
	C	C	C	C	C	C	C	C
	F	F	F	F	F	F	F	F
Sodium Acetate (continued)								
Metaphosphate	A				A		A	A
Metasilicate	A	A	A	A	A	A	A	A
Nitrate (aqueous)								
Perborate	C	C	C	C	A	A	A	A
Peroxide Solution	C		C		A		A	A
Phosphate (aqueous)	A	A	C	C	A	A	A	A
Plumbite (aqueous)					A		A	
Silicate (aqueous)	A	A	A	A	A	A	A	A
Sulfate (aqueous)			C	C	A	A	A	C
Sulfide	A	A	A	A	A	A	A	A
Tetraborate	C	C			A	A	A	A
Thiosulfate	C				A		A	A
Solvasol 1, 2, 3	A	A	C	C	A	A	A	
Solvasol 73, 74	C	C	C	C	A	A	A	
Starch	A	A	A	A	A	A	A	A
Steam								A
Stoddard Solvent	A	A	C	C	A	A	A	
Sugar (aqueous)	A	A	C	C	A	A	A	A
Sulfur Chloride								
Dioxide (dry)					A	A	A	A
Dioxide (wet)			C	C	A	A	A	
Dioxide & Water			C	C	A	A	A	A
Trioxide (dry)					A	A		C
Trioxide (wet)					A	A		C
Sulphonated								
Fatty Alcohol	A	A			A	A	A	
Vegetable Oils	A	A			A	A	A	
Syrup (sucrose solution)	A		C		A		A	A
Tall Oil	C							
Tallow	A	A	A	A	A	A	A	C
Tanning Liquors	A	A	C	C	A	A	A	A
Tar & Ammonia (in water)	C	C			C	C	C	
Tar								
Pine	C	C	A	A				A
Bituminous	C	C			A	A	A	
Tetrachlorethane					A		C	
Tetrachloethylene					A		C	
Tetra Ethyl Lead	C		C		A		A	
Therminol					A	A	A	
Titanium Tetrachloride	C				A			
Toluene (toluol)					A	A	A	
Tomato Pulp	A	C			A	C	A	
Toxaphene					A			
Trichlorethane								
(Dry)					C		C	
(Wet)					C			
Trichlorethylene								
(Dry)					A	A	A	
(Wet)					A	A	A	
Tricresyl Phosphate								A
Triethylamine	A	A			A	A	A	
Trisodium Phosphate	A	A			A	A	A	
Turpentine	A	A			A	A	A	

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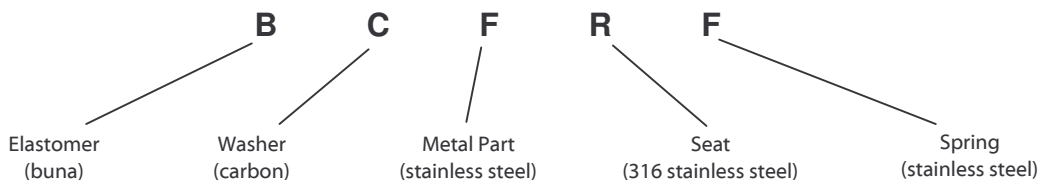
Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Urea								
(Anhydrous) 100%	A	A			A	A	A	
(Wet) all concentrations					A	A	A	
& Phenolic Resins	A				A	A	A	
Urine	A				A	A	A	
Varnish								
Aromatic					A	A	A	
Non-aromatic	C	C			A	A	A	
Vegetable Juices	C	C			A	C	A	
Vetrocoke Solution (wet)					A		A	
Vinegar					A	A	A	A
Vinyl Chloride					C		C	
Vitriole, Blue					A			
Vitriole, White	A		A		A		A	A
Water								
Boiler Feed	A	A	C	C	A	A	A	A
Brackish					A	A	A	
Clean Untreated	A	A	C	C	A	A	A	A
Cooling Tower	A	A	C	C	A	A	A	A
Condensate	A	A	C	C	A	A	A	A
Deionized	A	A	A	A	A	A	A	A
Distilled	A	A	C	C	A	A	A	A
Fresh	A	A	C	C	A	A	A	A

Liquid	B C F J F	B C F R F	N C F J F	N C F R F	V C F J F	V C F R F	V C F Z F	E C F J F
Water (continued)								
Heavy	A	A			A	A	A	A
Hot <190°F	A	A	C	C	A	A	A	A
Mine					A	A	A	
River	A	A	C	C	A	A	A	A
Salt & Sea Solution	A	A	A	A	A	A	A	
Soapy <150°F	A	A			A	A	A	A
with Soluble Oil	A	A			A	A	A	A
Waterflood Service	A		A		A		A	
Whiskey	A	C	A	C	A	C	A	A
White Liquor	C	C	C	C	A	A	A	C
White Water - Paper Mill	C	C	C	C	A	A	A	C
Wine	A	C	A	C	A	C	A	A
Wood Vinegar								C
Wort (beef wort)	A	A	A	A	A	A	A	A
Xylene					A	A	A	
Zinc								
Cyanide	A	A			A	A	A	
Chloride (dry)	A				A			
Chloride (wet)	A		A		A			A
Nitrate					A	A	A	
Phosphate							A	
Sulphate	A	A	A	A	A	A	A	A

Mechanical Seal Material Codes

Elastomers	Washers	Metal Parts	Seats	Springs
B. Buna	A. Bronze	D. Brass	A. Bronze	E. Monel
E. EPR	C. Carbon	E. Monel	G. Cast Iron	F. Stainless Steel
N. Neoprene	M. Phenolic	F. Stainless Steel	J. Ceramic	P. Plated Steel
V. Viton®	S. Tool Steel	P. Plated Steel	R. 316 Stainless Steel	R. 316 Stainless Steel
	X. Silicon Carbide	R. 316 Stainless Steel	S. Tool Steel	
	Z. Tungsten Carbide		X. Silicon Carbide	
			Z. Tungsten Carbide	

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Elastomer Temperature Limits

Buna 225°F EPR 300°F Neoprene 175°F Viton 400°F

Pressure Limitations

Type A & B Seals 75 P.S.I. Type C, D & E Seals 200 P.S.I.

A. Acceptable

C. Use with Caution

Blank. Not Recommended

Caution: This chart is a guide for material selection and should be used with caution. Prior to actual use, it is recommended that a compatibility test be run