PHYSICAL & CHEMICAL SUITABILITY GUIDE FOR COMMERCIAL GENERAL GRADE ELASTOMERS

	Natural NR	Ethylene Propylene EPDM	Butyl IIR	Neoprene CR	Nitrile NBR	Silicone SI	Fluorocarbon (Viton®) FKM
Resistance to Heat – max. continuous	75°C	130°C	130°C	95°C	100°C	160°C	200°C
Resistance to Heat – max. intermittent	105°C	150°C	150°C	125°C	125°C	200°C	230°C
Resistance to Low Temperature	-30°C	-40°C	-30°C	-20°C	-20°C	-55°C	-20°C
Resistance to Oxidation	Fair	Excellent	Excellent	Very Good	Good	Excellent	Outstanding
Resistance to Ozone & Weather	Poor	Outstanding	Outstanding	Very Good	Fair	Outstanding	Outstanding
Physical Strength	Excellent	Good	Good	Good	Good	Fair/Poor	Good
Abrasion Resistance	Excellent	Good	Good	Good	Good	Poor	Good
Flame Resistance	Poor	Poor	Poor	Excellent	Poor	Good	Excellent
Permeability to Gases	Fair	Fairly Low	Excellent	Low	Low	Fairly Low	Very Low
Steam (less than 120°C)	D	A	C	D	D	D	D
Water	A	A	A	B	A	A	A
Water (potable)	*	*	*	*	*	*	*
Air	A	A	A	A	A	A	A
Acetic Acid (10%)	D	A	A	C	D	A	D
Acetone	B	A	A	C	D	D	D
Acetylene	D	D	D	C	A	C	A
Adipic Acid	A	A	A	A	A		
Aluminium Chloride	A	A	A	A	A	C	A
Ammonia (Anhydrous, dry)	D	A	A	A	C	C	D
Ammonium Chloride	A	A	A	A	A	C	A
Ammonium Hydroxide (10%)	B	A	A	B	B	B	B
Aniline	D	B	B	D	D	D	C
Benzene	D	D	D	D	D	D	C
Bleach Solutions	D	A	A	D	D	C	A
Brine	D	D	D	D	D	D	A
Bromine (Anhydrous)		D	D	D	D	D	A
Bunker Fuel	D	D	D	D	A	C	A
Butane	D	D	D	B	A	D	A
Butyl Alcohol (50°C)	A	C	C	A	A	C	A
Calcium Chloride	A	A	A	A	A	A	A
Calcium Hydroxide	B	A	A	A	B	B	A
Calcium Hypochlorite (15%)	C	A	A	D	D	C	A
Carbon Dioxide	B	C	C	C	A	C	C
Carbon Disulphide	D	D	D	D	D	D	A
Carbon Tetrachloride	D	D	D	D	D	D	A
Chlorine (dry)	D	D	D	D	D	D	B
Chlorine (wet)	D	D	D	D	D	D	B
Chromic Acid (40%)	D	C	D	D	D	D	A
Creosote	D	D	D	D	B	D	A
Diesel Oil	D	D	D	C	A	D	A
Diethyl Ether	D	D	D	D	D	D	D
Ethane	D	D	D	C	A	D	A
Ethanolamines (less than 5%)	B	B	B	D	D	B	D
Ether	D	D	D	D	D	D	D
Ethyl Alcohol (Ethanol)	B	A	A	A	A	A	A
Ethylene		B			A		D
Ethylene Glycol	B	A	A	A	A	A	A
Ethylene Oxide	D	D	D	D	D	D	D
Ferric Chloride (wet)	A	A	A	C	A	C	A
Foodstuffs (FDA)	*	*	*	*	*	*	*
Formaldehyde (40%)	B	A	B	D	D	C	D
Formic Acid	C	A	D	B	D	C	D
Glycerine	A	A	A	A	A	A	A
Green Liquor (Sulphate)	B	A	A	C	C	A	A
Heavy Oils							A
Hydrobromic Acid (37%)	A	A	A	D	D	D	A
Hydrochloric Acid (37%)	D	C	C	D	C	D	A
Hydrofluoric Acid (48%)	C	B	B	A	D	D	A
Hydrogen Peroxide (less than 30%)	D	A	D	B	B	A	A
Hydrogen Sulphide (dry, 5%)	A	A	A	A	A	D	D
Isobutyl Alcohol	B	C	A	A	C	A	A
Isopropyl Alcohol	B	A	A	A	C	A	A
Kerosene (70°C)	D	D	D	D	A	D	A
Liquid Petroleum Gas	D	D	D	C	A	D	A

	Natural NR	Ethylene Propylene EPDM	Butyl IIR	Neoprene CR	Nitrile NBR	Silicone SI	Fluorocarbon (Viton®) FKM
Lye	B	A	A	C	C	C	C
Magnesium Chloride	A	A	A	A	A	A	A
Methane	D	D	D	C	A	D	C
Methyl Alcohol (Methanol)	A	A	A	A	A	A	D
Methyl Chloride	D	D	D	D	D	D	C
Methyl Ethyl Ketone	D	A	A	D	D	D	D
Methylene Chloride	D	D	D	D	D	D	C
Mineral Oils	D	D	D	D	A	B	A
Naptha	D	D	D	D	B	D	A
Natural Gas	D	D	D	B	A	B	A
Nitric Acid (10%)	B	A	A	B	D	B	A
Nitrogen	A	A	A	A	A	A	A
Octane	D	D	D	D	B	D	A
Oleum	D	D	D	D	D	D	C
Oxalic Acid (25%, 70°C)	B	B	A	C	C	C	A
Oxygen	B	A	A	A	C	A	A
Perchloroethylene	D	D	D	D	D	D	A
Phenols	A	B	A	C	D	A	A
Phosphoric Acid (50%)	C	A	A	C	D	C	A
Potassium Dichromate (10%)	B	A	A	A	A	A	A
Potassium Hydroxide (50%)	B	A	A	C	B	C	D
Potassium Nitrate	A	A	A	A	A	A	A
Propane	D	C	D	C	A	D	A
Pyridine	D	D	C	D	D	D	D
Refrigerants (uncontaminated)							
R12	D	C	C	A	A	D	C
R13	A	A	A	A	A	D	C
R22	B	A	A	A	D	D	D
R134A	A	A	A	A	A	B	D
Sea Water	A	A	A	B	A	A	A
Soap Solution	B	A	A	B	A	A	A
Soda Ash	A	A	A	A	A	A	A
Sodium Bicarbonate	A	A	A	A	A	A	A
Sodium Dichromate (10%)		A					
Sodium Hydroxide (50%)	C	B	B	B	C	B	D
Sodium Hypochlorite (20%)	C	B	C	D	C	C	C
Styrene	D	D	D	D	D	D	D
Sulphur Dioxide (dry)	B	A	B	D	D	C	A
Sulphur Dioxide (wet)		A	A		D	C	A
Sulphur Trioxide	B	C	C	D	D	C	A
Sulphuric Acid (10%)	B	A	A	B	C	D	B
Tannic Acid	A	A	A	C	A	C	A
Titanium Tetrachloride	D	D	D	D	B	D	C
Toluene	D	D	D	D	D	D	A
Transformer Oil	D	D	D	C	A	B	A
Trichloroethane	D	D	D	D	D	D	B
Trichloroethylene	D	D	D	D	D	D	A
Turpentine	D	D	D	D	A	D	A
Urea Solution (30%)		A	A	A	A		A
Vinyl Chloride	D	C	D	D	D		A
White Spirit	D	D	D	D	B	D	A
Xylene	D	D	D	D	D	D	A

A = Suitable in most cases
B = Suitable but with some swell/attack
C = Check with Technical Team
D = Not suitable
* = Suitability will depend on grade selected

The information on compatibility should only be used as a general guide to the selection of the most suitable material; customers must assure themselves that the parts supplied will be safe in use and have been appropriately tested. If in doubt contact the Technical Team.
All media considered at 20°C unless otherwise stated.