



Norval Non-Return Valves.

The General Chemical Resistance of Diaphragms.

The following pages are offered as General Guide and indication of the suitability of various elastomers in use today for service in these chemicals and fluids.

The ratings are based, for most part on published literature of various polymer suppliers and rubber manufacturers; we cannot guarantee their accuracy nor assume responsibility for their use. Several factors must always be considered in using a rubber part in service.

The most important factors are temperature, pressure and concentration of the liquids and the environment in which elastomers are used. If in doubt, Northvale's Technical Department will be pleased to assist you on receipt of full details of your requirements.

If column is left blank then we have no data or insufficient evidence to make an assessment.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Acetaldehyde	●	●	●	●
Acetamide	●	●	●	●
Acetic Acid (30%)	●	●	●	●
Acetic Acid (hot high pressure)	●	●	●	●
Acetic Acid Glacial	●	●	●	●
Acetic Anhydride	●	●	●	●
Acetone	●	●	●	●
Acetophenone	●	●	●	●
Acetyl Acetone	●	●	●	●
Acetyl Chloride	●	●	●	●
Acetylene	●	●	●	●
Acetylene Tetrabromide	●	●	●	
Adipic Acid		●		
Air (below 150°C)	●	●	●	●
Air (above 150°C)	●	●	●	●
Alkazene	●	●	●	●
Alum NH ₃ CrK (tanning liquor)	●	●	●	●
Aluminium Acetate	●	●	●	●
Aluminium Bromide	●	●	●	●
Aluminium Chloride	●	●	●	●
Aluminium Fluoride	●	●	●	●
Aluminium Nitrate	●	●	●	●
Aluminium Phosphate	●	●	●	●
Aluminium Sulphate	●	●	●	●
Ammonia Anhydrous Liquid	●	●	●	●
Ammonia Gas (cold)	●	●	●	●
Ammonia Gas (hot)	●	●	●	●
Ammonia & Lithium Metal in Solution	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Ammonium Carbonate		●	●	
Ammonium Chloride	●	●	●	
Ammonium Hydroxide (concentrated)	●	●	●	●
Ammonium Nitrate		●	●	
Ammonium Nitrite		●	●	●
Ammonium Persulphate Solution		●	●	
Ammonium Phosphate		●	●	●
Ammonium Phosphate Mono Basic		●	●	●
Ammonium Sulphate	●	●	●	●
Ammonium Sulphide	●	●	●	
Amyl Acetate	●	●	●	●
Amyl Alcohol	●	●	●	●
Amyl Borate	●	●	●	
Amyl Chloride	●	●	●	●
Amyl Chloranaphthalene	●	●	●	●
Amyl Napthalene	●	●	●	●
Anhydrous Ammonia	●	●	●	●
Anhydrous Hydrazine	●	●	●	
Anhydrous Hydrogen Floride	●	●	●	
Aniline	●	●	●	
Aniline Dyes	●	●	●	●
Aniline Hydrochloride	●	●	●	●
Aromatic Fuel (50%)	●	●	●	●
Arsenic Acid	●	●	●	●
Askarel	●	●	●	●
Asphalt	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
ASTM Oil #1	●	●	●	●
Automatic Transmission Fluid	●	●	●	●
Automatic Brake Fluid	●	●	●	●
Barium Chloride	●	●	●	●
Barium Hydroxide	●	●	●	●
Barium Sulphate	●	●	●	●
Barium Sulphide	●	●	●	●
Beer	●	●	●	●
Beet Sugar Liquors	●	●	●	●
Benzaldehyde	●	●	●	●
Benzene	●	●	●	●
Benzenesulphonic Acid	●	●	●	●
Benzine	●	●	●	●
Benzochloride	●	●	●	●
Benzoic Acid	●	●	●	●
Benzophenone	●		●	
Benzyl Alcohol	●	●	●	
Benzyl Benzoate	●	●	●	
Benzyl Chloride	●	●	●	●
Black Sulphate Liquor	●	●	●	●
Blast Furnace Gas	●	●	●	●
Bleach Solutions	●	●	●	●
Borax	●	●	●	●
Boric Acid	●	●	●	●
Brake Fluid (non-petroleum)	●	●	●	●
Brine		●	●	
Bromine	●	●	●	●
Bromine Anhydrous	●			●
Bromine Water	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Biomobenzene	●	●	●	●
Bromchloro Trifluoroethane	●	●	●	●
Bunker Oil	●	●	●	●
Butadiene	●	●	●	●
Butane	●	●	●	●
Butanol (Butyl Alcohol)	●	●	●	●
Butter	●	●	●	●
Butyl Acetate	●	●	●	●
Butyl Acrylate	●	●	●	●
Butyl Amine	●	●	●	●
Butyl Benzoate	●	●	●	
Butyl Butyrate	●	●	●	
Butyl Carbitol	●	●	●	●
Butyl Oleate	●	●	●	
Butyl Stearate	●	●	●	
Butylene	●	●	●	●
Calcium Acetate	●	●	●	●
Calcium Bisulphite	●	●	●	●
Calcium Carbonate	●	●	●	●
Calcium Chloride	●	●	●	●
Calcium Cyanide		●	●	●
Calcium Hydroxide	●	●	●	●
Calcium Hypochloride	●	●	●	
Calcium Hypochlorite	●	●	●	●
Calcium Nitrate	●	●	●	●
Calcium Phosphate	●	●	●	●
Calcium Silicate	●	●	●	
Calcium Sulphide	●	●	●	●
Calcium Sulphite	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Calcium Thiosulphate	●	●	●	●
Cane Sugar Liquor	●	●	●	●
Carbolic Acid	●	●	●	●
Carbon Bisulphide	●	●	●	
Carbon Dioxide (dry)	●	●	●	●
Carbon Dioxide (wet)	●	●	●	●
Carbon Disulphide	●	●	●	
Carbon Monoxide	●	●	●	●
Carbon Tetrachloride	●	●	●	●
Carbonic Acid	●	●	●	●
Castor Oil	●	●	●	●
China Wood Oil (Tung Oil)	●	●	●	●
Chlorinated Salt Brine	●	●	●	●
Chlorine (dry)	●	●	●	●
Chlorine (wet)	●	●	●	
Chlorobenzene	●	●	●	●
Chlorobromo Methane	●	●	●	●
Chloroform	●	●	●	●
Chrome Plating Solution	●	●	●	●
Chromic Acid	●	●	●	●
Circo Light Process Oil	●	●	●	●
Citric Acid	●	●	●	●
Cobalt Chloride	●	●	●	●
Cobalt Chloride, 2N	●	●	●	●
Coconut Oil		●	●	●
Cod Liver Oil	●	●	●	●
Coke Oven Gas	●			●
Copper Acetate		●	●	
Copper Chloride	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Copper Cyanide	●	●	●	●
Copper Sulphate	●	●	●	●
Corn Oil	●	●	●	●
Cottonseed Oil	●	●	●	●
Creosote	●	●	●	●
Cresol	●	●	●	
Cresylic Acid	●	●		
Cumene	●			
Cyclohexane	●	●	●	●
Cyclohexanol	●	●	●	●
Cyclohexanone	●	●	●	●
P Cymene	●			
Denatured Alcohol	●	●	●	●
Detergent Solutions	●	●	●	●
Developing Fluids	●	●	●	●
Diacetone	●	●	●	
Diacetone Alcohol		●	●	●
Dibenzyl Ether		●	●	
Dibutyl Ether	●	●	●	●
Dibutyl Phthalate	●	●	●	●
Dibutyl Sebecate	●	●	●	●
O Dichlorobenzene	●	●	●	●
Dichloro-isopropyl Ether	●	●	●	●
Dicyclohexylamine		●		
Diesel Oil	●	●	●	●
Diethylamine	●	●	●	●
Diethyl Benzene	●	●	●	●
Diethyl Ether	●	●	●	●
Diethylene Glycol	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Diethyl Sebecate	●	●	●	●
Diisobutylene	●	●		●
Diisopropyl Benzene	●	●	●	
Diisopropyl Ketone	●	●	●	
Dimethyl Aniline	●		●	
Dimethyl Formamide	●	●		●
Dimethyl Phthalate	●	●	●	
Dinitrotoluene	●	●	●	
Dicotyl Phthalate	●		●	●
Diocyl Sebecate	●	●	●	●
Dioxane			●	
Dioxolone		●	●	
Dipentene	●	●		
Diphenyl	●			
Diphenyl Oxides	●		●	●
Dowtherm Oil	●		●	●
Dry Cleaning Fluids	●	●	●	
Epichlorohydrin	●		●	
Ethane	●	●	●	●
Ethanolamine	●	●	●	●
Ethyl Acetate	●	●	●	●
Ethyl Acetotate	●	●	●	●
Ethyl Acrylate	●		●	●
Ethyl Alcohol	●	●	●	●
Ethyl Benzene	●	●	●	
Ethyl Benzoate	●		●	
Ethyl Cellosolve	●		●	
Ethyl Cellulose	●	●	●	●
Ethyl Chloride	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Ethyl Chlorocarbonate	●			
Ethyl Chloroformate	●			
Ethyl Ether	●	●	●	
Ethyl Formate	●	●	●	
Ethyl Mercaptan	●	●	●	
Ethyl Oxalate	●	●	●	
Ethyl Pentochlorobenzene	●	●	●	
Ethyl Silicate	●	●	●	
Ethylene	●	●		
Ethylene Chloride	●		●	
Ethylene Chlorohydrin	●	●		●
Ethylene Diamine	●	●	●	●
Ethylene Dichloride	●	●	●	●
Ethylene Glycol	●	●	●	●
Ethylene Oxide	●	●	●	●
Ethylene Trichloride	●	●	●	●
Fatty Acids	●	●	●	●
Ferric Chloride	●	●	●	●
Ferric Nitrate	●	●	●	●
Ferric Sulphate	●	●	●	●
Fish Oil	●	●		●
Fluoroboric Acid		●	●	
Fluorine (liquid)	●		●	●
Fluorobenzene	●	●	●	●
Fluorocarbon Oil			●	
Fluorlube	●	●	●	
Fluorinated Cycline Ester			●	
Fluosilicic Acid		●		
Formaldehyde	●	●	●	

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Formic Acid	●	●	●	●
Freon 11	●	●	●	●
Freon 12	●	●	●	●
Freon 21	●	●	●	●
Freon 32	●	●	●	
Fuel Oil	●	●	●	●
Fumaric Acid	●	●		●
Futon, Furfuran		●	●	
Fufural	●	●	●	
Gallic Acid	●	●	●	
Gasoline	●	●	●	●
Gelatin	●	●	●	●
Glauber's Salt	●		●	
Glucose	●	●	●	●
Glue	●	●	●	●
Glycerin	●	●	●	●
Glycois	●	●	●	●
Green Sulphate Liquor	●	●	●	●
N Hexaldehyde		●	●	●
Hexane	●	●	●	●
N Hexene 1	●	●	●	●
Hexyl Alcohol	●	●	●	●
Hydrazine		●	●	●
Hydraulic Oil (Petroleum)	●	●	●	●
Hydrobromic Acid	●	●	●	●
Hydrochloric Acid (37% - hot)	●	●	●	●
Hydrochloric Acid (37% - cold)	●	●	●	●
Hydrocyanic Acid	●	●	●	
Hydrofluoric Acid (concentrated hot)	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Hydrofluoric Acid (concentrated cold)	●	●	●	●
Hydrofluoric Acid Anhydrous			●	●
Hydrofluosilicic Acid	●	●	●	●
Hydrogen Gas	●	●	●	●
Hydrogen Peroxide (90%)	●	●	●	●
Hydrogen Sulfide (wet - cold)	●	●	●	●
Hydrogen Sulfide (wet - hot)	●	●	●	●
Hydroquinone	●	●		
Hydrochlorous Acid	●	●	●	
Iodine Pentafluoride	●	●	●	●
Iodoform			●	
Isobutyl Alcohol	●	●	●	●
Isooctane	●	●	●	●
Isophorone	●	●	●	
Isopropyl Acetate	●	●	●	
Isopropyl Alcohol	●	●	●	●
Isopropyl Chloride	●	●	●	
Isopropyl Ether	●	●	●	
Kerosene	●	●	●	●
Lacquers	●	●	●	●
Lacquer Solvents	●	●	●	●
Lactic Acid	●	●	●	●
Lard	●	●	●	●
Lavender Oil	●	●	●	
Lead Acetate		●	●	●
Lead Nitrate		●	●	●
Lead Sulfamate	●	●	●	●
Lime Bleach	●	●	●	●
Lime Sulphur	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Lindol	●		●	●
Linoleic Acid	●	●	●	●
Linseed Oil	●	●	●	
Liquefied Petroleum Gas	●	●	●	●
Lubricating Oils (Petroleum)	●	●	●	●
Lye	●	●	●	●
Magnesium Chloride	●	●	●	●
Magnesium Hydroxide	●	●	●	
Magnesium Sulfate	●	●	●	●
Maleic Acid	●		●	
Malic Acid	●	●	●	●
Mercury Chloride	●	●	●	
Mercury	●	●	●	
Methane	●	●	●	●
Methyl Acetate	●	●	●	
Methyl Acrylic	●	●	●	
Methylacrylic Acid	●		●	
Methyl Alcohol	●	●	●	●
Methyl Bromide	●	●		
Methyl Butyl Ketone	●	●	●	●
Methyl Cellosolve	●		●	
Methyl Chloride	●	●	●	●
Methyl Cyclopentane	●		●	
Methylene Chloride	●	●	●	
Methyl Ethyl Ketone	●	●	●	
Methyl Formate		●	●	●
Methyl Isobutyl Ketone	●	●	●	●
Methyl Methacrylate	●	●	●	●
Methyl Oleate	●	●	●	

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Methyle Salicylate			●	
Milic	●	●	●	●
Mineral Oil	●	●	●	●
Monochlorobenzene	●	●	●	●
Monomethyl Aniline	●	●		
Monoethanolamine	●	●	●	●
Monomethyl Ether		●	●	
Monovinyl Acetylene	●	●	●	●
Mustard Gas			●	●
Naptha	●	●	●	●
Napthalene	●	●	●	●
Napthenic Acid	●	●	●	
Natural Gas	●	●	●	●
Neatsfoot Oil	●	●	●	●
Nickel Acetate	●	●	●	
Nickel Chloride	●	●	●	●
Nickel Sulfate	●	●	●	●
Nitric Acid (concentrated)	●	●	●	●
Nitric Acid (dilute)	●	●	●	●
Nitric Acid (red fuming)	●	●	●	●
Nitrobenzene	●	●	●	●
Nitrobenzine	●		●	
Nitroethane	●	●	●	●
Nitromethane	●	●	●	●
Nitrogen	●	●	●	●
Nitrogen Tetroxide	●	●	●	●
Octadecane	●	●	●	●
N Octane	●		●	●
Octachlorctoluene	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Octyl Alcohol	●	●	●	●
Oleic Acid	●	●	●	
Oleum Spirits	●	●		
Olive Oil	●	●	●	●
O Dichlorobenzene	●	●		
Oxalic Acid	●	●	●	●
Oxygen (cold)	●	●	●	●
Oxygen (95°C-180°C)	●	●	●	●
Ozone	●	●	●	●
Paint Thinners, Duco	●		●	
Palmatic Acid	●	●	●	
Peanut Oil	●	●	●	●
Perchloric Acid	●		●	●
Perchloroethylene	●	●	●	●
Petroleum (below 120°C)	●	●	●	●
Petroleum (above 120°C)	●	●	●	●
Phenol	●		●	●
Phenyl Benzene	●	●	●	
Phenyl Ethyl Ether		●	●	
Phenyl Hydrazine	●	●	●	
Phosphoric Acid (20%)	●	●	●	
Phosphoric Acid (45%)	●	●	●	●
Phosphorous Trichloride	●	●	●	
Pickling Solution	●		●	
Pine Oil	●	●	●	
Plating Solution Chrome	●		●	●
Polyvinyl Acetate Emulsion			●	
Potassium Acetate	●	●	●	
Potassium Chloride	●	●	●	●
Potassium Cupro Cyanide	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Potassium Cyanide	●	●	●	●
Potassium Dichromate	●	●	●	●
Potassium Hydroxide	●	●	●	●
Potassium Nitrate	●	●	●	●
Potassium Sulfate	●	●	●	●
Producer Gas	●	●	●	●
Propane	●	●	●	●
Propyl Acetate	●	●	●	
N Propyl Acetate	●	●	●	
Propyl Alcohol	●	●	●	●
Propyl Nitrate	●		●	●
Propylene	●	●	●	
Propylene Oxide			●	●
Pyranol	●	●	●	●
Pyridine	●	●	●	
Rape Seed Oil	●	●	●	●
Red Oil	●	●	●	●
Salicytic Acid	●	●	●	
Salt Water	●	●	●	
Sewage	●	●	●	●
Silicate Esters	●	●	●	●
Silicone Greases	●	●	●	●
Silicone Oils	●	●	●	●
Silver Nitrate	●	●	●	●
Soap Solutions	●	●	●	●
Soda Ash	●	●	●	●
Sodium Acetate	●	●	●	
Sodium Bicarbonate	●	●	●	●
Sodium Bisulfite	●	●	●	●
Sodium Borate	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Sodium Chloride	●	●	●	●
Sodium Cyanide	●	●	●	●
Sodium Hydroxide	●	●	●	●
Sodium Hypochlorite	●	●	●	●
Sodium Metaphosphate	●	●	●	●
Sodium Nitrate		●	●	●
Sodium Perborate	●	●	●	●
Sodium Peroxide	●	●	●	●
Sodium Phosphate	●	●	●	●
Sodium Silicate	●	●	●	●
Sodium Sulfate	●	●	●	●
Sodium Thiosulfate	●	●	●	●
Soybean Oil	●	●	●	●
Stannic Chloride	●	●	●	●
Steam (below 150°C)	●	●	●	●
Steam (above 150°C)	●	●	●	●
Stearic Acid		●	●	●
Styrene	●	●	●	●
Sucrose Solution		●	●	
Sulfite Liquors	●	●	●	●
Sulfur	●	●	●	●
Sulfur Chloride	●	●	●	●
Sulfur Dioxide	●	●	●	●
Sulfur Hexafluoride	●	●	●	●
Sulfur Trioxide	●	●	●	●
Sulfuric Acid (dilute)	●	●	●	●
Sulfuric Acid (concentrated)	●	●	●	●
Sulfuric Acid (20% Oleum)	●	●	●	●
Sulfurous Acid	●	●	●	●
Tannic Acid	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Tar, Bituminous	●	●	●	●
Tartaric Acid	●	●	●	●
Terpineol	●	●	●	
Tertiary Butyl Alcohol	●	●	●	●
Tetrabromomethane	●	●	●	
Tetrabutyl Titanate	●	●	●	
Tetrachloroethylene	●	●	●	
Tetraethyl Lead	●	●	●	
Tetrahydrofuran	●		●	
Tetralin	●	●	●	
Thionyl Chloride	●		●	
Titanium Tetrachloride	●	●	●	
Toluene	●	●	●	●
Toluene Diisocyanate			●	
Transformer Oil	●	●	●	●
Transmission Fluid Type A	●	●	●	●
Triacetin	●	●	●	
Tributoxy Ethyl Phosphate	●	●	●	
Tributyl Phosphate	●	●	●	
Tributyl Mercaptan	●	●	●	
Trichloroethane	●	●	●	●
Trichloroacetic Acid	●	●	●	
Trichloroethylene	●	●	●	●
Tricreoyl Phosphate	●	●	●	●
Triethanol Amine	●	●	●	
Triethyl Aluminium	●			
Triethyl Borane	●			
Trinitrotoluene	●	●	●	
Trioctyl Phosphate	●	●	●	●
Tung Oil	●	●	●	

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Turbine Oil	●	●	●	
Turpentine	●	●	●	●
Varnish	●	●	●	
Vegetable Oil	●	●	●	●
Vinegar	●	●	●	●
Vinyl Chloride	●	●		
Water	●	●	●	●

Fluid	Diaphragm Material			
	Viton	Nitrile	EPDM	Silicone
Whiskey, Wines	●	●	●	●
White Pine Oil	●	●	●	
Wood Oil	●	●	●	●
Xylene	●	●	●	●
Zinc Acetate	●	●	●	●
Zinc Chloride	●	●	●	
Zinc Sulphate	●	●	●	●

● Recommended. ● Minor/moderate effect ● Moderate/severe effect ● Not recommended.