

Chemical Compatibility Chart

Chemical Compatibility For Material Contact of Standard PM/PI Range, CM/CI Range and PP Range Fittings.

This chart describes the compatibility of the materials of construction for our standard PM/PI, CM/CI and PP ranges of fittings when in contact solely with the listed chemical substance. It is intended as a guide only and is not an assurance of suitability for any specific application. Customers are advised to conduct tests under actual service conditions to determine suitability for their application. For further details, please contact our Technical Support Department.

IMPORTANT: SEE NOTES AT THE END OF THE FOLLOWING PAGE

CHEMICAL	PM/PI Range	CM/CI Range	PP Range	CHEMICAL	PM/PI Range	CM/CI Range	PP Range
Acetaldehyde	UNSUITABLE	SATISFACTORY	NOT TESTED	Cane-Sugar Liquors	NOT TESTED	NOT TESTED	NOT TESTED
Acetate Solvents	NOT TESTED	NOT TESTED	NOT TESTED	Carbon Dioxide - dry	SATISFACTORY	SATISFACTORY	NOT TESTED
Acetic Acid 3%	SATISFACTORY	GOOD	GOOD	Carbon Dioxide - wet	SATISFACTORY	SATISFACTORY	NOT TESTED
Acetic Acid 20%	SATISFACTORY	NOT TESTED	NOT TESTED	Carbon Tetrachloride	UNSUITABLE	UNSUITABLE	UNSUITABLE
Acetic Acid 50%	SATISFACTORY	NOT TESTED	NOT TESTED	Chlorine - dry	UNSUITABLE	UNSUITABLE	UNSUITABLE
Acetone	UNSUITABLE	GOOD	GOOD	Chlorine - wet	UNSUITABLE	UNSUITABLE	UNSUITABLE
Acetophenone	UNSUITABLE	SATISFACTORY	NOT TESTED	Chloroform	UNSUITABLE	UNSUITABLE	UNSUITABLE
Acetylene	GOOD	GOOD	NOT TESTED	Chromic Acid 3%	UNSUITABLE	UNSUITABLE	UNSUITABLE
Air	GOOD	GOOD	GOOD	Citric Acid 10%	SATISFACTORY	SATISFACTORY	SATISFACTORY
Alcohols 95%	NOT TESTED	GOOD	NOT TESTED	Coke Oven Gas	UNSUITABLE	UNSUITABLE	UNSUITABLE
Aluminium Chloride	UNSUITABLE	UNSUITABLE	NOT TESTED	Copper Salts	NOT TESTED	NOT TESTED	GOOD
Aluminum Sulfate	SATISFACTORY	SATISFACTORY	NOT TESTED	Copper Sulfate 10%	GOOD	GOOD	NOT TESTED
Alums	UNSUITABLE	UNSUITABLE	NOT TESTED	Cottonseed Oil	GOOD	GOOD	NOT TESTED
Ammonia - cold gas	GOOD	GOOD	GOOD	Creosote	SATISFACTORY	UNSUITABLE	UNSUITABLE
Ammonia - liquid	NOT TESTED	NOT TESTED	NOT TESTED	Cyclohexanol	SATISFACTORY	SATISFACTORY	SATISFACTORY
Ammonium Acetate	NOT TESTED	NOT TESTED	NOT TESTED	Cyclohexanone	UNSUITABLE	SATISFACTORY	SATISFACTORY
Ammonium Carbonate	UNSUITABLE	GOOD	GOOD	D.D.T.	NOT TESTED	NOT TESTED	NOT TESTED
Ammonium Chloride	UNSUITABLE	UNSUITABLE	GOOD	Detergent Solution	GOOD	GOOD	GOOD
Ammonium Hydroxide	UNSUITABLE	GOOD	NOT TESTED	Dibutyl Phthalate	UNSUITABLE	SATISFACTORY	NOT TESTED
Ammonium Nitrate	SATISFACTORY	SATISFACTORY	GOOD	Dichloroethylene	NOT TESTED	NOT TESTED	NOT TESTED
Ammonium Phosphate	NOT TESTED	NOT TESTED	NOT TESTED	Dimethylformamide	UNSUITABLE	SATISFACTORY	SATISFACTORY
Ammonium Sulfate 10% pH 5.8	GOOD	GOOD	GOOD	Dioxane	UNSUITABLE	SATISFACTORY	NOT TESTED
Amyl Acetate	UNSUITABLE	NOT TESTED	NOT TESTED	Ether (DAB 6)	NOT TESTED	NOT TESTED	NOT TESTED
Amyl Alcohol	SATISFACTORY	SATISFACTORY	SATISFACTORY	Ethyl Acetate	UNSUITABLE	SATISFACTORY	SATISFACTORY
Amyl Chloride	NOT TESTED	NOT TESTED	NOT TESTED	Ethyl Alcohol (50%)	GOOD	GOOD	GOOD
Aniline	UNSUITABLE	SATISFACTORY	SATISFACTORY	Ethyl Alcohol (95%)	GOOD	GOOD	GOOD
Asphalt	SATISFACTORY	UNSUITABLE	UNSUITABLE	Ethylene Glycol	GOOD	GOOD	NOT TESTED
Automatic Transmission Fluid	SATISFACTORY	UNSUITABLE	UNSUITABLE	Ferrox Inhibitor	<i>Refer to John Guest USA Inc.</i>		
Auto Rear End Lubricant	NOT TESTED	NOT TESTED	NOT TESTED	Ferric Chloride 10%	UNSUITABLE	UNSUITABLE	NOT TESTED
Barium Salts	NOT TESTED	NOT TESTED	NOT TESTED	Ferric Sulfate	NOT TESTED	NOT TESTED	NOT TESTED
Beer	GOOD	GOOD	GOOD	Ferrous Chloride	UNSUITABLE	UNSUITABLE	NOT TESTED
Beet-Sugar Liquors	NOT TESTED	NOT TESTED	NOT TESTED	Ferrous Sulfate	SATISFACTORY	SATISFACTORY	NOT TESTED
Benzaldehyde	UNSUITABLE	GOOD	GOOD	Formaldehyde 40%	UNSUITABLE	SATISFACTORY	SATISFACTORY
Benzene	UNSUITABLE	UNSUITABLE	UNSUITABLE	Formic Acid 10%	UNSUITABLE	UNSUITABLE	GOOD
Benzoic Acid	UNSUITABLE	UNSUITABLE	UNSUITABLE	Freon	<i>Refer to John Guest USA Inc.</i>		
Borax	SATISFACTORY	GOOD	GOOD	Gelatin	NOT TESTED	NOT TESTED	NOT TESTED
Boric Acid	GOOD	GOOD	GOOD	Glucose	GOOD	GOOD	GOOD
Brake Fluid	NOT TESTED	NOT TESTED	NOT TESTED	Glycerin	GOOD	GOOD	GOOD
Brandy	NOT TESTED	NOT TESTED	NOT TESTED	Heptane	NOT TESTED	NOT TESTED	NOT TESTED
Bromine Water	UNSUITABLE	UNSUITABLE	UNSUITABLE	Hydraulic Fluid	NOT TESTED	NOT TESTED	NOT TESTED
Buffer Solution pH 4.0	UNSUITABLE	UNSUITABLE	NOT TESTED	Hydraulic Fluid - Fire Resistant	NOT TESTED	NOT TESTED	NOT TESTED
Buffer Solution pH 7.0	NOT TESTED	NOT TESTED	NOT TESTED	Hydrobromic Acid (Hydrobromic Acid)	UNSUITABLE	UNSUITABLE	GOOD
Buffer Solution pH 10.0	NOT TESTED	NOT TESTED	NOT TESTED				
Butane	SATISFACTORY	UNSUITABLE	UNSUITABLE	Hydrochloric Acid 30%	UNSUITABLE	UNSUITABLE	SATISFACTORY
Butter	GOOD	GOOD	GOOD	Hydrochloric Acid 50%	UNSUITABLE	UNSUITABLE	NOT TESTED
Butyl Acetate	UNSUITABLE	SATISFACTORY	SATISFACTORY	Hydrocyanic Acid	NOT TESTED	NOT TESTED	NOT TESTED
Butyl Rubber	NOT TESTED	NOT TESTED	NOT TESTED	Hydrofluoric Acid - dilute	UNSUITABLE	UNSUITABLE	GOOD
Calcium Arsenate	NOT TESTED	NOT TESTED	NOT TESTED	Hydrofluoric Acid 40%	UNSUITABLE	UNSUITABLE	GOOD
Calcium Bisulfite	NOT TESTED	NOT TESTED	NOT TESTED	Hydrofluoric Acid 50%	UNSUITABLE	UNSUITABLE	NOT TESTED
Calcium Chloride	GOOD	GOOD	GOOD	Hydrogen Gas	GOOD	GOOD	NOT TESTED
Calcium Hypochlorite	UNSUITABLE	UNSUITABLE	GOOD	Hydrogen Fluoride	UNSUITABLE	UNSUITABLE	NOT TESTED
Calcium Salts	NOT TESTED	NOT TESTED	NOT TESTED	Hydrogen Peroxide 3%	NOT TESTED	UNSUITABLE	SATISFACTORY

Chemical Compatibility Chart

CHEMICAL COMPATIBILITY (continued)

CHEMICAL	PM/PI Range	CM/CI Range	PP Range	CHEMICAL	PM/PI Range	CM/CI Range	PP Range
Hydrogen Sulfide	UNSUITABLE	SATISFACTORY	GOOD	Shellac	NOT TESTED	NOT TESTED	NOT TESTED
Iodine (in Alcohol solution)	UNSUITABLE	UNSUITABLE	NOT TESTED	Silver Nitrate	SATISFACTORY	SATISFACTORY	NOT TESTED
Iso-Propanol	SATISFACTORY	GOOD	NOT TESTED	Soap Solution	GOOD	GOOD	GOOD
Kerosene	SATISFACTORY	UNSUITABLE	UNSUITABLE	Sodium Bicarbonate 10%	NOT TESTED	NOT TESTED	NOT TESTED
Lactic Acid 20%	SATISFACTORY	GOOD	GOOD	Sodium Bisulfate	UNSUITABLE	UNSUITABLE	NOT TESTED
Lead Acetate	SATISFACTORY	SATISFACTORY	NOT TESTED	Sodium Bisulfite	UNSUITABLE	UNSUITABLE	NOT TESTED
Lime Sulfur	NOT TESTED	NOT TESTED	NOT TESTED	Sodium Borate	GOOD	GOOD	NOT TESTED
Linseed Oil	GOOD	GOOD	GOOD	Sodium Carbonate 10%	GOOD	GOOD	GOOD
Lubrication Grease - with Molybdenum	NOT TESTED	NOT TESTED	NOT TESTED	Sodium Chlorate	NOT TESTED	NOT TESTED	NOT TESTED
Machine Oil	NOT TESTED	NOT TESTED	NOT TESTED	Sodium Chloride 10%	GOOD	GOOD	GOOD
Magnesium Chloride	SATISFACTORY	SATISFACTORY	NOT TESTED	Sodium Cyanide	SATISFACTORY	SATISFACTORY	NOT TESTED
Magnesium Hydroxide	SATISFACTORY	GOOD	NOT TESTED	Sodium Hydroxide (Caustic Soda Solution)	SATISFACTORY	GOOD	GOOD
Magnesium Sulfate	NOT TESTED	NOT TESTED	NOT TESTED	Sodium Hyperchlorite (12.5% active Chlorine)	UNSUITABLE	UNSUITABLE	SATISFACTORY
Maleic Acid	UNSUITABLE	UNSUITABLE	UNSUITABLE	Sodium Metaphosphate	NOT TESTED	NOT TESTED	NOT TESTED
Manganese Salts	NOT TESTED	NOT TESTED	NOT TESTED	Sodium Nitrate 10% pH 8.8	GOOD	GOOD	GOOD
Mayonnaise	NOT TESTED	NOT TESTED	NOT TESTED	Sodium Perborate	NOT TESTED	NOT TESTED	NOT TESTED
Mercuric Chloride	UNSUITABLE	UNSUITABLE	NOT TESTED	Sodium Phosphate	NOT TESTED	NOT TESTED	NOT TESTED
Mercury	GOOD	GOOD	GOOD	Sodium Silicate	NOT TESTED	NOT TESTED	NOT TESTED
Methanol	GOOD	NOT TESTED	NOT TESTED	Sodium Sulfate	NOT TESTED	NOT TESTED	NOT TESTED
Methyl Chloride	UNSUITABLE	UNSUITABLE	UNSUITABLE	Sodium Sulfite	NOT TESTED	NOT TESTED	NOT TESTED
Milk	SATISFACTORY	SATISFACTORY	GOOD	Sodium Thiosulfate	NOT TESTED	NOT TESTED	NOT TESTED
Motor Oil	NOT TESTED	NOT TESTED	NOT TESTED	Stearic Acid	SATISFACTORY	SATISFACTORY	SATISFACTORY
Natural Gas	SATISFACTORY	UNSUITABLE	UNSUITABLE	Succinic Acid	NOT TESTED	NOT TESTED	NOT TESTED
Nickel Salts	NOT TESTED	NOT TESTED	GOOD	Sulfate Liquors	NOT TESTED	NOT TESTED	NOT TESTED
Nitric Acid 10%	UNSUITABLE	UNSUITABLE	SATISFACTORY	Sulfur	UNSUITABLE	SATISFACTORY	GOOD
Nitric Acid - concentrated	UNSUITABLE	UNSUITABLE	UNSUITABLE	Sulfur Chloride	UNSUITABLE	UNSUITABLE	UNSUITABLE
Nitrobenzene	UNSUITABLE	NOT TESTED	NOT TESTED	Sulfur Dioxide Gas	UNSUITABLE	UNSUITABLE	GOOD
Nitrogen Oxides	NOT TESTED	NOT TESTED	NOT TESTED	Sulfuric Acid 3%	NOT TESTED	GOOD	GOOD
Nitrous Acid	UNSUITABLE	UNSUITABLE	NOT TESTED	Sulfuric Acid 10%	NOT TESTED	SATISFACTORY	GOOD
Oleic Acid	SATISFACTORY	NOT TESTED	NOT TESTED	Sulfuric Acid - concentrated	UNSUITABLE	UNSUITABLE	UNSUITABLE
Olive Oil	GOOD	SATISFACTORY	SATISFACTORY	Sulfurous Acid	UNSUITABLE	UNSUITABLE	NOT TESTED
Oxalic Acid	SATISFACTORY	SATISFACTORY	GOOD	Tannic Acid	SATISFACTORY	SATISFACTORY	NOT TESTED
Oxygen	SATISFACTORY	SATISFACTORY	NOT TESTED	Tar	SATISFACTORY	UNSUITABLE	UNSUITABLE
Palmitic Acid	SATISFACTORY	SATISFACTORY	NOT TESTED	Tartaric Acid	UNSUITABLE	UNSUITABLE	SATISFACTORY
Perchloric Acid	UNSUITABLE	UNSUITABLE	NOT TESTED	Tetrahydrofuran	UNSUITABLE	NOT TESTED	NOT TESTED
Petroleum Oils	NOT TESTED	NOT TESTED	NOT TESTED	Tetralin	NOT TESTED	NOT TESTED	NOT TESTED
Petroleum - Refined	NOT TESTED	NOT TESTED	NOT TESTED	Thiophene	NOT TESTED	NOT TESTED	NOT TESTED
Petrol	SATISFACTORY	UNSUITABLE	UNSUITABLE	Toluene	UNSUITABLE	UNSUITABLE	UNSUITABLE
Phenol	UNSUITABLE	NOT TESTED	NOT TESTED	Tomatoes	NOT TESTED	NOT TESTED	NOT TESTED
Phosphoric Acid 20 - 25%	UNSUITABLE	GOOD	GOOD	Trichloroethane	UNSUITABLE	UNSUITABLE	UNSUITABLE
Phosphoric Acid - concentrated	UNSUITABLE	UNSUITABLE	SATISFACTORY	Turpentine	SATISFACTORY	UNSUITABLE	UNSUITABLE
Picric Acid - Molten	UNSUITABLE	UNSUITABLE	NOT TESTED	Urea	NOT TESTED	NOT TESTED	NOT TESTED
Picric Acid - Aqueous	UNSUITABLE	UNSUITABLE	NOT TESTED	Varnish	SATISFACTORY	UNSUITABLE	UNSUITABLE
Potable water	GOOD	GOOD	GOOD	Vegetable Oil	SATISFACTORY	SATISFACTORY	SATISFACTORY
Potassium Hydroxide 50%	SATISFACTORY	GOOD	GOOD	Vinegar	SATISFACTORY	SATISFACTORY	GOOD
Potassium Salts	NOT TESTED	NOT TESTED	NOT TESTED	Xylene	UNSUITABLE	UNSUITABLE	UNSUITABLE
Propane	SATISFACTORY	UNSUITABLE	UNSUITABLE	Zinc Acetate	SATISFACTORY	SATISFACTORY	NOT TESTED
Pyridine	UNSUITABLE	UNSUITABLE	SATISFACTORY	Zinc Chloride	UNSUITABLE	UNSUITABLE	NOT TESTED
Rosin, Light	NOT TESTED	NOT TESTED	NOT TESTED	Zinc Salts	NOT TESTED	NOT TESTED	GOOD
Salt Water	GOOD	GOOD	GOOD				

GOOD: Weight increase of less than 5%, or weight loss of less than 3%, and/or a change of the tensile properties of less than 25%.

SATISFACTORY: Weight increase 5% to 10% or weight loss 3% to 5% and/or a change of the tensile properties of 25% to 40%.

NOT TESTED: This combination has not been tested or reliable data is not available.

UNSUITABLE: The materials used in the fittings are not suitable for this chemical.

MATERIALS USED IN THE CONSTRUCTION OF FITTINGS

PM/PI RANGE	BODY—ACETAL	SEALS & 'O' RINGS—NITRILE	COLLETS—ACETAL & STAINLESS STEEL
CM/CI RANGE	BODY—ACETAL	SEALS & 'O' RINGS—EPDM	COLLETS—ACETAL & STAINLESS STEEL
PP RANGE	BODY—POLYPROPYLENE	SEALS & 'O' RINGS—EPDM	COLLETS—POLYPROPYLENE & STAINLESS STEEL

Note: Ratings used in the tables were generally assessed over a period of 30 days by our material suppliers and relate to the chemicals being at a temperature of 20°C (68°F)