Chemical Compatibility (continued)

Housing Materials

	Acids										Alcohols						Bases					Esters	
	Acetic acid, glacial	Acetic acid, 90%	Acetic acid, 30%	Acetic acid, 10%	Hydrochloric acid, conc. (35%)	Hydrochloric acid, 6N (20%)	Hydrochloric acid, 1N (3.3%)	Nitric acid, conc. (67%)	Nitric acid, 6N (27%)	Sulfuric acid, conc. (96%)	Sulfuric acid, 6N (16%)	Amyl alcohol	Benzyl alcohol	Butanol	Ethanol	Isopropanol	Methanol	Ammonium hydroxide, 3N (5.7%)	Ammonium hydroxide, 6N (11.4%)	Potassium hydroxide, 3N (15%)	Sodium hydroxide, 3N (11%)	Sodium hydroxide, 6N (22%)	Amyl acetate	Butyl acetate
Acetal Copolymer, Celcon® and Delrin®	N	N	L	L	L	L	-	N	N	-	N	R	R	R	R	R	R	L	L	R	R	R	R	R
Acrylonitrile-Butadiene-Styrene (ABS)	N	N	L	L	R	R	R	L	L	-	L	R	N	R	L	-	N	L	L	R	R	R	N	-
Aluminum	L	L	L	L	N	N	N	N	N	N	N	L	L	L	L	L	R	L	L	N	N	N	R	R
Borosilicate Glass	L	-	-	-	R	R	R	-	R	-	R	-	-	-	R	R	R	-	-	N	N	N	-	-
Brass	N	N	N	N	N	N	N	N	N	-	-	R	-	R	R	-	R	N	N	N	L	N	R	R
Buna®-N	L	L	R	R	L	L	-	N	N	N	L	R	N	L	L	R	R	N	N	R	R	R	N	N
Ethylene Propylene	-	L	R	R	L	L	-	N	N	L	L	R	L	R	R	R	R	R	R	R	R	R	L	L
High Density Polyethylene (HDPE)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Modified Acrylic	N	N	-	-	L	R	R	L	L	L	R	N	N	R	L	L	L	L	N	N	R	L	N	-
Nylon Adapter	-	R	R	R	N	N	-	N	N	N	N	R	R	R	R	R	R	R	R	R	R	R	R	R
Polycarbonate	L	L	L	R	N	N	L	L	L	N	L	L	N	R	L	R	L	N	N	N	R	L	N	N
Polyphenylsulfone	-	-	-	R	-	R	-	-	R	-	R	-	-	-	-	-	R	R	-	-	R	R	-	-
Polypropylene	R	R	R	R	R	R	-	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Polystyrene	N	-	-	-	R	R	R	N	N	N	R	N	-	-	R	-	R	R	R	R	R	R	-	-
Polysulfone	R	R	R	R	R	R	-	R	R	N	R	R	N	R	R	R	R	N	R	R	R	R	L	L
PTFE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
PVC (Polyvinyl Chloride)	N	N	N	N	L	R	R	L	R	N	R	R	N	R	L	R	R	R	R	R	R	R	N	N
Silicone Rubber	R	L	R	L	N	N	-	L	L	N	N	N	L	L	L	R	R	R	R	N	L	L	R	R
Tygon®	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N	N
Type 304 Stainless Steel	N	N	L	L	N	N	N	R	R	N	N	R	L	R	R	L	R	R	R	R	L	L	L	R	L
Type 316 Stainless Steel	R	L	L	R	N	N	N	R	R	N	N	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Viton®	N	N	L	L	R	R	R	R	R	R	R	R	R	R	R	R	N	R	R	R	R	R	N	N	N

	Esters			Ethers			Glycols			Aromatic Hydrocarbons			Halogenated Hydrocarbons						Ketones			Oils		Miscellaneous								
	Cellosolve acetate	Ethyl acetate	Isopropyl acetate	Methyl acetate	Ethyl ether	Tetrahydrofuran	Tetrahydrofuran/water (50/50, v/v)	Ethylene glycol	Glycerol	Propylene glycol	Benzene	Toluene	Xylene	Carbon tetrachloride	Chloroform	Ethylene dichloride	Methylene chloride	Tetrachloroethylene	Acetone	Cyclohexanone	Methyl ethyl ketone (MEK)	Methyl isobutyl ketone	Cottonseed	Peanut	Acetonitrile	Dimethyl formamide (DMF)	Dimethyl sulfoxide (DMSO)	Formaldehyde, 37%	Formaldehyde, 4%	Hexane, dry	Kerosene	Pyridine	18 Megohm water
Acetal Copolymer, Celcon® and Delrin®	R	R	N	R	R	R	-	R	R	R	R	L	R	R	R	R	R	R	R	R	L	R	R	R	R	N	-	R	R	R	R	R	R
Acrylonitrile-Butadiene-Styrene (ABS)	-	N	-	N	N	-	-	R	-	L	N	N	N	N	N	N	N	-	N	N	N	N	R	-	-	N	N	R	R	N	N	-	R
Aluminum	R	R	N	R	R	-	-	R	R	R	L	R	R	N	L	R	L	R	R	R	R	R	R	R	-	R	-	R	R	R	R	L	R
Borosilicate Glass	-	R	-	-	-	R	-	R	-	-	R	R	R	-	R	-	R	-	R	-	R	-	-	-	R	R	R	R	R	R	-	-	R
Brass	L	L	-	R	L	-	-	L	-	-	-	R	R	L	L	R	R	-	R	-	R	-	R	-	-	-	-	R	R	R	R	L	R
Buna®-N	N	N	N	N	N	N	-	R	R	R	N	N	N	N	N	N	N	N	N	N	N	N	R	R	N	N	N	R	R	R	R	N	R
Ethylene Propylene	L	R	L	L	N	N	-	R	R	R	N	N	N	N	N	L	N	N	R	L	R	R	R	R	R	R	R	R	R	R	R	N	N	L	R
High Density Polyethylene (HDPE)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Modified Acrylic	-	N	-	N	N	N	-	R	R	R	N	N	N	N	N	N	N	N	N	N	N	N	L	L	L	N	N	R	R	L	R	N	R
Nylon Adapter	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Polycarbonate	N	N	N	N	N	N	-	R	R	L	N	N	N	N	N	N	N	N	N	N	N	N	-	-	N	N	N	R	R	N	N	N	R
Polyphenylsulfone	-	-	-	-	-	-	-	-	-	-	-	N	-	-	N	-	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R
Polypropylene	R	R	R	R	R	L	-	R	R	R	L	L	L	L	L	N	L	R	R	R	R	R	R	R	R	R	R	R	R	R	L	R	R	R
Polystyrene	-	N	-	-	N	-	-	R	R	-	N	N	-	N	-	-	-	-	N	-	N	-	-	-	-	N	-	R	R	-	-	-	R
Polysulfone	N	N	L	N	R	N	-	R	R	R	N	N	N	L	N	L	N	R	N	N	N	N	R	R	N	N	N	R	R	R	R	N	R
PTFE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
PVC (Polyvinyl Chloride)	N	N	N	N	N	N	-	R	-	N	N	N	N	N	N	N	N	N	N	N	N	N	L	R	-	N	N	R	R	L	R	N	N	R	R
Silicone Rubber	R	L	L	-	N	N	-	R	R	R	N	N	N	N	N	N	N	N	N	N	N	N	R	R	N	N	N	L	R	N	N	N	R
Tygon®	N	N	N	N	N	N	-	R	R	R	N	N	N	N	N	N	N	N	L	L	L	L	L	-	L	R	L	L	-	N	N	L	R
Type 304 Stainless Steel	L	L	N	R	L	R	R	L	-	L	L	R	L	L	R	L	R	-	R	R	R	L	R	R	-	R	R	R	R	R	R	R	R
Type 316 Stainless Steel	R	R	R	R	R	R	-	R	R	R	R	R	L	R	L	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Viton®	N	N	N	N	N	N	N	R	R	R	R	R	R	R	R	L	R	N	N	N	N	R	R	R	L	N	R	R	R	R	N	R	R	R	R

Test Methods

The data presented in this chart is a compilation of testing by Pall Corporation with certain chemicals, manufacturer's data, or compatibility recommendations from the *Compass Corrosion Guide* by Kenneth M. Pruett. This data is intended to provide expected results when filtration devices are exposed to chemicals under static conditions for 48 hours at 25 °C (77 °F), unless otherwise noted. Membrane integrity for syringe filters was tested by bubble point.

This chart is intended only as a guide. Accuracy cannot be guaranteed. Users should verify chemical compatibility with a specific filter under actual use conditions. Because chemical compatibility is affected by many variables (including temperature, pressure, concentration, and purity), various chemical combinations prevent complete accuracy.

Caution

Alcohol residues that are allowed to dry on a filter may cause stress cracks. Pall Corporation recommends that filters used in alcohol processing should remain alcohol wet or should be flushed with copious quantities of water to remove residuals prior to drying and subsequent reuse.

R = Resistant
No significant change was observed in flow rate or bubble point of the membrane. No visible indication of chemical attack was detected.

L = Limited Resistance
Moderate changes in physical properties or dimensions of the membrane were observed. The filter may be suitable for short term, non-critical use. Hardware or housing may be suitable for short-term exposure at low pressures and ambient temperatures.

N = Not Resistant
The membrane or housing is basically unstable and is not recommended for use.

- = Insufficient Data
Information is not available. Trial testing is recommended.