

Chemical Resistance Guide 10

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This Chemical Resistance Guide is offered to assist in selecting pump materials that are most resistant to the chemicals that may be used with a Xylem pump. The information is based on Xylem laboratory tests, field testing programs, and general data from industry sources. It should be used only as a guide in the selection of pump materials. Suitability for the application should be determined by actual use and is the full responsibility of the customer. No warranty, expressed or implied, can be extended by Xylem where failure is caused by chemical attack on pump materials. Temperature, aeration, concentration, and other factors may change the effect of the specific fluid on the pump materials. Data shown is based on results at ambient temperatures, unless otherwise noted.

RATING SYSTEM

The "A" rating indicates little effect on the physical properties of the material (Generally Satisfactory).

The "B" rating indicates minor to moderate effect (Generally Satisfactory but Should be Qualified By Testing).

The "C" rating indicates a change in the physical properties in excess of acceptable tolerances could occur (Generally Not Satisfactory, Must be Qualified By Testing).

The "D" rating indicates rapid physical deterioration, swelling of check valves, or diaphragm, or chemical attack on the pump housing material (Not Satisfactory).

Where no rating is shown, data is not currently available, and pump materials should be qualified by testing.

It is recommended that the pump be thoroughly flushed with water or other neutralizing agent after each use whenever possible.

ELASTOMER	PROPERTIES	GENERAL CHEMICAL RESISTANCE	
		RESISTANT TO	ATTACKED BY
Buna-N	Excellent resistance to petroleum-based fluids. Good physical properties.	Many hydrocarbons, fats, oils, greases, hydraulic fluids, chemicals.	Ozone (except PVC blends), ketones, esters, aldehydes, chlorinated and nitro hydrocarbons.
EP/PP blend (Santoprene)	Resistant to a wide variety of solvents and chemicals. Excellent abrasion resistance and long mechanical flex life in hot and cold environments.	High polar fluids such as alcohols, ketones, glycols, esters, and aqueous solutions of acids, salts and bases.	Most hydrocarbons and petroleum- or oil-based products
EPDM	Excellent ozone, chemical, and aging resistance. Poor resistance to petroleum-based fluids.	Animal and vegetable oils, ozone, strong and oxidizing chemicals.	Mineral oils and solvents, aromatic hydrocarbons.
FFKM (Kalrez)	Excellent chemical resistance. Excellent high and low temperature properties.		
FKM (Viton)	Excellent oil and air resistance both at low and high temperatures. Very good chemical resistance.	All aliphatic, aromatic and halogenated hydrocarbons, acids, animal and vegetable oils.	Ketones, low molecular weight esters and nitro-containing compounds, and nitro hydrocarbons.
Fluoro-silicone	Moderate or oxidizing chemicals, ozone, aromatic chlorinated solvents, bases.	Brake fluids, hydrazine, ketones.	
Natural rubber	Excellent physical properties including abrasion and low temperature resistance. Poor resistance to petroleum-based fluids.	Most moderate chemicals, wet or dry, organic acids, alcohols, ketones, aldehydes and alkalies.	Ozone, strong acids, fats, oils, greases, most hydrocarbons including benzene, toluene, gasoline, and lubricating oils.
Neoprene	Good weathering resistance. Flame retarding. Moderate resistance to petroleum-based fluids.	Moderate chemicals and acids, ozone, oils, fats, greases, many oils and solvents.	Strong oxidizing acids, esters, ketones, chlorinated, aromatic and nitro hydrocarbons.
Silicone	Excellent high and low temperature properties. Fair physical properties.	Moderate or oxidizing chemicals, ozone, concentrated sodium hydroxide.	Many solvents, oils, concentrated acids, dilute sodium hydroxide.



GAS WARNING

No pump manufactured by Xylem should be used for gasoline or any fluid with a flash point below 100°F (38°C).

