Material Profiles

Material	Chemical Composition	Description	Operating Temperature		Relative Cost
			Minimum	Maximum	
Polypropylene	Pure Polypropylene	Thermoplastic that is resistant to alkali and strong acids.	32°F (0°C)	158°F (70°C)	$
PVDF	Pure Polyvinylidene Fluoride	Strong fluoropolymer with excellent chemical resistance.	10°F (-12°C)	220°F (104°C)	$$$
Stainless Steel	316 Stainless Steel	Excellent chemical resistance, high tensile and impact strength, abrasion resistant.	Limited by other materials used		$$
Aluminum	ADC 12, LM24, LM25	Moderate chemical resistance with good impact strength and abrasion resistance.	Limited by other materials used		$
Buna	Acrylonitrile-butadiene Rubber	General purpose elastomer.Resistant to oil, water, solvent, and hydraulic fluid.	10°F (-12°C)	190°F (88°C)	$
EPDM	Ethylene Propylene Diene Rubber	Good resistance to mild acids, detergents, alkalis, ketones, and alcohols.	-40°F (-40°C)	250°F (121°C)	$
FKM	Fluorocarbon Rubber	Good chemical resistance and high temperature properties. Resistant to most acids, aliphatic, aromatic, and halogenated hydrocarbons, oils, grease, and fuels.	-40°F (-40°C)	350°F (177°C)	$$
Neoprene	Chloroprene Rubber	General purpose elastomer with good resistance to moderate chemicals, oils, grease, solvents, and some refrigerants.	0°F (-18°C)	212°F (100°C)	$
Santoprene™	Fully cured EPDM rubber particles encapsulated in a polypropylene (PP) matrix	Thermoplastic elastomer with good abrasion resistance with chemical resistance to a wide range of solvents and chemicals. Injection molded with no fabric layer.	-40°F (-40°C)	225°F (107°C)	$
Hytrel®	Thermoplastic polyester elastomer	Combines resistance and flexibility of elastomers with the strength of plastics. Resistant to acids, bases, amines, and glycols. Injection molded with no fabric layer.	-20°F (-29°C)	220°F (104°C)	$
Polyurethane	Polyester Urethane	Thermoplastic that exhibits excellent abrasion resistance.Injection molded with no fabric layer.	32°F (0°C)	150°F (66°C)	$
PTFE	Polytetrafluoroethylene	Chemically inert. Resistant to a wide range of chemicals.	40°F (4°C)	225°F (107°C)	$$
FEP	Fluorinated Ethylene Propylene	Similar to PTFE in composition and chemical resistance. Used to encapsulate FKM o-rings for superior chemical resistance.	40°F (4°C)	225°F (107°C)	$$

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