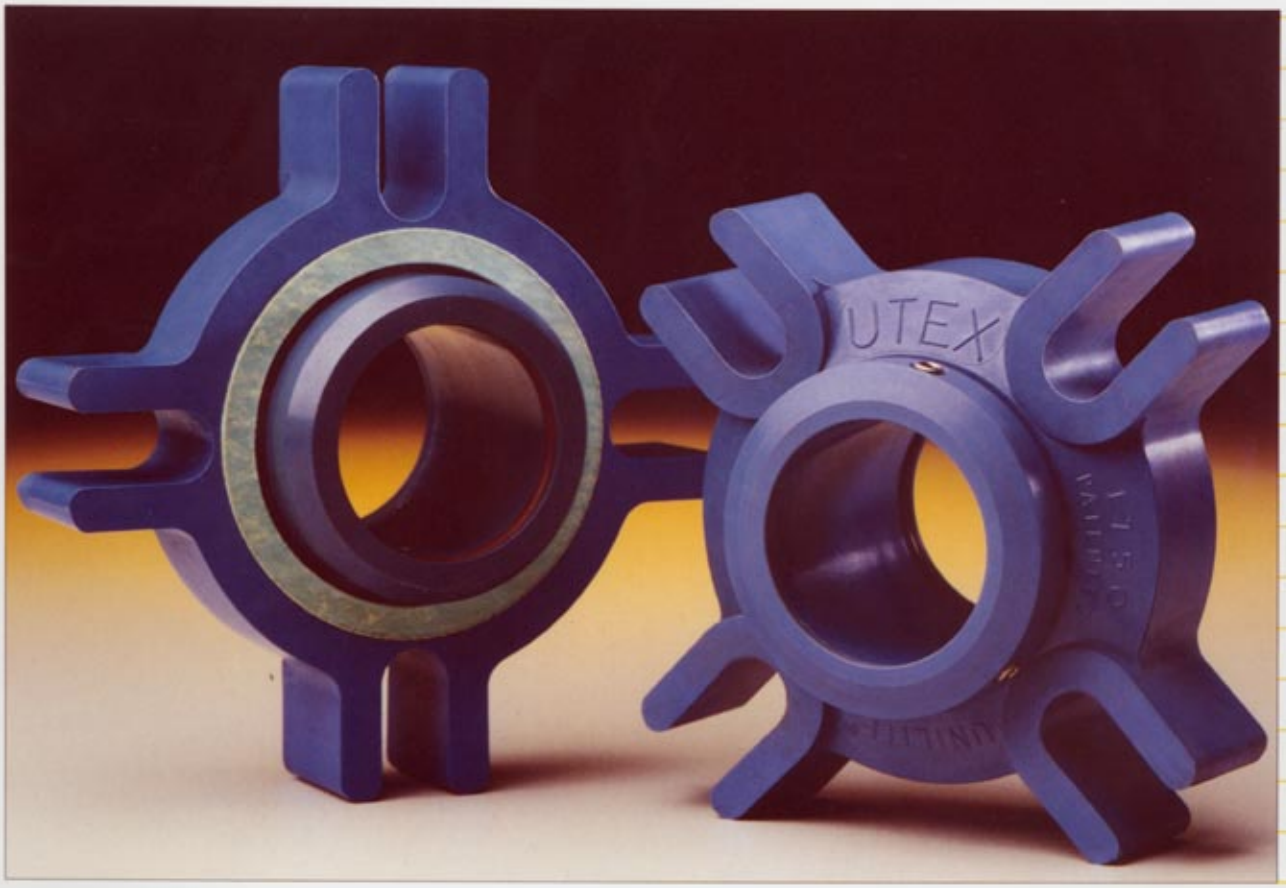


NEW UNILITE®

A non-metallic composite cartridge mechanical seal

The economy of a non-metallic seal

Proven polyphenylene sulfide non-metallic composite

High chemical resistance

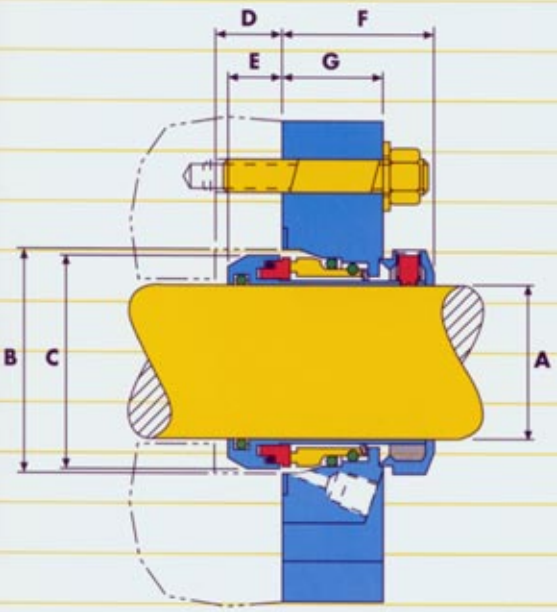
Available with flush on request

No setting clips required

Factory repairable

UTEX

The economical, long-lasting Unilite from UTEX



The Unilite is a unique non-metallic mechanical seal that delivers economy and durability all in a proven design. A metal collar insert protects the composite material when the set screws are tightened, making this a uniquely rugged design for the field. And because it uses no setting clips, this full cartridge seal is simpler to install than previous mechanical seals. Its features include:

- The economy of a non-metallic seal
- Proven polyphenylene sulfide non-metallic composite
- High chemical resistance
- Available with flush on request
- No setting clips required
- Factory repairable

*Hastelloy C** multi-crested wave spring is non clogging*

PTFE drive balls resist twisting and torsion

Pure silicon carbide rotating seat for high PV rating*

Tough wear resistant composite sleeve completes full cartridge design

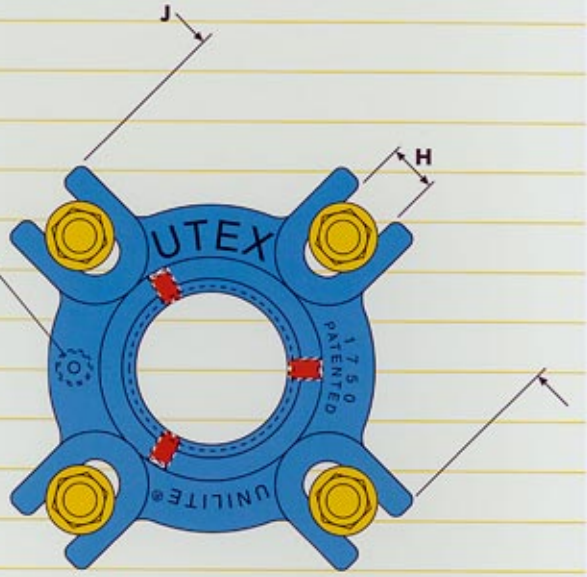
*70 Durometer Viton*** O-rings**

*State-of-the-art seal operates to 200 PSI (13.79 bar) @ 70°F (21°C). Maximum operating temperature of 212°F (100°C). Recommended for hot water under 180°F (82°C), most solvents and hydrocarbons, caustics, alcohols, oxidizing agents, salt solutions, and weak acids.****

* Other materials and elastomers available on request.
** Cabot Corp. Trademark
*** DuPont Trademark
**** Not recommended for strong oxidizing acids, some amines and halogenated chemicals.

Polyphenylene sulfide high tech non-metallic composite gives strength and chemical resistance

Available with flush connections on request



Metal reinforced locking collar for increased ruggedness

*CNFJ carbon stationary face**

TYPICAL MECHANICAL PROPERTIES OF UNILITE COMPOSITE SEAL			
POLYPHENYLENE SULFIDE COMPOSITE			
Tensile strength	ASTM D638	22,000 PSI	155 MPa
Ultimate elongation	ASTM D638	1%	
Flexural strength	ASTM D790	36,000 PSI	248 MPa
Flexural modules	ASTM D790	2,000,000 PSI	14 GPa
Notched IZOD	ASTM D256	4 ft-lb/in	212 J/M
HDT @ 264 PSI (1.82 MPa)	ASTM D648	500°F	260°C

SEAL SIZE	SHAFT/ SLEEVE DIA. +.000/-.002	STUFFING BOX BORE		SEAL O.D.	STUFFING BOX DEPTH MIN.	IN-BOARD LENGTH	OUT-BOARD LENGTH	GLAND WIDTH	BOLT CIRCLE BY BOLT SIZE MIN./MAX.			SLOT WIDTH	GLAND O.D.
		MIN.	MAX.						3/8"	1/2"	5/8"		
	A	B		C	D	E	F	G	K			H	J
1"	1.000	1.625	1.875	1.562	0.828	0.703	1.578	1.000	2.750/3.687	N/A	N/A	0.437	4.125
1 1/8"	1.125	1.750	2.000	1.687	0.828	0.703	1.578	1.000	2.875/3.687	N/A	N/A	0.437	4.125
1 1/4"	1.250	1.875	2.125	1.812	0.828	0.703	1.578	1.000	3.000/3.812	N/A	N/A	0.437	4.250
1 3/8"	1.375	2.000	2.250	1.937	0.828	0.703	1.578	1.000	3.125/3.812	N/A	N/A	0.437	4.250
1 1/2"	1.500	2.250	2.500	2.187	0.844	0.719	1.719	1.140	3.375/4.063	N/A	N/A	0.437	4.500
1 5/8"	1.625	2.375	2.625	2.312	0.844	0.719	1.719	1.140	3.500/4.562	3.625/4.437	N/A	0.562	5.000
1 3/4"	1.750	2.500	2.750	2.437	0.844	0.719	1.719	1.140	3.625/5.063	3.750/4.937	N/A	0.562	5.500
1 7/8"	1.875	2.625	2.875	2.562	0.844	0.719	1.719	1.140	3.750/5.063	3.875/4.937	N/A	0.562	5.500
2"	2.000	2.750	3.000	2.687	0.844	0.719	1.719	1.140	3.875/5.063	4.000/4.937	N/A	0.562	5.500
2 1/8"	2.125	2.875	3.125	2.812	0.844	0.719	1.719	1.140	4.000/5.562	4.125/5.437	4.250/5.312	0.687	6.000
2 1/4"	2.250	3.000	3.250	2.937	0.844	0.719	1.719	1.140	4.125/5.562	4.250/5.437	4.375/5.312	0.687	6.000
2 3/8"	2.375	3.125	3.375	3.062	0.844	0.719	1.719	1.140	4.250/5.562	4.375/5.437	4.500/5.312	0.687	6.000
2 1/2"	2.500	3.250	3.500	3.187	0.844	0.719	1.719	1.140	4.375/6.062	4.500/5.937	4.625/5.812	0.687	6.500
2 5/8"	2.625	3.375	3.625	3.312	0.844	0.719	1.719	1.140	4.500/6.062	4.625/5.937	4.750/5.812	0.687	6.500

UNILITE SEAL CHEMICAL RESISTANCE GUIDE

PPS, used in the UTEX Unilite seal, exhibits good chemical resistance. It is essentially unaffected by a broad class of chemicals at elevated temperatures and for prolonged periods of time. The few classes of compounds that may cause some loss of mechanical properties include strong acids, oxidizing agents and some amines. In general, time, pressure, temperature, concentration, degree of agitation and presence of impurities influence chemical resistance and should be considered when assessing requirements.

Consult UTEX with specific applications should there be a question about the operating conditions.

Acetaldehyde	1
Acetic Acid, 20%	1
Acetic Acid, Glacial	1
Acetic Anhydride	1
Acetone	1
Acetylene	1
Aluminum Chloride (Dry)	1
Aluminum Chlorohydroxide (Wet)	1
Aluminum Fluoride	1
Aluminum Sulfate	1
Ammonia, Aqueous, 10%	1
Ammonium Carbonate	1
Ammonium Chloride	1
Ammonium Hydroxide, Conc.	4
Ammonium Nitrate	1
Ammonium Phosphate	1
Ammonium Sulfate	1
Amyl Acetate	1
Amyl Alcohol	1
Aniline	1
Arsenic Acid	1
Asphalt Emulsions	1
Barium Chloride	1
Barium Hydroxide	1
Barium Sulfate	1
Benzaldehyde	3
Benzene	1
Benzene Sulfonic Acid	1
Benzoic Acid	1
Borax (Sodium Borate)	1
Bromine (Wet)	1
Butane	1
Butyl Acetate	1
Butyl Alcohol	1
Butyl Ether	1
Butyl Phthalate	4
Butylene	1
Butyric Acid	1
Cadmium Cyanide	1
Calcium Chloride	1
Calcium Hypochlorite	1
Calcium Nitrate	1
Calcium Phosphate	1
Calcium Sulfate	1
Carbon Dioxide	1
Carbon Disulfide	2
Carbon Tetrachloride	3
Carbonic Acid	1
Cellosolve	1
Chloroacetic Acid	1
Chloroform	4
Chlorophenol, 5% Aqueous	1
Chlorosulfonic Acid	NR
Chromic Acid, 1–30%	2
Citric Acid	1
Copper Chloride	1
Copper Cyanide	1
Copper Nitrate	1
Copper Sulfate	1
Cottonseed Oil	1
Cresyldephenyl Phosphate	1
Crude Oil (Sour)	1
Cyclohexane	1
Cyclohexanol	1
Decalin	1
Detergents	1
Diesel Fuel	1
Diisobutylene	1
Dimethyl Aniline	1
Dimethyl Phthalate	4
Dioctyl Phthalate	4
Diphenyl Ether	1
Dowtherm® Heat Transfer Fluid	1
Ethanolamine	1
Ethyl Acetate	1
Ethyl Alcohol	1
Ethylene Diamine	NR
Ethylene Dichloride	3
Ethylene Glycol	1
Ferric Chloride	1
Ferric Hydroxide	1
Ferric Nitrate	1
Ferric Sulfate	1
Ferrous Chloride	1
Ferrous Sulfate	1
Fluoboric Acid	1
Fluorocarbons	1
Fluosilicic Acid	1
Formaldehyde, 37%	1
Formic Acid	1
Fuel Oil	1
Furan	1
Furfural	1
Gasoline	1
Glycerine	1
Glycolic Acid	1
Heptane	1
Hexane	1
Hydrobromic Acid	3
Hydrochloric Acid, 1–37%	3
Hydrofluoric Acid, 10–50%	3
Hydrogen Gas	1
Hydrogen Peroxide, 50%	NR
Hydrogen Sulfide (Wet)	1
JP Fuels	1
Kerosene	1
Lactic Acid	1
Lead Acetate	1
Lubricating Oil	1
m-Cresol (Crude)	1
Magnesium Chloride	1
Magnesium Hydroxide	1
Magnesium Sulfate	1
Methanol	1
Methylene Chloride	4
Methyl Ethyl Ketone	4
Methyl Isobutyl Ketone	4
Mineral Oil	1
Motor Oil	1
n-Butylamine	4
Naphtha	1
Napthalene	1
Nickel Chloride	1
Nickel Sulfate	1
Nitric Acid, 10%	3
Nitric Acid, Conc.	NR
Nitrobenzene	1
Nitrogen	1
Nitromethane	1
Oleic Acid	1
Oxalic Acid	1
p-Dioxane	1
Perchloroethylene	1
Phosphoric Acid, 1–100%	1
Potassium Bromide	1
Potassium Carbonate	1
Potassium Chlorate	1
Potassium Chloride	1
Potassium Cyanide	1
Potassium Dichromate	1
Potassium Hydroxide, 50%	1
Potassium Nitrate	1
Potassium Permanganate	1
Potassium Sulfate	1
Propyl Alcohol	1
Silver Nitrate	1
Soaps	1
Sodium Acetate	1
Sodium Bicarbonate	1
Sodium Bisulfate	1
Sodium Carbonate	1
Sodium Chlorate	1
Sodium Chloride	1
Sodium Chromate	1
Sodium Cyanide	1
Sodium Hydroxide, 20%	1
Sodium Hydroxide, 50%	3
Sodium Hypochlorite Solution	1
Sodium Nitrate	1
Sodium Silicate	1
Sodium Sulfate	1
Sodium Sulfide	1
Sodium Thiosulfate	1
Stannic Chloride	1
Steam, 300°F	1
Stoddard Solvent	1
Sulfur Dioxide	1
Sulfuric Acid, 1–10%	1
Sulfuric Acid, 10–75%	4
Sulfurous Acid	1
Tannic Acid	1
Tartaric Acid	1
Tetrahydrofuran	1
Toluene	1
Tomato Juice	1
Triethanolamine	1
Trisodium Phosphate	1
Turpentine (Dry)	1
Urea	1
Vegetable Oil	1
Vinegar	1
Water, Deionized	1
Water, Sea	1
Water, Tap	1
Xylene	1
Zinc Chloride	1
Zinc Sulfate	1

1 = Minimal property change at 200°F (93°C)
2 = Minimal property change at 185°F (85°C)
3 = Minimal property change at 140°F (60°C)
4 = Minimal property change at 70°F (21°C)

Unilite seal ratings are based on composite filled PPS. In some cases, the ratings shown are based on limited exposure times to the given substance. It is recommended that chemical exposure tests with the actual part approximate as closely as possible expected operating times and temperatures prior to in-service use.

UTEX INDUSTRIES, INC.
P.O. Box 79227/10810 Katy Road, Houston, Texas 77279 (713) 467-1000 or (800) 359-9229 Fax: (713) 464-8393 or (800) 359-9230

Brochure No. 1050