



TECHTRON® & RYTON * PPS

Excel in Corrosive Environments To 425°F (220°C)

- **Excellent chemical resistance**
- **Machines to tight tolerances**
- **Essentially zero moisture absorption**
- **Excellent alternative to PEEK at lower temperatures**

PPS (polyphenylene sulfide) products offer the broadest resistance to chemicals of any advanced engineering plastic. They have no known solvents below 392°F (200°C) and offer inertness to steam, strong bases, fuels and acids. Minimal moisture absorption and a very low coefficient of linear thermal expansion, combined with Quadrant EPP's proprietary stress relieving processes, make these PPS products ideally suited for precise tolerance machined components. In addition, PPS products exhibit excellent electrical characteristics and are inherently flame retardant. Techtron® PPS Unlike filled PPS products, Techtron PPS is easily machined to close tolerances. It is ideal for structural applications in corrosive environments or as a PEEK replacement at lower temperatures

Techtron PPS Polyphenylene sulfide, unfilled, extruded

Unlike filled PPS products, Techtron® PPS is easily machined to close tolerances. It is ideal for structural applications in corrosive environments or as a PEEK replacement at lower temperatures. Techtron PPS is off white in color.

Techtron HPV Polyphenylene Sulfide, bearing grade, extruded

Techtron® HPV exhibits excellent wear resistance and a low coefficient of friction. It overcomes the disadvantages of virgin PPS caused by a high coefficient of friction, and of glass fibre reinforced PPS which can cause premature wear of the counterface in moving-part applications.

Ryton CM PPS (CM) Polyphenylene sulfide, unfilled, compression molded

Techtron® CM PPS is the compression molded version of unfilled PPS. It is black in color.

Ryton PPS 40% GF (CM)

Polyphenylene sulfide, 40% glass reinforced, compression molded

Compression molded 40% glass fiber reinforced Ryton polyphenylene sulfide. PPS products offer the broadest resistance to chemical of any advanced engineering plastic. This grade offers better dimensional stability and thermal performance than Techtron PPS and maintains its strength to above 425°F

Ryton PPS BG (CM) Polyphenylene Sulfide, bearing grade, compression molded

Material Notes: Bearing grade, compression molded Ryton polyphenylene sulfide. PPS products offer the broadest resistance to chemical of any advanced engineering plastic. This grade is internally lubricated and carbon fiber reinforced offering a low coefficient of thermal expansion and uncompromised chemical resistance. It is well suited for thrust or wear applications or when an electrically conductive material is required.

Extruded	Rod	Disc	Plate	Tubular Bar	Other
Techtron® PPS	.250" - 4.0"	-	.250" -2.0" (A,B)	Quote Upon Request	-
Techtron® HPV PPS	.236" -3.94"	-	.196" -3.15" (G)	197"-7.88" OD, 1.18" -6.30" ID	-
Compression Molded	Rod	Disc	Plate	Tubular Bar	Other
Ryton® CM PPS	1.0" - 3.5"	3.5"-9.0" dia	.375"-1.75" (C,E)	1.50"-8.625" OD, .750" -7.750" ID	-
Ryton* PPS 40% GF	1.0" - 4.0"	3.5"-9.0" dia	.375"-2.0" (C,E,F)	1.50"-10.50" OD, .750" -7.125" ID	-
Ryton* PPS BG	1.0" - 5.0"	3.5"-11.375" dia	.375"-1.75" (C,E,F)	1.50"-12.50" OD, .750" -10.50" ID	-

Key: A = 12" wide x 24" long B = 12" wide x 48" long C = 12" wide x 12" long
E = 12" wide x 24" long F = 14" wide x 28" long G = 24" wide x 39" long

Los Angeles 800-800-0039 San Diego 858-552-0801 San Jose 800-800-2478 Seattle 800-488-7678 Portland 800-676-7678 Phoenix 800-395-7378 Denver 888-371-7678 Dallas/FtWorth 800-834-9391



		Techtron PPS Extruded	Techtron HPV Extruded	Ryton CM PPS (CM) Compression Molded
MECHANICAL PROPERTIES	ASTM	VALUE	VALUE	VALUE
Specific Gravity	D792	1.35	1.43	1.35
Tensile Strength, psi	D638	13,500	10,900	10,000
Tensile Modulus, psi	D638	500,000	540,000	25,000
Elongation, %	D638	15	5	5
Flexural Strength, psi	D790	1,000	10,500	18,000
Flexural Modulus, psi	D790	575,000	535,000	370,000
Shear Strength, psi	D732	9,000	-	-
Compressive Strength, psi	D695, 10% Def.	21,500	-	18,000
Compressive Modulus, psi	D695	430,000	-	410,000
Hardness, Rockwell M	D785	95	84	93
Hardness, Rockwell R	D785	125	-	125
Izod Impact (Notched), ft-lb/in	D256 Type A	0.6	0.16	0.6
Coefficient of Friction, Dynamic	Dry vs. Steel,	0.4	-	0.4
Limiting PV, psi-fpm	PTM55010	3,000	20000	3,000
k (wear) factor, 10-10in ³ -min/lb-ft-hr	PTM55010	999	75	999
THERMAL PROPERTIES				
Coefficient of Thermal Expansion,	E831 (TMA)	0.28	0.33	0.28
Deflection Temperature 264 psi, °F	D648	250	240	250
Melting Point (Crystalline) Peak, °F	D3418	540	536	540
Continuous Service in Air (Max), °F	Without Load	425	430	425
Thermal Conductivity, BTU-in/hr-ft ² -°F		2	2.1	2
ELECTRICAL PROPERTIES				
Dielectric Strength, Volts/mil	D149(2)	540	-	540
Volume Resistivity, Ohm-cm	D257	1E+15	-	1E+15
Dielectric Constant, 1 MHz	ASTM D150(2)	3	-	3
Dissipation Factor, 1 MHz	ASTM D150(2)	0.0013	-	0.0013
CHEMICAL PROPERTIES				
Water Absorption Immersion, %	24 hr	0.01	0.02	0.01
Water Absorption, %	Saturation	0.0	0.03	0.03
Acids, Weak (acetic, dilute HCl)		3	-	3
Acids, Strong (conc. HCl or sulfuric)		2	2	2
Alkalies, Weak (dilute NaOH)		3	3	3
Alkalies, Strong (conc. NaOH)		3	3	3
Hydrocarbons, Aromatic (toluene)		3	3	3
Hydrocarbons, Aliphatic (gasoline)		3	3	3
Ketones, Esters (acetone)		3	3	3
Ethers (diethyl ether, THF)		3	3	3
Chlorinated Solvents (methylene chloride)		3	3	3
Alcohols (methanol, anti-freeze)		3	3	3
Inorganic Salt Solutions (NaCl, KCl)		3	3	3
Continuous Sunlight		2	2	2
Steam		3	3	3
1= Unacceptable, 2= Limited Service, 3= Acceptable Service				
COMPLIANCE				
Flammability, UL94 (5=V-0; 4=V-1; 3=V-2; 1=HB) V-O UL94		5 (VO)	5 (VO)	5 (VO)
FDA(1=Yes)		0 Compliant	0 Compliant	0 Compliant
USDA(1=Yes)		0 Compliant	0 Compliant	0 Compliant
NSF (1=Yes)		0 Compliant	0 Compliant	0 Compliant
3A-Dairy (1=Yes)		0 Compliant	0 Compliant	0 Compliant
Canada AG (1=Yes)		0 Compliant	0 Compliant	0 Compliant
USP Class VI (1=Yes)		1 Not Compliant	0 Compliant	1 Not Compliant