

POLYPHENYLENE SULFIDE (PPS)

KEY FEATURES

- High Purity Characteristics
- Outstanding Retention of Mechanical Properties Under Continuous Use up to 338°F (170°C)
- Excellent Chemical Resistance
- Good Electrical Insulator
- Creep Resistance
- High Mechanical Strength
- High Strength to Weight Ratio
- Corrosion Resistant
- Dimensional Stability Over Wide Variations of Temperatures and Moisture

DESCRIPTION

Polyphenylene Sulfide (PPS) is a high performance thermoplastic that combines good mechanical properties with excellent thermal and chemical resistance properties. There is no known solvent that dissolves PPS at temperatures below 392°F. Its low ionic impurities make it an excellent choice for applications where high purity is a concern.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PPS	
	Filler				
	Density		g/cm ³	1.36	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	836,700	D639
	Tensile Strength @ Yld	@ 73 °F	PSI	13,700	D638
	Tensile Strength @ Brk	@ 73 °F	PSI		
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%	2.5	D638
	Flexural Modulus	@ 73 °F	PSI	631,100	D790
	Flexural Strength	@ 73 °F	PSI	20,400	D790
	Compressive Modulus	@ 73 °F	PSI	400,000	D695
	Compressive Strength	@ 73 °F, 10% strain	PSI	19,000	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	0.62	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	105	D785
	Coefficient of Friction	Static			
	Coefficient of Friction	Dynamic, 40PSI, 50 FPM		0.24	D3702
	Wear (K) Factor		in ³ -min/ft-lbs-hr	540*10 ⁻¹⁰	D3702
Limiting PV		psi-fpm			

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F	538	D2133
	Heat Deflection Temperature	@ 66	°F	400	D648
	Heat Deflection Temperature	@ 264	°F	220	D648
	Service Temperature	Intermittent	°F	500	UL746B
	Service Temperature	Long Term	°F	338	UL746B
	Thermal Expansion (CLTE)		in/in/°F	3.3*10 ⁻⁵	D696
	Specific Heat		BTU/lb-°F	0.239	
	Thermal Conductivity		BTU-in/hr-ft ² -°F	2.08	
Electrical	Surface Resistivity		ohms/square	1.0*10 ¹⁵	D257
	Volume Resistivity		ohm-cm		
	Dielectric Strength		V/mil	450	D149
	Dielectric Constant	@ 60 Hz, 73 °F 50% RH		3	D150
	Dissipation Factor	@ 60 Hz, 73 °F		0.0001	D150
Other	Moisture Absorption	@ 24 hrs, 73 °F	%	0.01	D570
	Moisture Absorption	@ Saturation, 73 °F	%		D570
	Flammability	UL 94		V-0	
	Food Grade			N	
	Relative Cost			\$\$ \$\$ \$	

*The data stated above are typical values intended for reference and comparison purposes only.

*The data should not be used as a basis for design specifications or quality control.

*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

*Testing under individual application circumstances is recommended.