

PPS

PPS (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.

- **High purity characteristics**
Low ionic impurities are apparent.
- **Outstanding retention of mechanical properties under continuous use up to 338°F (170°C)**
- **Excellent chemical resistance**
- **Good electrical insulator**
- **High mechanical strength**
- **High strength-to-weight ratio**
- **Corrosion resistant**
- **Dimensional stability over wide variations of temperature and moisture**
- **Creep resistance**
Long-term property retention.

PPS's excellent thermal and chemical resistance along with its ionic impurities make an excellent choice for applications requiring low outgassing and high purity. PPS® is typically used in the automotive, electrical/electronic, industrial, mechanical, appliance and semiconductor industries.

TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	PPS
PHYSICAL	Density	D792	lbs/in ³	0.0488
	Specific Gravity	D792	g/cc	1.35
	Water Absorption, @24 hours, 73°F	D570	%	.02
	@Saturation, 73°F	D570	%	-
MECHANICAL	Tensile Strength @ Yield, 73°F	D638	psi	8,700
	Tensile Modulus	D639	psi	480,000
	Elongation @ Break, 73°F	D638	%	4
	Flexural Strength, 73°F	D790	psi	17,400
	Flexural Modulus, 73°F	D790	psi	435,000
	Compressive Strength	D695	psi	-
	Izod Impact Strength, 73°F	D256	ft-lbs/in	0.5
	Rockwell Hardness, 73°F	D785	M Scale	M 104
	Shure Hardness	-	D Scale	-
	Wear Factor Against Steel, 40 psi, 50 fpm	D3702	$\frac{\text{in}^3}{\text{hr}} \times \frac{1}{\text{PV}}$	540×10^{-10}
	Static Coefficient of Friction	D3702	-	-
	Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702	-	0.24
	THERMAL	Heat Deflection Temperature @ 66 psi	D648	°F
@264 psi		D648	°F	220
Coefficient of Linear Thermal Expansion		D696	in/in/°F	4.0×10^{-5}
Maximum Servicing Temperature, Intermittent		-	°F	-s
Long Term		UL746B	°F	338
Specific Heat		-	BTU/lb-°F	-
Thermal Conductivity		-	-	2.08
Vicate Softening Point		-	°F	-
Melting Point		D2133	°F	540
Flammability	UL94	(mm)	V-O	
ELECTRICAL	Surface Resistivity	D257	ohm/square	-
	Volume Resistivity	D257	ohm-cm	1.0×10^{15}
	Dielectric Strength	D149	V/mil	-
	Dielectric Constant, @ 60 Hz, 73°F, 50% RH	D150	-	3.0
	@ 1 MHz	D150	-	-
	@ 20 GHz	D150	-	-
	@ 30 GHz	D150	-	-
	Dissipation Factor, @ 60 HZ, 73°F	D150	-	.0001

This information is only to assist and advise you on current technical knowledge and is given without obligation or liability. All trade and patent rights should be observed. All rights reserved. Data obtained from extruded shapes material.

MATERIAL AVAILABILITY – Custom ordered - minimums apply

Rods: Diameters: 3/16" to 4"
Length: 10'

Plates: 1/4" to 2" thickness inclusive are 2' x 4'
2 1/4" to 4" thickness inclusive are 1' x 4'

Primary Specification (Resin) (Typical)

ASTM-D-6358 PPS000B33050

Shapes Specification (Typical)

Profiles, tubes, and special sizes are custom-produced on request.



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