

## Overview of materials for Polyphenylene Sulfide (PPS); Molded

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS); Molded

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS); Molded". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Overview-of-materials-for-Polyphenylene-Sulfide-PPS-Molded.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polyphenylene-Sulfide-PPS-Molded.php)

Physical Properties	Metric	English	Comments
Density	1.34 - 2.26 g/cc	0.0484 - 0.0816 lb/in <sup>3</sup>	Average value: 1.67 g/cc Grade Count:14
Water Absorption	0.0200 - 0.0500 %	0.0200 - 0.0500 %	Average value: 0.0371 % Grade Count:7
Linear Mold Shrinkage	0.00200 - 0.0100 cm/cm	0.00200 - 0.0100 in/in	Average value: 0.00671 cm/cm Grade Count:7
Melt Flow	75.0 - 5000 g/10 min	75.0 - 5000 g/10 min	Average value: 1040 g/10 min Grade Count:15
Ash	0.400 - 0.800 %	0.400 - 0.800 %	Average value: 0.600 % Grade Count:10

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	93.0 - 100	93.0 - 100	Average value: 96.3 Grade Count:3
Tensile Strength, Ultimate	27.6 - 150 MPa	4000 - 21800 psi	Average value: 84.3 MPa Grade Count:10
Elongation at Break	0.700 - 30.0 %	0.700 - 30.0 %	Average value: 5.07 % Grade Count:9
Modulus of Elasticity	3.40 - 17.2 GPa	493 - 2500 ksi	Average value: 8.40 GPa Grade Count:6
Flexural Yield Strength	51.7 - 230 MPa	7500 - 33400 psi	Average value: 142 MPa Grade Count:14
Flexural Modulus	3.10 - 21.0 GPa	450 - 3050 ksi	Average value: 9.79 GPa Grade Count:13
Izod Impact, Notched	0.400 - 0.801 J/cm	0.749 - 1.50 ft-lb/in	Average value: 0.586 J/cm Grade Count:6
Izod Impact, Unnotched	0.534 - 13.0 J/cm	1.00 - 24.4 ft-lb/in	Average value: 5.23 J/cm Grade Count:6
Izod Impact, Notched (ISO)	4.00 - 7.00 kJ/m <sup>2</sup>	1.90 - 3.33 ft-lb/in <sup>2</sup>	Average value: 5.00 kJ/m <sup>2</sup> Grade Count:3
	7.00 - 7.00 kJ/m <sup>2</sup>	3.33 - 3.33 ft-lb/in <sup>2</sup>	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	Average value: 7.00 kJ/m <sup>2</sup> Grade Count:1
Charpy Impact Unnotched	2.80 - 2.80 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	13.3 - 13.3 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 2.80 J/cm <sup>2</sup> Grade Count:1
Charpy Impact, Notched	0.700 - 0.700 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	3.33 - 3.33 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 0.700 J/cm <sup>2</sup> Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 - 53.0 µm/m-°C	5.56 - 29.4 µin/in-°F	Average value: 31.7 µm/m-°C Grade Count:12
	120 - 120 µm/m-°C @Temperature 100 - 200 °C	66.7 - 66.7 µin/in-°F @Temperature 212 - 392 °F	Average value: 120 µm/m-°C Grade Count:2
CTE, linear, Transverse to Flow	17.0 - 50.0 µm/m-°C	9.44 - 27.8 µin/in-°F	Average value: 36.3 µm/m-°C Grade Count:6
Thermal Conductivity	0.255 - 0.300 W/m-K	1.77 - 2.08 BTU-in/hr- ft <sup>2</sup> -°F	Average value: 0.287 W/m-K Grade Count:6
Melting Point	280 - 282 °C	536 - 540 °F	Average value: 281 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	149 - 281 °C	300 - 538 °F	Average value: 206 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	75.0 - 270 °C	167 - 518 °F	Average value: 180 °C Grade Count:10
Glass Transition Temp, Tg	90.0 °C	194 °F	Average value: 90.0 °C Grade Count:3
Flammability, UL94	V-0	V-0	Grade Count:12
Oxygen Index	44.0 - 47.0 %	44.0 - 47.0 %	Average value: 45.0 % Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 - 1.00e+16 ohm-cm	1.00e+15 - 1.00e+16 ohm-cm	Average value: 8.71e+15 ohm-cm Grade Count:7
Surface Resistance	1e+05 - 1.00e+16 ohm	1e+05 - 1.00e+16 ohm	Average value: 7.00e+15 ohm Grade Count:4
	1.00e+12 - 1.00e+12 ohm @Temperature 90.0 - 90.0 °C	1.00e+12 - 1.00e+12 ohm @Temperature 194 - 194 °F	Average value: 1.00e+12 ohm Grade Count:2
Dielectric Constant	3.10 - 12.0	3.10 - 12.0	Average value: 4.81 Grade Count:11

Electrical Properties	Metric 25.0 kV/mm	English 275 - 135 kV/in	Comments Average value: 21.0 kV/mm Grade Count:11
Dissipation Factor	0.000900 - 0.0200	0.000900 - 0.0200	Average value: 0.00345 Grade Count:11
Arc Resistance	20.0 - 50.0 sec	20.0 - 50.0 sec	Average value: 40.0 sec Grade Count:3

Processing Properties	Metric	English	Comments
Mold Temperature	135 - 177 °C	275 - 350 °F	Average value: 153 °C Grade Count:3
Injection Pressure	34.5 - 103 MPa	5000 - 15000 psi	Average value: 80.4 MPa Grade Count:3

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