

Overview of materials for Polyphenylene Sulfide (PPS), Mineral/Glass-Fiber Filled

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS), Mineral/Glass-Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS), Mineral/Glass-Fiber Filled". 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-MineralGlass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	0.00104 - 2.09 g/cc	0.0000376 - 0.0755 lb/in ³	Average value: 1.76 g/cc Grade Count:66
Water Absorption	0.00300 - 0.200 %	0.00300 - 0.200 %	Average value: 0.0285 % Grade Count:44
Water Absorption at Saturation	0.0170 - 0.190 %	0.0170 - 0.190 %	Average value: 0.0319 % Grade Count:14
Linear Mold Shrinkage	0.00100 - 0.0140 cm/cm	0.00100 - 0.0140 in/in	Average value: 0.00255 cm/cm Grade Count:53
Linear Mold Shrinkage, Transverse	0.00150 - 0.0100 cm/cm	0.00150 - 0.0100 in/in	Average value: 0.00438 cm/cm Grade Count:41

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	107	107	Average value: 107 Grade Count:4
Hardness, Rockwell M	74.0 - 102	74.0 - 102	Average value: 99.1 Grade Count:26
Hardness, Rockwell R	100 - 121	100 - 121	Average value: 113 Grade Count:15
Tensile Strength, Ultimate	42.1 - 197 MPa	6100 - 28600 psi	Average value: 135 MPa Grade Count:59
	60.0 - 145 MPa @Temperature 60.0 - 150 °C	8700 - 21000 psi @Temperature 140 - 302 °F	Average value: 108 MPa Grade Count:3
Tensile Strength, Yield	73.5 - 165 MPa	10700 - 24000 psi	Average value: 133 MPa Grade Count:8
Elongation at Break	0.500 - 5.00 %	0.500 - 5.00 %	Average value: 1.17 % Grade Count:62
	0.900 - 2.50 % @Temperature 60.0 - 150 °C	0.900 - 2.50 % @Temperature 140 - 302 °F	Average value: 1.58 % Grade Count:3

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	4.50 - 26.5 GPa	650 - 3840 ksi	Average value: 18.2 GPa Grade Count:34
	8.00 - 22.0 GPa	1160 - 3190 ksi	Average value: 15.1 GPa Grade Count:3
	@Temperature 60.0 - 150 °C	@Temperature 140 - 302 °F	
Flexural Yield Strength	66.2 - 278 MPa	9600 - 40300 psi	Average value: 209 MPa Grade Count:57
Flexural Modulus	1.20 - 22.8 GPa	174 - 3300 ksi	Average value: 16.8 GPa Grade Count:59
Compressive Yield Strength	117 - 295 MPa	17000 - 42800 psi	Average value: 235 MPa Grade Count:20
Poissons Ratio	0.340 - 0.370	0.340 - 0.370	Average value: 0.355 Grade Count:9
Izod Impact, Notched	0.149 - 2.99 J/cm	0.280 - 5.60 ft-lb/in	Average value: 0.785 J/cm Grade Count:43
	0.450 - 0.470 J/cm	0.843 - 0.881 ft-lb/in	Average value: 0.460 J/cm Grade Count:1
	@Temperature -40.0 - - 20.0 °C	@Temperature -40.0 - - 4.00 °F	
Izod Impact, Unnotched	1.60 - 6.40 J/cm	3.00 - 12.0 ft-lb/in	Average value: 2.81 J/cm Grade Count:25
Izod Impact, Notched (ISO)	6.00 - 27.0 kJ/m ²	2.86 - 12.8 ft-lb/in ²	Average value: 12.6 kJ/m ² Grade Count:25
	4.00 - 8.90 kJ/m ²	1.90 - 4.24 ft-lb/in ²	Average value: 6.23 kJ/m ² Grade Count:11
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Izod Impact, Unnotched (ISO)	14.0 - 59.0 kJ/m ²	6.66 - 28.1 ft-lb/in ²	Average value: 29.1 kJ/m ² Grade Count:15
Charpy Impact Unnotched	0.700 - 3.00 J/cm ²	3.33 - 14.3 ft-lb/in ²	Average value: 1.97 J/cm ² Grade Count:23
	0.700 - 2.90 J/cm ²	3.33 - 13.8 ft-lb/in ²	Average value: 2.04 J/cm ² Grade Count:13
	@Temperature -40.0 - - 20.0 °C	@Temperature -40.0 - - 4.00 °F	
Charpy Impact, Notched	0.300 - 1.00 J/cm ²	1.43 - 4.76 ft-lb/in ²	Average value: 0.638 J/cm ² Grade Count:21
	0.400 - 0.770 J/cm ²	1.90 - 3.66 ft-lb/in ²	Average value: 0.647 J/cm ² Grade Count:12
	@Temperature -30.0 - - 20.0 °C	@Temperature -22.0 - - 4.00 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	12.0 - 57.6 µm/m-°C	6.67 - 32.0 µin/in-°F	Average value: 18.2 µm/m-°C Grade Count:42

Thermal Properties	Metric 9.00 - 36.0 µm/m-°C	English 5.00 - 20.0 µin/in-°F	Comments Average value: 18.9 µm/m-°C Grade
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	Count:18
CTE, linear, Transverse to Flow	24.0 - 50.0 µm/m-°C	13.3 - 27.8 µin/in-°F	Average value: 30.2 µm/m-°C Grade Count:33
	65.0 - 85.0 µm/m-°C	36.1 - 47.2 µin/in-°F	Average value: 72.3 µm/m-°C Grade Count:18
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Specific Heat Capacity	1.50 - 1.60 J/g-°C	0.359 - 0.382 BTU/lb-°F	Average value: 1.58 J/g-°C Grade Count:6
Thermal Conductivity	0.370 - 1.70 W/m-K	2.57 - 11.8 BTU-in/hr-ft²-°F	Average value: 0.657 W/m-K Grade Count:17
Melting Point	280 - 285 °C	536 - 545 °F	Average value: 281 °C Grade Count:23
Maximum Service Temperature, Air	200 - 240 °C	392 - 464 °F	Average value: 224 °C Grade Count:16
Deflection Temperature at 0.46 MPa (66 psi)	250 - 285 °C	482 - 545 °F	Average value: 279 °C Grade Count:23
Deflection Temperature at 1.8 MPa (264 psi)	250 - 280 °C	482 - 536 °F	Average value: 265 °C Grade Count:62
Deflection Temperature at 8.0 MPa	215 - 235 °C	419 - 455 °F	Average value: 218 °C Grade Count:13
Vicat Softening Point	250 - 260 °C	482 - 500 °F	Average value: 256 °C Grade Count:5
Glass Transition Temp, Tg	90.0 °C	194 °F	Average value: 90.0 °C Grade Count:13
UL RTI, Electrical	220 - 240 °C	428 - 464 °F	Average value: 228 °C Grade Count:5

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10000 - 1.00e+17 ohm-cm	10000 - 1.00e+17 ohm-cm	Average value: 1.28e+16 ohm-cm Grade Count:45
Surface Resistance	3000 - 1.00e+16 ohm	3000 - 1.00e+16 ohm	Average value: 4.88e+15 ohm Grade Count:24
	1.00e+12 - 5.00e+13 ohm	1.00e+12 - 5.00e+13 ohm	Average value: 1.73e+13 ohm Grade Count:3
	@Temperature 90.0 - 90.0 °C	@Temperature 194 - 194 °F	
Insulation Resistance	1.00e+10 - 1.00e+11 ohm	1.00e+10 - 1.00e+11 ohm	Average value: 7.75e+10 ohm Grade Count:8
	@Temperature 90.0 - 90.0 °C	@Temperature 194 - 194 °F	
Dielectric Constant	0.000900 - 5.68	0.000900 - 5.68	Average value: 4.75 Grade Count:40

Electrical Properties	Metric	English	Comments
	11.0 - 27.0 kV/mm	279 - 686 kV/in	Average value: 18.1 kV/mm Grade Count:40
Dissipation Factor	0.000800 - 0.0600	0.000800 - 0.0600	Average value: 0.00709 Grade Count:40
Arc Resistance	130 - 185 sec	130 - 185 sec	Average value: 173 sec Grade Count:28
Comparative Tracking Index	150 - 275 V	150 - 275 V	Average value: 206 V Grade Count:38

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