

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

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

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.46 - 1.87 g/cc	0.0527 - 0.0676 lb/in ³	Average value: 1.66 g/cc Grade Count:45
Filler Content	10.0 - 50.0 %	10.0 - 50.0 %	Average value: 28.3 % Grade Count:23
Water Absorption	0.0200 - 0.0300 %	0.0200 - 0.0300 %	Average value: 0.0225 % Grade Count:12
Additive Loading	20.0 - 30.0 %	20.0 - 30.0 %	Average value: 27.5 % Grade Count:4
Linear Mold Shrinkage	0.000500 - 0.00700 cm/cm	0.000500 - 0.00700 in/in	Average value: 0.00256 cm/cm Grade Count:44
Linear Mold Shrinkage, Transverse	0.00400 - 0.00750 cm/cm	0.00400 - 0.00750 in/in	Average value: 0.00593 cm/cm Grade Count:7

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	117 - 121	117 - 121	Average value: 120 Grade Count:6
Tensile Strength, Ultimate	26.2 - 160 MPa	3800 - 23200 psi	Average value: 121 MPa Grade Count:41
Tensile Strength, Yield	131 - 159 MPa	19000 - 23000 psi	Average value: 141 MPa Grade Count:5
Elongation at Break	0.800 - 3.00 %	0.800 - 3.00 %	Average value: 1.74 % Grade Count:43
Modulus of Elasticity	5.86 - 20.0 GPa	850 - 2900 ksi	Average value: 11.6 GPa Grade Count:36
Flexural Yield Strength	45.5 - 221 MPa	6600 - 32000 psi	Average value: 172 MPa Grade Count:42
Flexural Modulus	4.90 - 17.9 GPa	710 - 2600 ksi	Average value: 10.6 GPa Grade Count:42
Compressive Yield Strength	62.1 - 96.5 MPa	9000 - 14000 psi	Average value: 86.9 MPa Grade Count:4
Izod Impact, Notched	0.320 - 0.854 J/cm	0.600 - 1.60 ft-lb/in	Average value: 0.687 J/cm Grade Count:41

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched	1.07 - 6.94 J/cm	2.12 - 13.0 ft-lb/in	Average value: 3.89 J/cm Grade Count:33
Izod Impact, Notched (ISO)	6.40 - 9.80 kJ/m ²	3.05 - 4.66 ft-lb/in ²	Average value: 8.53 kJ/m ² Grade Count:3
Izod Impact, Unnotched (ISO)	20.0 - 38.5 kJ/m ²	9.52 - 18.3 ft-lb/in ²	Average value: 28.3 kJ/m ² Grade Count:3
Charpy Impact Unnotched	2.50 - 4.50 J/cm ²	11.9 - 21.4 ft-lb/in ²	Average value: 3.50 J/cm ² Grade Count:3
Charpy Impact, Notched	0.600 - 0.850 J/cm ²	2.86 - 4.05 ft-lb/in ²	Average value: 0.750 J/cm ² Grade Count:3
Falling Dart Impact	2.60 - 7.20 J	1.92 - 5.31 ft-lb	Average value: 4.40 J Grade Count:3
Coefficient of Friction	0.140 - 0.440	0.140 - 0.440	Average value: 0.283 Grade Count:7
Coefficient of Friction, Static	0.110 - 0.380	0.110 - 0.380	Average value: 0.263 Grade Count:7
K (wear) Factor	8.50 - 141 x 10 ⁻⁸ mm ³ /N-M	4.22 - 70.0 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	Average value: 65.2 x 10 ⁻⁸ mm ³ /N-M Grade Count:7

Thermal Properties	Metric	English	Comments
CTE, linear	10.8 - 41.4 µm/m-°C	6.00 - 23.0 µin/in-°F	Average value: 24.9 µm/m-°C Grade Count:6
Deflection Temperature at 0.46 MPa (66 psi)	238 - 280 °C	460 - 536 °F	Average value: 263 °C Grade Count:9
Deflection Temperature at 1.8 MPa (264 psi)	232 - 269 °C	450 - 516 °F	Average value: 258 °C Grade Count:41
Vicat Softening Point	255 - 260 °C	491 - 500 °F	Average value: 257 °C Grade Count:3
Flammability, UL94	V-0	V-0	Grade Count:33

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+17 ohm-cm	1.00e+14 - 1.00e+17 ohm-cm	Average value: 1.70e+16 ohm-cm Grade Count:10
Dielectric Constant	3.40	3.40	Average value: 3.40 Grade Count:3
Dielectric Strength	13.8 - 19.7 kV/mm	350 - 500 kV/in	Average value: 15.3 kV/mm Grade Count:4
Dissipation Factor	0.00100	0.00100	Average value: 0.00100 Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	288 - 321 °C	550 - 610 °F	Average value: 304 °C Grade Count:6
Melt Temperature	282 - 343 °C	540 - 650 °F	Average value: 315 °C Grade Count:32

Processing Properties	Metric 77 °C	English 30 °F	Comments
Drying Temperature	121 - 150 °C	250 - 302 °F	Average value: 142 °C Grade Count:30
Moisture Content	0.0400 %	0.0400 %	Average value: 0.0400 % Grade Count:19
Injection Pressure	4.96 - 124 MPa	720 - 18000 psi	Average value: 82.8 MPa Grade Count:29

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