

Overview of materials for Polyphenylene Sulfide (PPS) with 10% Glass Fiber Filler

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS) with 10% Glass Fiber Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS) with 10% Glass Fiber Filler". Specific grades with glass content between 5% and 14% are included. 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-with-10-Glass-Fiber-Filler.php

Physical Properties	Metric	English	Comments
Density	1.38 - 2.12 g/cc	0.0499 - 0.0766 lb/in ³	Average value: 1.66 g/cc Grade Count:37
Filler Content	5.00 - 10.0 %	5.00 - 10.0 %	Average value: 8.75 % Grade Count:8
Water Absorption	0.0200 - 0.200 %	0.0200 - 0.200 %	Average value: 0.0853 % Grade Count:32
Linear Mold Shrinkage	0.000500 - 0.0130 cm/cm	0.000500 - 0.0130 in/in	Average value: 0.00447 cm/cm Grade Count:37

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	100 - 121	100 - 121	Average value: 114 Grade Count:3
Tensile Strength, Ultimate	34.5 - 180 MPa	5000 - 26100 psi	Average value: 93.7 MPa Grade Count:36
Elongation at Break	0.800 - 3.00 %	0.800 - 3.00 %	Average value: 1.23 % Grade Count:9
Elongation at Yield	0.600 - 4.00 %	0.600 - 4.00 %	Average value: 1.54 % Grade Count:28
Modulus of Elasticity	5.00 - 23.0 GPa	725 - 3340 ksi	Average value: 11.4 GPa Grade Count:36
Flexural Yield Strength	68.9 - 260 MPa	10000 - 37700 psi	Average value: 139 MPa Grade Count:37
Flexural Modulus	4.00 - 20.0 GPa	580 - 2900 ksi	Average value: 9.89 GPa Grade Count:37
Izod Impact, Notched	0.374 - 0.587 J/cm	0.700 - 1.10 ft-lb/in	Average value: 0.486 J/cm Grade Count:9
Izod Impact, Unnotched	0.908 - 2.14 J/cm	1.70 - 4.00 ft-lb/in	Average value: 1.43 J/cm Grade Count:8
Charpy Impact Unnotched	0.500 - 4.30 J/cm ²	2.38 - 20.5 ft-lb/in ²	Average value: 1.94 J/cm ² Grade Count:28

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	0.310 - 1.20 J/cm ²	1.21 - 5.71 ft-lb/in ²	Average value: 0.688 J/cm ² Grade Count:8
Coefficient of Friction	0.200 - 0.280	0.200 - 0.280	Average value: 0.216 Grade Count:5
Coefficient of Friction, Static	0.150 - 0.350	0.150 - 0.350	Average value: 0.190 Grade Count:5

Thermal Properties	Metric	English	Comments
CTE, linear	19.8 - 41.4 µm/m-°C	11.0 - 23.0 µin/in-°F	Average value: 27.0 µm/m-°C Grade Count:9
Thermal Conductivity	0.303 - 8.00 W/m-K	2.10 - 55.5 BTU-in/hr-ft ² -°F	Average value: 2.00 W/m-K Grade Count:13
Maximum Service Temperature, Air	200 - 240 °C	392 - 464 °F	Average value: 229 °C Grade Count:28
Deflection Temperature at 0.46 MPa (66 psi)	260 - 282 °C	500 - 540 °F	Average value: 267 °C Grade Count:3
Deflection Temperature at 1.8 MPa (264 psi)	193 - 271 °C	380 - 520 °F	Average value: 250 °C Grade Count:22
Vicat Softening Point	215 - 240 °C	419 - 464 °F	Average value: 235 °C Grade Count:5
Flammability, UL94	V-0	V-0	Grade Count:25

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: 7.75e+15 ohm-cm Grade Count:4
Surface Resistance	1.00e+10 - 1.00e+14 ohm	1.00e+10 - 1.00e+14 ohm	Average value: 1.08e+13 ohm Grade Count:10
Insulation Resistance	1.00e+10 - 1.00e+14 ohm	1.00e+10 - 1.00e+14 ohm	Average value: 4.50e+12 ohm Grade Count:28

Processing Properties	Metric	English	Comments
Processing Temperature	288 - 330 °C	550 - 626 °F	Average value: 328 °C Grade Count:31
Nozzle Temperature	320 - 340 °C	608 - 644 °F	Average value: 330 °C Grade Count:28
Melt Temperature	300 - 340 °C	572 - 644 °F	Average value: 320 °C Grade Count:33
Mold Temperature	135 - 180 °C	275 - 356 °F	Average value: 163 °C Grade Count:36
Drying Temperature	50.0 - 149 °C	122 - 300 °F	Average value: 99.4 °C Grade Count:33
Moisture Content	0.0400 %	0.0400 %	Average value: 0.0400 % Grade Count:5
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:8

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