

Overview of materials for Polyphenylene Sulfide (PPS) with Carbon Fiber + PTFE Filler

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS) with Carbon Fiber + PTFE Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS) with Carbon Fiber + PTFE Filler". 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-Carbon-Fiber-PTFE-Filler.php

Physical Properties	Metric	English	Comments
Density	1.08 - 1.62 g/cc	0.0390 - 0.0585 lb/in ³	Average value: 1.48 g/cc Grade Count:18
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 29.4 % Grade Count:8
Water Absorption	0.0200 - 0.0300 %	0.0200 - 0.0300 %	Average value: 0.0233 % Grade Count:9
Linear Mold Shrinkage	0.000100 - 0.00400 cm/cm	0.000100 - 0.00400 in/in	Average value: 0.00150 cm/cm Grade Count:17
Linear Mold Shrinkage, Transverse	0.00250 - 0.00500 cm/cm	0.00250 - 0.00500 in/in	Average value: 0.00387 cm/cm Grade Count:4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	119 - 172 MPa	17300 - 25000 psi	Average value: 148 MPa Grade Count:18
Elongation at Break	0.000 - 2.00 %	0.000 - 2.00 %	Average value: 1.13 % Grade Count:18
Modulus of Elasticity	11.0 - 34.5 GPa	1600 - 5000 ksi	Average value: 23.1 GPa Grade Count:14
Flexural Yield Strength	148 - 262 MPa	21500 - 38000 psi	Average value: 219 MPa Grade Count:16
Flexural Modulus	9.65 - 27.6 GPa	1400 - 4000 ksi	Average value: 19.4 GPa Grade Count:17
Izod Impact, Notched	0.374 - 0.641 J/cm	0.700 - 1.20 ft-lb/in	Average value: 0.487 J/cm Grade Count:17
Izod Impact, Unnotched	2.08 - 4.43 J/cm	3.90 - 8.30 ft-lb/in	Average value: 2.97 J/cm Grade Count:13
Izod Impact, Notched (ISO)	5.70 - 8.00 kJ/m ²	2.71 - 3.81 ft-lb/in ²	Average value: 6.67 kJ/m ² Grade Count:3
Izod Impact, Unnotched (ISO)	24.2 - 31.0 kJ/m ²	11.5 - 14.8 ft-lb/in ²	Average value: 27.8 kJ/m ² Grade Count:3

Mechanical Properties	Metric	English	Comments
	15.1 J	1.1 ft-lb	Average value: 8.17 J Grade Count:3
Coefficient of Friction	0.140 - 0.390	0.140 - 0.390	Average value: 0.292 Grade Count:5
Coefficient of Friction, Static	0.180 - 0.340	0.180 - 0.340	Average value: 0.280 Grade Count:5
K (wear) Factor	8.00 - 94.7 x 10 ⁻⁸ mm ³ /N-M	3.97 - 47.0 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	Average value: 36.0 x 10 ⁻⁸ mm ³ /N-M Grade Count:5

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	260 - 280 °C	500 - 536 °F	Average value: 268 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	249 - 270 °C	480 - 518 °F	Average value: 262 °C Grade Count:18
Flammability, UL94	V-0	V-0	Grade Count:8

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00 - 1.00e+6 ohm-cm	1.00 - 1.00e+6 ohm-cm	Average value: 143000 ohm-cm Grade Count:10

Processing Properties	Metric	English	Comments
Processing Temperature	288 - 321 °C	550 - 610 °F	Average value: 304 °C Grade Count:7
Melt Temperature	290 - 329 °C	554 - 625 °F	Average value: 314 °C Grade Count:9
Mold Temperature	130 - 177 °C	266 - 350 °F	Average value: 152 °C Grade Count:16
Drying Temperature	121 - 150 °C	250 - 302 °F	Average value: 140 °C Grade Count:8
Injection Pressure	41.4 - 103 MPa	6000 - 15000 psi	Average value: 83.6 MPa Grade Count:10

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