

Overview of materials for Polyphenylene Sulfide (PPS) with 20% Carbon Fiber Filler

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS) with 20% Carbon Fiber Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS) with 20% Carbon Fiber Filler". Specific grades with carbon fiber content between 15% and 24% 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-20-Carbon-Fiber-Filler.php

Physical Properties	Metric	English	Comments
Density	1.39 - 1.54 g/cc	0.0502 - 0.0556 lb/in ³	Average value: 1.44 g/cc Grade Count:22
Filler Content	15.0 - 40.0 %	15.0 - 40.0 %	Average value: 22.3 % Grade Count:13
Additive Loading	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 17.0 % Grade Count:5
Linear Mold Shrinkage	0.000200 - 0.00200 cm/cm	0.000200 - 0.00200 in/in	Average value: 0.00110 cm/cm Grade Count:17

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	27.6 - 186 MPa	4000 - 27000 psi	Average value: 139 MPa Grade Count:22
	45.0 - 135 MPa @Temperature 60.0 - 150 °C	6530 - 19600 psi @Temperature 140 - 302 °F	Average value: 86.3 MPa Grade Count:2
Elongation at Break	0.300 - 2.50 %	0.300 - 2.50 %	Average value: 1.20 % Grade Count:23
	1.10 - 2.30 % @Temperature 60.0 - 150 °C	1.10 - 2.30 % @Temperature 140 - 302 °F	Average value: 1.71 % Grade Count:2
Modulus of Elasticity	8.27 - 26.2 GPa	1200 - 3800 ksi	Average value: 17.4 GPa Grade Count:19
	7.20 - 16.0 GPa @Temperature 60.0 - 150 °C	1040 - 2320 ksi @Temperature 140 - 302 °F	Average value: 11.7 GPa Grade Count:2
Flexural Yield Strength	53.1 - 262 MPa	7700 - 38000 psi	Average value: 195 MPa Grade Count:21
Flexural Modulus			Average value: 14.8 GPa Grade

Mechanical Properties	8.27 - 19.3 GPa Metric	1200 - 2800 ksi English	Count:20 Comments
Izod Impact, Notched	0.347 - 1.98 J/cm	0.650 - 3.71 ft-lb/in	Average value: 0.626 J/cm Grade Count:18
Izod Impact, Unnotched	2.19 - 4.27 J/cm	4.10 - 8.00 ft-lb/in	Average value: 3.36 J/cm Grade Count:14

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	200 - 232 °C	392 - 450 °F	Average value: 217 °C Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	260 - 280 °C	500 - 536 °F	Average value: 274 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	235 - 270 °C	455 - 518 °F	Average value: 262 °C Grade Count:17
Flammability, UL94	V-0	V-0	Grade Count:15

Electrical Properties	Metric	English	Comments
Electrical Resistivity	100 - 1.00e+6 ohm-cm	100 - 1.00e+6 ohm-cm	Average value: 117000 ohm-cm Grade Count:15
Surface Resistance	10.0 - 1.00e+7 ohm	10.0 - 1.00e+7 ohm	Average value: 2.59e+6 ohm Grade Count:12

Processing Properties	Metric	English	Comments
Melt Temperature	205 - 345 °C	401 - 653 °F	Average value: 316 °C Grade Count:17
Mold Temperature	130 - 177 °C	266 - 350 °F	Average value: 153 °C Grade Count:18
Drying Temperature	120 - 150 °C	248 - 302 °F	Average value: 145 °C Grade Count:16
Moisture Content	0.0400 %	0.0400 %	Average value: 0.0400 % Grade Count:12
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 88.6 MPa Grade Count:14

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