

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

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS) with 10% 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 10% Carbon Fiber Filler". Specific grades with carbon fiberr 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-Carbon-Fiber-Filler.php

Physical Properties	Metric	English	Comments
Density	1.29 - 1.96 g/cc	0.0466 - 0.0708 lb/in ³	Average value: 1.50 g/cc Grade Count:29
Filler Content	10.0 %	10.0 %	Average value: 10.0 % Grade Count:5
Water Absorption	0.0200 - 0.200 %	0.0200 - 0.200 %	Average value: 0.0631 % Grade Count:26
Linear Mold Shrinkage	0.000500 - 0.00600 cm/cm	0.000500 - 0.00600 in/in	Average value: 0.00240 cm/cm Grade Count:29
Melt Flow	10.0 - 25.0 g/10 min	10.0 - 25.0 g/10 min	Average value: 18.8 g/10 min Grade Count:3

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	67.6 - 255 MPa	9800 - 37000 psi	Average value: 145 MPa Grade Count:28
Elongation at Break	1.00 - 100 %	1.00 - 100 %	Average value: 15.6 % Grade Count:7
Elongation at Yield	0.500 - 2.20 %	0.500 - 2.20 %	Average value: 1.29 % Grade Count:22
Modulus of Elasticity	10.3 - 35.0 GPa	1500 - 5080 ksi	Average value: 19.5 GPa Grade Count:27
Flexural Yield Strength	138 - 385 MPa	20000 - 55800 psi	Average value: 216 MPa Grade Count:28
Flexural Modulus	0.552 - 30.0 GPa	80.0 - 4350 ksi	Average value: 16.1 GPa Grade Count:29
Izod Impact, Notched	0.374 - 0.481 J/cm	0.700 - 0.900 ft-lb/in	Average value: 0.423 J/cm Grade Count:6
Izod Impact, Unnotched	1.60 - 3.74 J/cm	3.00 - 7.00 ft-lb/in	Average value: 2.67 J/cm Grade Count:5
	1.00 - 4.40 J/cm ²	4.76 - 20.9 ft-lb/in ²	Average value: 2.14 J/cm ² Grade

Charpy Impact Unnotched Mechanical Properties	Metric	English	Count:20 Comments
Coefficient of Friction	0.160 - 0.290	0.160 - 0.290	Average value: 0.213 Grade Count:6
Coefficient of Friction, Static	0.130 - 0.300	0.130 - 0.300	Average value: 0.208 Grade Count:6

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 - 30.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.00 - 16.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	Average value: 14.1 $\mu\text{m}/\text{m}\cdot\text{°C}$ Grade Count:8
Thermal Conductivity	0.750 - 6.00 W/m-K	5.20 - 41.6 BTU-in/hr-ft ² -°F	Average value: 2.66 W/m-K Grade Count:9
Maximum Service Temperature, Air	180 - 240 °C	356 - 464 °F	Average value: 228 °C Grade Count:22
Deflection Temperature at 1.8 MPa (264 psi)	220 - 270 °C	428 - 518 °F	Average value: 254 °C Grade Count:15
Vicat Softening Point	104 - 260 °C	220 - 500 °F	Average value: 228 °C Grade Count:7
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:14

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10.0 - 10000 ohm-cm	10.0 - 10000 ohm-cm	Average value: 3010 ohm-cm Grade Count:6
Surface Resistance	10.0 - 1.00e+6 ohm	10.0 - 1.00e+6 ohm	Average value: 108000 ohm Grade Count:21
Insulation Resistance	10.0 - 1.00e+8 ohm	10.0 - 1.00e+8 ohm	Average value: 2.63e+6 ohm Grade Count:22

Processing Properties	Metric	English	Comments
Processing Temperature	288 - 330 °C	550 - 626 °F	Average value: 328 °C Grade Count:24
Nozzle Temperature	320 - 340 °C	608 - 644 °F	Average value: 330 °C Grade Count:22
Melt Temperature	300 - 343 °C	572 - 650 °F	Average value: 320 °C Grade Count:24
Mold Temperature	135 - 180 °C	275 - 356 °F	Average value: 164 °C Grade Count:26
Drying Temperature	50.0 - 140 °C	122 - 284 °F	Average value: 96.1 °C Grade Count:24
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 94.8 MPa Grade Count:4

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