

Overview of materials for Polyphenylene Ether, 20% Glass Filled

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polyphenylene Ether, 20% Glass Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Ether, 20% Glass Filled".

Specific grades with glass 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-Ether-20-Glass-Filled.php

Physical Properties	Metric	English	Comments
Density	1.15 - 1.32 g/cc	0.0415 - 0.0477 lb/in ³	Average value: 1.21 g/cc Grade Count:29
Filler Content	20.0 %	20.0 %	Average value: 20.0 % Grade Count:5
Water Absorption	0.000 - 0.500 %	0.000 - 0.500 %	Average value: 0.0988 % Grade Count:17
Linear Mold Shrinkage	0.00200 - 0.00700 cm/cm	0.00200 - 0.00700 in/in	Average value: 0.00369 cm/cm Grade Count:24
Linear Mold Shrinkage, Transverse	0.00400 - 0.00800 cm/cm	0.00400 - 0.00800 in/in	Average value: 0.00580 cm/cm Grade Count:5
Melt Flow	1.00 - 20.0 g/10 min	1.00 - 20.0 g/10 min	Average value: 10.8 g/10 min Grade Count:9

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	106 - 118	106 - 118	Average value: 110 Grade Count:3
Tensile Strength, Ultimate	55.2 - 123 MPa	8000 - 17800 psi	Average value: 90.9 MPa Grade Count:24
	20.0 - 70.0 MPa	2900 - 10200 psi	Average value: 44.2 MPa Grade Count:2
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	
Tensile Strength, Yield	82.7 - 108 MPa	12000 - 15600 psi	Average value: 94.4 MPa Grade Count:8
Elongation at Break	1.00 - 10.0 %	1.00 - 10.0 %	Average value: 4.05 % Grade Count:22
	2.00 - 4.00 %	2.00 - 4.00 %	Average value: 2.70 % Grade Count:2
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	
	1.50 - 2.00 %	1.50 - 2.00 %	

Elongation at Yield Mechanical Properties	Metric @ Temperature 60.0 - 120 °C	English @ Temperature 140 - 248 °F	Average value: 1.70 % Grade Count:2 Comments
Modulus of Elasticity	3.10 - 7.00 GPa	450 - 1020 ksi	Average value: 6.21 GPa Grade Count:12
	3.30 - 6.30 GPa @Temperature 60.0 - 120 °C	479 - 914 ksi @Temperature 140 - 248 °F	Average value: 5.17 GPa Grade Count:2
Flexural Yield Strength	96.5 - 194 MPa	14000 - 28200 psi	Average value: 130 MPa Grade Count:19
Flexural Modulus	3.20 - 6.21 GPa	464 - 900 ksi	Average value: 5.01 GPa Grade Count:25
Izod Impact, Notched	0.534 - 1.18 J/cm	1.00 - 2.20 ft-lb/in	Average value: 0.924 J/cm Grade Count:22
	0.5339 - 0.90763 J/cm @Temperature -40.0 - - 30.0 °C	1.000 - 1.7004 ft-lb/in @Temperature -40.0 - - 22.0 °F	Average value: 0.692 J/cm Grade Count:3
	0.600 - 0.700 J/cm @Temperature -30.0 - 0.000 °C	1.12 - 1.31 ft-lb/in @Temperature -22.0 - 32.0 °F	Average value: 0.692 J/cm Grade Count:1
	0.600 - 0.700 J/cm @Thickness 3.20 - 3.20 mm	1.12 - 1.31 ft-lb/in @Thickness 0.126 - 0.126 in	Average value: 0.692 J/cm Grade Count:1
Izod Impact, Unnotched	3.20 - 5.34 J/cm	6.00 - 10.0 ft-lb/in	Average value: 4.76 J/cm Grade Count:7
Charpy Impact Unnotched	2.50 - 5.00 J/cm²	11.9 - 23.8 ft-lb/in²	Average value: 3.12 J/cm² Grade Count:5
	2.50 - 2.50 J/cm² @Temperature -20.0 - - 20.0 °C	11.9 - 11.9 ft-lb/in² @Temperature -4.00 - - 4.00 °F	Average value: 2.50 J/cm² Grade Count:2
Charpy Impact, Notched	0.600 - 1.40 J/cm²	2.86 - 6.66 ft-lb/in²	Average value: 0.830 J/cm² Grade Count:10
	0.500 - 0.600 J/cm² @Temperature -20.0 - - 20.0 °C	2.38 - 2.86 ft-lb/in² @Temperature -4.00 - - 4.00 °F	Average value: 0.550 J/cm² Grade Count:2

Thermal Properties	Metric	English	Comments
CTE, linear	36.0 - 50.0 µm/m-°C	20.0 - 27.8 µin/in-°F	Average value: 43.2 µm/m-°C Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	127 - 254 °C	260 - 489 °F	Average value: 152 °C Grade Count:14

Thermal Properties	Metric	English	Comments
Vicat Softening Point	130 - 200 °C	266 - 392 °F	Average value: 151 °C Grade Count:10
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:17

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 - 1.00e+17 ohm-cm	1.00e+15 - 1.00e+17 ohm-cm	Average value: 2.74e+16 ohm-cm Grade Count:14
Surface Resistance	10000 - 3.00e+14 ohm	10000 - 3.00e+14 ohm	Average value: 1.22e+14 ohm Grade Count:5
Dielectric Constant	2.00 - 3.20	2.00 - 3.20	Average value: 2.78 Grade Count:8
Dielectric Strength	16.5 - 70.0 kV/mm	420 - 1780 kV/in	Average value: 32.8 kV/mm Grade Count:8
Dissipation Factor	0.000800 - 0.00300	0.000800 - 0.00300	Average value: 0.00184 Grade Count:7
Comparative Tracking Index	175 - 250 V	175 - 250 V	Average value: 211 V Grade Count:6

Processing Properties	Metric	English	Comments
Processing Temperature	232 - 282 °C	450 - 540 °F	Average value: 257 °C Grade Count:5
Nozzle Temperature	270 - 310 °C	518 - 590 °F	Average value: 290 °C Grade Count:3
Melt Temperature	249 - 316 °C	480 - 600 °F	Average value: 287 °C Grade Count:11
Mold Temperature	65.6 - 120 °C	150 - 248 °F	Average value: 86.5 °C Grade Count:16
Drying Temperature	80.0 - 110 °C	176 - 230 °F	Average value: 96.4 °C Grade Count:7
Injection Pressure	68.9 - 140 MPa	10000 - 20300 psi	Average value: 99.6 MPa Grade Count:8

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