

Overview of materials for Polyphenylene Ether, 30% Glass Filled

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polyphenylene Ether, 30% Glass Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Ether, 30% Glass Filled".

Specific grades with glass content between 25% and 34% 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-30-Glass-Filled.php

Physical Properties	Metric	English	Comments
Density	1.24 - 1.33 g/cc	0.0448 - 0.0480 lb/in ³	Average value: 1.29 g/cc Grade Count:24
Filler Content	30.0 %	30.0 %	Average value: 30.0 % Grade Count:3
Water Absorption	0.00600 - 0.500 %	0.00600 - 0.500 %	Average value: 0.105 % Grade Count:12
Linear Mold Shrinkage	0.00100 - 0.00600 cm/cm	0.00100 - 0.00600 in/in	Average value: 0.00253 cm/cm Grade Count:16
Linear Mold Shrinkage, Transverse	0.00400 - 0.00800 cm/cm	0.00400 - 0.00800 in/in	Average value: 0.00550 cm/cm Grade Count:4
Melt Flow	1.00 - 16.0 g/10 min	1.00 - 16.0 g/10 min	Average value: 8.42 g/10 min Grade Count:6

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	108	108	Average value: 108 Grade Count:3
Tensile Strength, Ultimate	82.7 - 124 MPa	12000 - 18000 psi	Average value: 104 MPa Grade Count:19
	40.0 - 80.0 MPa @Temperature 60.0 - 120 °C	5800 - 11600 psi @Temperature 140 - 248 °F	Average value: 60.0 MPa Grade Count:2
Tensile Strength, Yield	103 - 138 MPa	15000 - 20000 psi	Average value: 118 MPa Grade Count:7
Elongation at Break	1.00 - 8.00 %	1.00 - 8.00 %	Average value: 3.61 % Grade Count:21
	1.50 - 2.80 % @Temperature 60.0 - 120 °C	1.50 - 2.80 % @Temperature 140 - 248 °F	Average value: 2.17 % Grade Count:2
	1.00 - 2.00 %	1.00 - 2.00 %	

Elongation at Yield Mechanical Properties	Metric @ Temperature 120 - 120 °C	English @ Temperature 248 - 248 °F	Average value: 1.50 % Grade Count:2 Comments
Modulus of Elasticity	5.86 - 9.00 GPa	850 - 1310 ksi	Average value: 8.07 GPa Grade Count:12
	4.30 - 7.80 GPa @Temperature 60.0 - 120 °C	624 - 1130 ksi @Temperature 140 - 248 °F	Average value: 6.02 GPa Grade Count:2
Flexural Yield Strength	117 - 228 MPa	17000 - 33100 psi	Average value: 154 MPa Grade Count:16
Flexural Modulus	4.83 - 8.27 GPa	700 - 1200 ksi	Average value: 7.02 GPa Grade Count:18
Izod Impact, Notched	0.694 - 1.27 J/cm	1.30 - 2.39 ft-lb/in	Average value: 1.01 J/cm Grade Count:17
	0.5339 - 0.74746 J/cm @Temperature -40.0 - - 30.0 °C	1.000 - 1.4003 ft-lb/in @Temperature -40.0 - - 22.0 °F	Average value: 0.641 J/cm Grade Count:2
Izod Impact, Unnotched	3.20 - 6.41 J/cm	6.00 - 12.0 ft-lb/in	Average value: 4.34 J/cm Grade Count:4
Charpy Impact Unnotched	1.80 - 4.80 J/cm ²	8.57 - 22.8 ft-lb/in ²	Average value: 2.77 J/cm ² Grade Count:6
	2.00 - 2.50 J/cm ² @Temperature -20.0 - - 20.0 °C	9.52 - 11.9 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 2.25 J/cm ² Grade Count:2
Charpy Impact, Notched	0.630 - 1.40 J/cm ²	3.00 - 6.66 ft-lb/in ²	Average value: 0.826 J/cm ² Grade Count:8
	0.600 - 0.600 J/cm ² @Temperature -20.0 - - 20.0 °C	2.86 - 2.86 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 0.600 J/cm ² Grade Count:2

Thermal Properties	Metric	English	Comments
CTE, linear	0.702 - 50.0 µm/m-°C	0.390 - 27.8 µin/in-°F	Average value: 29.7 µm/m-°C Grade Count:7
Thermal Conductivity	0.173 - 0.280 W/m-K	1.20 - 1.94 BTU-in/hr- ft ² -°F	Average value: 0.231 W/m-K Grade Count:4
Maximum Service Temperature, Air	110 - 120 °C	230 - 248 °F	Average value: 114 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	130 - 254 °C	266 - 489 °F	Average value: 162 °C Grade Count:15
Deflection Temperature at 1.8 MPa (264 psi)	125 - 235 °C	257 - 455 °F	Average value: 150 °C Grade Count:23
Vicat Softening Point	135 - 195 °C	275 - 383 °F	Average value: 149 °C Grade Count:9

Thermal Properties	Metric	English	Comments
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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: 3.95e+16 ohm-cm Grade Count:11
Surface Resistance	1.00e+13 - 1.00e+15 ohm	1.00e+13 - 1.00e+15 ohm	Average value: 3.22e+14 ohm Grade Count:5
Dielectric Constant	2.90 - 3.15	2.90 - 3.15	Average value: 2.99 Grade Count:6
Dielectric Strength	18.0 - 53.0 kV/mm	457 - 1350 kV/in	Average value: 29.6 kV/mm Grade Count:6
Dissipation Factor	0.00100 - 0.00270	0.00100 - 0.00270	Average value: 0.00171 Grade Count:5
Comparative Tracking Index	175 - 325 V	175 - 325 V	Average value: 236 V Grade Count:7

Processing Properties	Metric	English	Comments
Processing Temperature	232 - 282 °C	450 - 540 °F	Average value: 257 °C Grade Count:3
Melt Temperature	249 - 316 °C	480 - 600 °F	Average value: 288 °C Grade Count:9
Mold Temperature	65.6 - 120 °C	150 - 248 °F	Average value: 86.8 °C Grade Count:12
Drying Temperature	80.0 - 110 °C	176 - 230 °F	Average value: 95.1 °C Grade Count:7
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:4

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