

Overview of materials for Polyetherimide (PEI), 10% Glass Fiber

Category : Polymer , Thermoplastic , Polyetherimide (PEI) , Polyetherimide (PEI), 10% Glass Fiber

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyetherimide, 10% Glass Fiber". Specific grades with glass 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-Polyetherimide-PEI-10-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.30 - 1.69 g/cc	0.0470 - 0.0611 lb/in ³	Average value: 1.37 g/cc Grade Count:18
Filler Content	5.00 - 10.0 %	5.00 - 10.0 %	Average value: 9.44 % Grade Count:9
Water Absorption	0.210 - 0.300 %	0.210 - 0.300 %	Average value: 0.244 % Grade Count:13
Linear Mold Shrinkage	0.000500 - 0.00700 cm/cm	0.000500 - 0.00700 in/in	Average value: 0.00476 cm/cm Grade Count:16

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	114 - 121	114 - 121	Average value: 119 Grade Count:3
Tensile Strength, Ultimate	68.9 - 138 MPa	10000 - 20000 psi	Average value: 115 MPa Grade Count:15
Tensile Strength, Yield	110 - 121 MPa	16000 - 17500 psi	Average value: 115 MPa Grade Count:5
Elongation at Break	1.00 - 11.0 %	1.00 - 11.0 %	Average value: 4.76 % Grade Count:14
Elongation at Yield	1.30 - 5.00 %	1.30 - 5.00 %	Average value: 3.20 % Grade Count:3
Modulus of Elasticity	4.48 - 11.0 GPa	650 - 1600 ksi	Average value: 6.01 GPa Grade Count:13
Flexural Yield Strength	124 - 214 MPa	18000 - 31000 psi	Average value: 181 MPa Grade Count:17
Flexural Modulus	2.60 - 9.00 GPa	377 - 1310 ksi	Average value: 4.96 GPa Grade Count:18
Compressive Yield Strength	152 MPa	22000 psi	Average value: 152 MPa Grade Count:3
Izod Impact, Notched	0.320 - 0.587 J/cm	0.600 - 1.10 ft-lb/in	Average value: 0.521 J/cm Grade Count:16
	2.14 - 12.8 J/cm	4.00 - 24.0 ft-lb/in	Average value: 6.01 J/cm Grade

Impact, Unnotched Mechanical Properties	Metric	English	Count:11 Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	14.0 - 54.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	7.78 - 30.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 35.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:8
Thermal Conductivity	0.176 - 0.500 W/m-K	1.22 - 3.47 BTU-in/hr-ft ² -°F	Average value: 0.271 W/m-K Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	196 - 223 °C	385 - 433 °F	Average value: 210 °C Grade Count:11
Deflection Temperature at 1.8 MPa (264 psi)	189 - 221 °C	372 - 430 °F	Average value: 206 °C Grade Count:16
Flammability, UL94	V-0	V-0	Grade Count:8

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 1.00e+17 ohm-cm	1000 - 1.00e+17 ohm-cm	Average value: 2.40e+16 ohm-cm Grade Count:10
Surface Resistance	10000 - 1.00e+12 ohm	10000 - 1.00e+12 ohm	Average value: 3.50e+11 ohm Grade Count:3
Dielectric Constant	3.50 - 3.60	3.50 - 3.60	Average value: 3.55 Grade Count:4
Dielectric Strength	19.7 - 27.6 kV/mm	500 - 700 kV/in	Average value: 22.2 kV/mm Grade Count:6
Dissipation Factor	0.00140 - 0.00500	0.00140 - 0.00500	Average value: 0.00348 Grade Count:4

Processing Properties	Metric	English	Comments
Processing Temperature	349 - 382 °C	660 - 720 °F	Average value: 371 °C Grade Count:8
Nozzle Temperature	343 - 400 °C	649 - 752 °F	Average value: 370 °C Grade Count:4
Melt Temperature	330 - 400 °C	626 - 752 °F	Average value: 364 °C Grade Count:8
Mold Temperature	107 - 180 °C	225 - 356 °F	Average value: 154 °C Grade Count:13
Drying Temperature	120 - 150 °C	248 - 302 °F	Average value: 143 °C Grade Count:8
Moisture Content	0.0200 - 0.0400 %	0.0200 - 0.0400 %	Average value: 0.0350 % Grade Count:4
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:3
Injection Pressure	82.7 - 124 MPa	12000 - 18000 psi	Average value: 103 MPa Grade Count:8

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