

Overview of materials for Polyetherimide (PEI), 40% Glass Fiber

Category : Polymer , Thermoplastic , Polyetherimide (PEI) , Polyetherimide (PEI), 40% Glass Fiber

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyetherimide, 40% Glass Fiber". Specific grades with glass content between 35% and 44% 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-40-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.59 - 1.60 g/cc	0.0574 - 0.0578 lb/in ³	Average value: 1.59 g/cc Grade Count:5
Filler Content	40.0 %	40.0 %	Average value: 40.0 % Grade Count:5
Water Absorption	0.130 - 0.180 %	0.130 - 0.180 %	Average value: 0.160 % Grade Count:5
Linear Mold Shrinkage	0.00100 - 0.00300 cm/cm	0.00100 - 0.00300 in/in	Average value: 0.00150 cm/cm Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	114 - 123	114 - 123	Average value: 121 Grade Count:4
Tensile Strength, Ultimate	177 - 200 MPa	25600 - 29000 psi	Average value: 187 MPa Grade Count:5
Elongation at Break	1.40 - 3.00 %	1.40 - 3.00 %	Average value: 2.20 % Grade Count:6
Modulus of Elasticity	10.3 - 15.2 GPa	1500 - 2200 ksi	Average value: 13.0 GPa Grade Count:6
Flexural Yield Strength	234 - 283 MPa	34000 - 41000 psi	Average value: 256 MPa Grade Count:6
Flexural Modulus	11.0 - 15.2 GPa	1600 - 2200 ksi	Average value: 12.3 GPa Grade Count:6
Compressive Yield Strength	155 - 169 MPa	22500 - 24500 psi	Average value: 164 MPa Grade Count:3
Izod Impact, Notched	0.961 - 1.07 J/cm	1.80 - 2.00 ft-lb/in	Average value: 1.00 J/cm Grade Count:5
Izod Impact, Unnotched	4.27 - 6.94 J/cm	8.00 - 13.0 ft-lb/in	Average value: 6.10 J/cm Grade Count:5

Thermal Properties	Metric	English	Comments
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CTE linear Thermal Properties	14.4 - 21.6 $\mu\text{m/m-}^{\circ}\text{C}$ Metric	8.00 - 12.0 $\mu\text{in/in-}^{\circ}\text{F}$ English	Average value: 18.9 $\mu\text{m/m-}^{\circ}\text{C}$ Grade Count:4 Comments
Thermal Conductivity	0.259 W/m-K	1.80 BTU-in/hr-ft ² -°F	Average value: 0.259 W/m-K Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	210 - 214 °C	410 - 418 °F	Average value: 212 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	207 - 212 °C	405 - 413 °F	Average value: 209 °C Grade Count:5
Flammability, UL94	V-0	V-0	Grade Count:4

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.50e+16 ohm-cm	1.00e+12 - 1.50e+16 ohm-cm	Average value: 6.25e+15 ohm-cm Grade Count:4
Dielectric Constant	3.70 - 4.00	3.70 - 4.00	Average value: 3.92 Grade Count:4
Dielectric Strength	19.7 - 23.6 kV/mm	500 - 600 kV/in	Average value: 20.7 kV/mm Grade Count:4
Dissipation Factor	0.00200 - 0.00500	0.00200 - 0.00500	Average value: 0.00425 Grade Count:4

Processing Properties	Metric	English	Comments
Melt Temperature	332 - 399 °C	630 - 750 °F	Average value: 371 °C Grade Count:3
Mold Temperature	107 - 177 °C	225 - 350 °F	Average value: 152 °C Grade Count:4
Drying Temperature	143 - 149 °C	290 - 300 °F	Average value: 148 °C Grade Count:3
Injection Pressure	82.7 - 124 MPa	12000 - 18000 psi	Average value: 103 MPa Grade Count:3

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