

Overview of materials for Polyetherimide (PEI), 20% Glass Fiber

Category : Polymer , Thermoplastic , Polyetherimide (PEI) , Polyetherimide (PEI), 20% Glass Fiber

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyetherimide, 20% Glass Fiber". 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-Polyetherimide-PEI-20-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.34 - 1.51 g/cc	0.0484 - 0.0546 lb/in ³	Average value: 1.42 g/cc Grade Count:16
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 18.6 % Grade Count:7
Water Absorption	0.190 - 0.220 %	0.190 - 0.220 %	Average value: 0.203 % Grade Count:11
Water Absorption at Saturation	0.250 - 1.10 %	0.250 - 1.10 %	Average value: 0.837 % Grade Count:4
Linear Mold Shrinkage	0.00100 - 0.00500 cm/cm	0.00100 - 0.00500 in/in	Average value: 0.00325 cm/cm Grade Count:12

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	114 - 122	114 - 122	Average value: 120 Grade Count:4
Tensile Strength, Ultimate	110 - 159 MPa	16000 - 23000 psi	Average value: 137 MPa Grade Count:14
Tensile Strength, Yield	132 - 148 MPa	19100 - 21500 psi	Average value: 139 MPa Grade Count:3
Elongation at Break	2.00 - 5.00 %	2.00 - 5.00 %	Average value: 3.14 % Grade Count:15
Modulus of Elasticity	4.14 - 8.96 GPa	600 - 1300 ksi	Average value: 6.96 GPa Grade Count:13
Flexural Yield Strength	176 - 227 MPa	25500 - 32900 psi	Average value: 203 MPa Grade Count:16
Flexural Modulus	4.83 - 8.96 GPa	700 - 1300 ksi	Average value: 6.48 GPa Grade Count:15
Compressive Yield Strength	124 - 198 MPa	18000 - 28700 psi	Average value: 175 MPa Grade Count:7
Compressive Modulus	2.76 - 5.58 GPa	400 - 809 ksi	Average value: 4.34 GPa Grade Count:4
	0.534 - 0.854 J/cm	1.00 - 1.60 ft-lb/in	Average value: 0.725 J/cm Grade

Izod Impact Notched Mechanical Properties	Metric	English	Count:14 Comments
Izod Impact, Unnotched	4.54 - 6.41 J/cm	8.50 - 12.0 ft-lb/in	Average value: 5.52 J/cm Grade Count:10

Thermal Properties	Metric	English	Comments
CTE, linear	25.2 - 27.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	14.0 - 15.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Average value: 25.9 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:5
Thermal Conductivity	0.206 - 0.245 W/m-K	1.43 - 1.70 BTU-in/hr-ft ² - $^{\circ}\text{F}$	Average value: 0.238 W/m-K Grade Count:6
Deflection Temperature at 0.46 MPa (66 psi)	210 - 213 $^{\circ}\text{C}$	410 - 415 $^{\circ}\text{F}$	Average value: 211 $^{\circ}\text{C}$ Grade Count:9
Deflection Temperature at 1.8 MPa (264 psi)	204 - 213 $^{\circ}\text{C}$	400 - 415 $^{\circ}\text{F}$	Average value: 208 $^{\circ}\text{C}$ Grade Count:13
Flammability, UL94	V-0	V-0	Grade Count:11

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 7.00e+16 ohm-cm	1.00e+12 - 7.00e+16 ohm-cm	Average value: 2.56e+16 ohm-cm Grade Count:9
Dielectric Constant	3.50 - 3.60	3.50 - 3.60	Average value: 3.56 Grade Count:7
Dielectric Strength	19.7 - 26.4 kV/mm	500 - 670 kV/in	Average value: 22.5 kV/mm Grade Count:7
Dissipation Factor	0.00150 - 0.00500	0.00150 - 0.00500	Average value: 0.00380 Grade Count:7

Processing Properties	Metric	English	Comments
Processing Temperature	349 - 382 $^{\circ}\text{C}$	660 - 720 $^{\circ}\text{F}$	Average value: 370 $^{\circ}\text{C}$ Grade Count:4
Melt Temperature	332 - 399 $^{\circ}\text{C}$	630 - 750 $^{\circ}\text{F}$	Average value: 367 $^{\circ}\text{C}$ Grade Count:7
Mold Temperature	65.6 - 177 $^{\circ}\text{C}$	150 - 350 $^{\circ}\text{F}$	Average value: 151 $^{\circ}\text{C}$ Grade Count:10
Drying Temperature	135 - 149 $^{\circ}\text{C}$	275 - 300 $^{\circ}\text{F}$	Average value: 147 $^{\circ}\text{C}$ Grade Count:7
Moisture Content	0.0400 %	0.0400 %	Average value: 0.0400 % Grade Count:5
Dew Point	-28.9 $^{\circ}\text{C}$	-20.0 $^{\circ}\text{F}$	Average value: -28.9 $^{\circ}\text{C}$ Grade Count:5
Injection Pressure	82.7 - 124 MPa	12000 - 18000 psi	Average value: 103 MPa Grade Count:8

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