

Overview of materials for Polyetherimide (PEI), 30% Glass Fiber

Category : Polymer , Thermoplastic , Polyetherimide (PEI) , Polyetherimide (PEI), 30% Glass Fiber

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyetherimide, 30% Glass Fiber". 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-Polyetherimide-PEI-30-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.49 - 1.67 g/cc	0.0538 - 0.0603 lb/in³	Average value: 1.53 g/cc Grade Count:20
Filler Content	30.0 - 33.0 %	30.0 - 33.0 %	Average value: 30.3 % Grade Count:9
Water Absorption	0.160 - 0.290 %	0.160 - 0.290 %	Average value: 0.179 % Grade Count:15
Water Absorption at Saturation	0.220 - 0.900 %	0.220 - 0.900 %	Average value: 0.730 % Grade Count:4
Linear Mold Shrinkage	0.000500 - 0.00500 cm/cm	0.000500 - 0.00500 in/in	Average value: 0.00215 cm/cm Grade Count:15

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	110 - 114	110 - 114	Average value: 113 Grade Count:5
Hardness, Rockwell R	114 - 127	114 - 127	Average value: 123 Grade Count:10
Tensile Strength, Ultimate	117 - 186 MPa	17000 - 27000 psi	Average value: 158 MPa Grade Count:17
Tensile Strength, Yield	85.5 - 169 MPa	12400 - 24500 psi	Average value: 147 MPa Grade Count:5
Elongation at Break	1.00 - 3.50 %	1.00 - 3.50 %	Average value: 2.63 % Grade Count:19
Modulus of Elasticity	5.52 - 12.4 GPa	800 - 1800 ksi	Average value: 9.72 GPa Grade Count:16
Flexural Yield Strength	138 - 255 MPa	20000 - 37000 psi	Average value: 217 MPa Grade Count:19
Flexural Modulus	5.17 - 10.3 GPa	750 - 1500 ksi	Average value: 8.71 GPa Grade Count:19
Compressive Yield Strength	124 - 221 MPa	18000 - 32000 psi	Average value: 182 MPa Grade Count:8
	4.31 - 6.47 GPa	625 - 938 ksi	Average value: 5.75 GPa Grade

Compressive Modulus Mechanical Properties	Metric	English	Count:3 Comments
Izod Impact, Notched	0.534 - 1.07 J/cm	1.00 - 2.00 ft-lb/in	Average value: 0.835 J/cm Grade Count:19
Izod Impact, Unnotched	4.27 - 7.74 J/cm	8.00 - 14.5 ft-lb/in	Average value: 5.76 J/cm Grade Count:13

Thermal Properties	Metric	English	Comments
CTE, linear	16.2 - 21.6 $\mu\text{m/m-}^{\circ}\text{C}$	9.00 - 12.0 $\mu\text{in/in-}^{\circ}\text{F}$	Average value: 19.9 $\mu\text{m/m-}^{\circ}\text{C}$ Grade Count:12
Thermal Conductivity	0.225 - 0.259 W/m-K	1.56 - 1.80 BTU-in/hr-ft ² - $^{\circ}\text{F}$	Average value: 0.250 W/m-K Grade Count:8
Maximum Service Temperature, Air	170 - 171 $^{\circ}\text{C}$	338 - 340 $^{\circ}\text{F}$	Average value: 171 $^{\circ}\text{C}$ Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	210 - 213 $^{\circ}\text{C}$	410 - 415 $^{\circ}\text{F}$	Average value: 212 $^{\circ}\text{C}$ Grade Count:14
Deflection Temperature at 1.8 MPa (264 psi)	204 - 212 $^{\circ}\text{C}$	400 - 414 $^{\circ}\text{F}$	Average value: 209 $^{\circ}\text{C}$ Grade Count:19
Flammability, UL94	V-0	V-0	Grade Count:15

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 3.00e+16 ohm-cm	1.00e+12 - 3.00e+16 ohm-cm	Average value: 1.14e+16 ohm-cm Grade Count:14
Dielectric Constant	3.40 - 3.90	3.40 - 3.90	Average value: 3.76 Grade Count:11
Dielectric Strength	1.38 - 30.3 kV/mm	35.0 - 770 kV/in	Average value: 23.3 kV/mm Grade Count:13
Dissipation Factor	0.00150 - 0.00530	0.00150 - 0.00530	Average value: 0.00343 Grade Count:11

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: 368 $^{\circ}\text{C}$ Grade Count:8
Mold Temperature	65.6 - 177 $^{\circ}\text{C}$	150 - 350 $^{\circ}\text{F}$	Average value: 151 $^{\circ}\text{C}$ Grade Count:11
Drying Temperature	135 - 149 $^{\circ}\text{C}$	275 - 300 $^{\circ}\text{F}$	Average value: 147 $^{\circ}\text{C}$ Grade Count:8
Moisture Content	0.0400 %	0.0400 %	Average value: 0.0400 % Grade Count:6
Dew Point	-28.9 $^{\circ}\text{C}$	-20.0 $^{\circ}\text{F}$	Average value: -28.9 $^{\circ}\text{C}$ Grade Count:6
Injection Pressure	82.7 - 124 MPa	12000 - 18000 psi	Average value: 103 MPa Grade Count:9

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