

Overview of materials for Polyamide-Imide, Glass Filled

Category : Polymer , Thermoplastic , Polyamide-imide (PAI) , Polyamide-Imide, Glass Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyamide-Imide, Glass Filled". 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-Polyamide-Imide-Glass-Filled.php

Physical Properties	Metric	English	Comments
Density	1.58 - 1.61 g/cc	0.0571 - 0.0582 lb/in ³	Average value: 1.60 g/cc Grade Count:5
Water Absorption	0.240 - 0.300 %	0.240 - 0.300 %	Average value: 0.280 % Grade Count:3
Water Absorption at Saturation	1.50 - 3.20 %	1.50 - 3.20 %	Average value: 2.07 % Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	85.0 - 90.0	85.0 - 90.0	Average value: 86.7 Grade Count:3
Tensile Strength, Ultimate	103 - 221 MPa	15000 - 32100 psi	Average value: 155 MPa Grade Count:5
Elongation at Break	2.00 - 4.00 %	2.00 - 4.00 %	Average value: 3.00 % Grade Count:4
Modulus of Elasticity	6.21 - 14.5 GPa	900 - 2100 ksi	Average value: 8.50 GPa Grade Count:4
Flexural Yield Strength	138 - 333 MPa	20000 - 48300 psi	Average value: 199 MPa Grade Count:5
	181 - 181 MPa @Temperature 232 - 232 °C	26300 - 26300 psi @Temperature 450 - 450 °F	Average value: 181 MPa Grade Count:1
Flexural Modulus	5.66 - 11.7 GPa	821 - 1700 ksi	Average value: 7.58 GPa Grade Count:4
	9.86 - 9.86 GPa @Temperature 232 - 232 °C	1430 - 1430 ksi @Temperature 450 - 450 °F	Average value: 9.86 GPa Grade Count:1
Compressive Yield Strength	55.0 - 276 MPa	7980 - 40000 psi	Average value: 179 MPa Grade Count:4
Compressive Modulus	4.14 - 7.93 GPa	600 - 1150 ksi	Average value: 5.63 GPa Grade Count:3
	0.374 - 0.800 J/cm	0.700 - 1.50 ft-lb/in	Average value: 0.527 J/cm Grade

Impact Properties	Metric	English	Count:4 Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	16.2 - 46.8 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	9.00 - 26.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 34.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:4
Thermal Conductivity	0.360 - 0.360 W/m-K	2.50 - 2.50 BTU-in/hr-ft ² -°F	Average value: 0.360 W/m-K Grade Count:4
Maximum Service Temperature, Air	250 - 260 °C	482 - 500 °F	Average value: 258 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	271 - 282 °C	520 - 540 °F	Average value: 277 °C Grade Count:4
Glass Transition Temp, Tg	275 - 280 °C	527 - 536 °F	Average value: 277 °C Grade Count:3
Flammability, UL94	V-0	V-0	Grade Count:4

Electrical Properties	Metric	English	Comments
Surface Resistance	1.00e+13 - 1.00e+18 ohm	1.00e+13 - 1.00e+18 ohm	Average value: 2.50e+17 ohm Grade Count:4
Dielectric Constant	3.80 - 6.30	3.80 - 6.30	Average value: 4.54 Grade Count:4
Dielectric Strength	17.7 - 33.0 kV/mm	450 - 838 kV/in	Average value: 26.8 kV/mm Grade Count:5
Dissipation Factor	0.00500 - 0.0500	0.00500 - 0.0500	Average value: 0.0233 Grade Count:4

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