

## Overview of materials for Epoxy, Molded, Glass Fiber Filler

Category : Polymer , Thermoset , Epoxy , Epoxy, Molded, Glass Fiber Filler

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Epoxy, Molded, Glass Fiber Filler". 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-Epoxy-Molded-Glass-Fiber-Filler.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Epoxy-Molded-Glass-Fiber-Filler.php)

Physical Properties	Metric	English	Comments
Density	1.00 - 2.20 g/cc	0.0361 - 0.0795 lb/in <sup>3</sup>	Average value: 1.76 g/cc Grade Count:71
Apparent Bulk Density	0.0800 - 1.15 g/cc	0.00289 - 0.0415 lb/in <sup>3</sup>	Average value: 0.818 g/cc Grade Count:16
Water Absorption	0.100 - 0.500 %	0.100 - 0.500 %	Average value: 0.175 % Grade Count:21
	0.150 - 0.900 %	0.150 - 0.900 %	Average value: 0.244 % Grade Count:14
	@Temperature 50.0 - 50.0 °C	@Temperature 122 - 122 °F	
Viscosity	0.150 - 0.900 %	0.150 - 0.900 %	Average value: 0.244 % Grade Count:14
	@Time 173000 - 173000 sec	@Time 48.0 - 48.0 hour	
Viscosity	325 - 1300 cP	325 - 1300 cP	Average value: 816 cP Grade Count:9
Linear Mold Shrinkage	0.00100 - 0.00600 cm/cm	0.00100 - 0.00600 in/in	Average value: 0.00291 cm/cm Grade Count:35

Mechanical Properties	Metric	English	Comments
Hardness, Barcol	63.0 - 73.0	63.0 - 73.0	Average value: 70.2 Grade Count:9
Hardness, Rockwell M	98.0 - 105	98.0 - 105	Average value: 103 Grade Count:3
Hardness, Shore D	85.0 - 89.0	85.0 - 89.0	Average value: 87.6 Grade Count:9
Tensile Strength, Ultimate	48.0 - 550 MPa	6960 - 79800 psi	Average value: 180 MPa Grade Count:56
Tensile Strength, Yield	30.0 - 80.0 MPa	4350 - 11600 psi	Average value: 58.1 MPa Grade Count:8
Elongation at Break	0.600 - 2.04 %	0.600 - 2.04 %	Average value: 1.57 % Grade Count:15
Modulus of Elasticity	6.00 - 30.0 GPa	870 - 4350 ksi	Average value: 16.4 GPa Grade Count:31

Mechanical Properties	Metric	English	Comments
Flexural Yield Strength	70.0 - 1200 MPa	10200 - 174000 psi	Average value: 267 MPa Grade Count:67
	>= 160 MPa	>= 23200 psi	Average value: 166 MPa Grade Count:5
	@Temperature 150 - 150 °C	@Temperature 302 - 302 °F	
Flexural Modulus	6.60 - 35.0 GPa	957 - 5080 ksi	Average value: 18.0 GPa Grade Count:54
Compressive Yield Strength	120 - 1000 MPa	17400 - 145000 psi	Average value: 292 MPa Grade Count:57
Compressive Modulus	7.60 - 16.7 GPa	1100 - 2420 ksi	Average value: 10.7 GPa Grade Count:5
Shear Strength	20.0 - 74.0 MPa	2900 - 10700 psi	Average value: 39.9 MPa Grade Count:15
Izod Impact, Notched	0.200 - 24.0 J/cm	0.375 - 45.0 ft-lb/in	Average value: 3.02 J/cm Grade Count:24
Izod Impact, Notched (ISO)	60.0 - 80.0 kJ/m <sup>2</sup>	28.6 - 38.1 ft-lb/in <sup>2</sup>	Average value: 66.7 kJ/m <sup>2</sup> Grade Count:6
Izod Impact, Unnotched (ISO)	34.0 - 54.0 kJ/m <sup>2</sup>	16.2 - 25.7 ft-lb/in <sup>2</sup>	Average value: 45.1 kJ/m <sup>2</sup> Grade Count:9
Charpy Impact Unnotched	0.400 - 6.00 J/cm <sup>2</sup>	1.90 - 28.6 ft-lb/in <sup>2</sup>	Average value: 2.56 J/cm <sup>2</sup> Grade Count:22
Charpy Impact, Notched	0.150 - 0.800 J/cm <sup>2</sup>	0.714 - 3.81 ft-lb/in <sup>2</sup>	Average value: 0.405 J/cm <sup>2</sup> Grade Count:11

Thermal Properties	Metric	English	Comments
CTE, linear	3.60 - 47.0 μm/m-°C	2.00 - 26.1 μin/in-°F	Average value: 24.7 μm/m-°C Grade Count:19
	10.0 - 77.4 μm/m-°C	5.56 - 43.0 μin/in-°F	Average value: 33.3 μm/m-°C Grade Count:11
	@Temperature 37.8 - 150 °C	@Temperature 100 - 302 °F	
Thermal Conductivity	0.277 - 0.800 W/m-K	1.92 - 5.55 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.540 W/m-K Grade Count:16
Maximum Service Temperature, Air	130 - 250 °C	266 - 482 °F	Average value: 163 °C Grade Count:8
Maximum Service Temperature, Inert	140 - 200 °C	284 - 392 °F	Average value: 168 °C Grade Count:6
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °F	Average value: 200 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	110 - 282 °C	230 - 540 °F	Average value: 237 °C Grade Count:35
Deflection Temperature at 8.0 MPa	100 - 200 °C	212 - 392 °F	Average value: 163 °C Grade Count:11
Glass Transition Temp, Tg	60.0 - 170 °C	140 - 338 °F	Average value: 97.6 °C Grade

Thermal Properties	Metric	English	Count:12 Comments
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:24
Oxygen Index	33.5 - 50.0 %	33.5 - 50.0 %	Average value: 42.9 % Grade Count:4

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.00e+16 ohm-cm	1.00e+12 - 1.00e+16 ohm-cm	Average value: 2.68e+15 ohm-cm Grade Count:12
Surface Resistance	1.00e+13 - 1.00e+15 ohm	1.00e+13 - 1.00e+15 ohm	Average value: 5.41e+14 ohm Grade Count:15
Insulation Resistance	5.00e+7 - 5.00e+11 ohm	5.00e+7 - 5.00e+11 ohm	Average value: 1.47e+11 ohm Grade Count:20
Dielectric Constant	1.80 - 7.00	1.80 - 7.00	Average value: 4.90 Grade Count:49
Dielectric Strength	0.984 - 40.0 kV/mm	25.0 - 1020 kV/in	Average value: 15.1 kV/mm Grade Count:41
Dielectric Breakdown	>= 35000 V @Temperature 90.0 - 90.0 °C	>= 35000 V @Temperature 194 - 194 °F	Average value: 32900 V Grade Count:9
	>= 10000 V @Temperature 90.0 - 90.0 °C	>= 10000 V @Temperature 194 - 194 °F	Average value: 32900 V Grade Count:5
	>= 10000 V @Time 20.0 - 60.0 sec	>= 10000 V @Time 0.00556 - 0.0167 hour	Average value: 32900 V Grade Count:5
Dissipation Factor	0.00500 - 0.0500	0.00500 - 0.0500	Average value: 0.0245 Grade Count:49
Arc Resistance	120 - 240 sec	120 - 240 sec	Average value: 172 sec Grade Count:24
Comparative Tracking Index	180 - 600 V	180 - 600 V	Average value: 280 V Grade Count:28

Processing Properties	Metric	English	Comments
Processing Temperature	150 - 175 °C	302 - 347 °F	Average value: 163 °C Grade Count:3
Melt Temperature	40.0 - 110 °C	104 - 230 °F	Average value: 76.5 °C Grade Count:5
Mold Temperature	143 - 190 °C	289 - 374 °F	Average value: 172 °C Grade Count:9
Pot Life	20.0 - 120 min	20.0 - 120 min	Average value: 92.2 min Grade Count:9

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