

Overview of materials for Phenolic, Novolac, Mineral Filled

Category : Polymer , Thermoset , Phenolic , Phenolic, Novolac, Mineral Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Phenolic, Novolac, Mineral 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-Phenolic-Novolac-Mineral-Filled.php

Physical Properties	Metric	English	Comments
Density	1.46 - 1.99 g/cc	0.0527 - 0.0719 lb/in ³	Average value: 1.58 g/cc Grade Count:32
Water Absorption	0.0300 - 0.290 %	0.0300 - 0.290 %	Average value: 0.168 % Grade Count:25
Linear Mold Shrinkage	0.00180 - 0.00860 cm/cm	0.00180 - 0.00860 in/in	Average value: 0.00530 cm/cm Grade Count:32

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	70.0 - 91.0	70.0 - 91.0	Average value: 80.9 Grade Count:23
Tensile Strength, Ultimate	40.0 - 119 MPa	5800 - 17300 psi	Average value: 53.1 MPa Grade Count:32
Elongation at Break	0.310 - 1.70 %	0.310 - 1.70 %	Average value: 0.761 % Grade Count:32
Modulus of Elasticity	8.10 - 23.0 GPa	1170 - 3340 ksi	Average value: 10.8 GPa Grade Count:32
Flexural Yield Strength	55.0 - 240 MPa	7980 - 34800 psi	Average value: 92.9 MPa Grade Count:32
Flexural Modulus	6.00 - 21.0 GPa	870 - 3050 ksi	Average value: 9.46 GPa Grade Count:32
Compressive Yield Strength	152 - 434 MPa	22000 - 62900 psi	Average value: 199 MPa Grade Count:32
Poissons Ratio	0.270 - 0.350	0.270 - 0.350	Average value: 0.331 Grade Count:14
Shear Modulus	3.00 - 5.82 GPa	435 - 844 ksi	Average value: 3.73 GPa Grade Count:14
Izod Impact, Notched	0.138 - 0.243 J/cm	0.259 - 0.455 ft-lb/in	Average value: 0.169 J/cm Grade Count:23
Charpy Impact Unnotched	0.600 - 1.36 J/cm ²	2.86 - 6.47 ft-lb/in ²	Average value: 0.889 J/cm ² Grade Count:8
Charpy Impact, Notched			Average value: 0.211 J/cm ² Grade

Mechanical Properties	0.150 - 0.450 J/cm ² Metric	0.714 - 2.14 ft-lb/in ² English	Count:32 Comments
Thermal Properties	Metric	English	Comments
CTE, linear	16.0 - 55.0 µm/m-°C	8.89 - 30.6 µin/in-°F	Average value: 35.9 µm/m-°C Grade Count:9
	21.0 - 82.0 µm/m-°C @Temperature 40.0 - 130 °C	11.7 - 45.6 µin/in-°F @Temperature 104 - 266 °F	Average value: 50.5 µm/m-°C Grade Count:19
CTE, linear, Transverse to Flow	24.0 - 65.0 µm/m-°C	13.3 - 36.1 µin/in-°F	Average value: 46.1 µm/m-°C Grade Count:8
Thermal Conductivity	0.440 - 0.620 W/m-K @Temperature 100 - 100 °C	3.05 - 4.30 BTU-in/hr-ft ² -°F @Temperature 212 - 212 °F	Average value: 0.510 W/m-K Grade Count:14
Maximum Service Temperature, Air	190 - 232 °C	374 - 450 °F	Average value: 208 °C Grade Count:24
Deflection Temperature at 1.8 MPa (264 psi)	150 - 250 °C	302 - 482 °F	Average value: 180 °C Grade Count:32
Deflection Temperature at 8.0 MPa	130 - 178 °C	266 - 352 °F	Average value: 147 °C Grade Count:7
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:31
Oxygen Index	26.4 - 45.0 %	26.4 - 45.0 %	Average value: 33.8 % Grade Count:20

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+11 - 2.10e+14 ohm-cm	1.00e+11 - 2.10e+14 ohm-cm	Average value: 1.05e+13 ohm-cm Grade Count:26
Insulation Resistance	1.00e+9 - 1.00e+11 ohm	1.00e+9 - 1.00e+11 ohm	Average value: 4.52e+10 ohm Grade Count:5
Dielectric Constant	4.40 - 6.10	4.40 - 6.10	Average value: 5.33 Grade Count:24
Dielectric Strength	6.90 - 30.0 kV/mm	175 - 762 kV/in	Average value: 14.3 kV/mm Grade Count:32
Dissipation Factor	0.0172 - 0.0820	0.0172 - 0.0820	Average value: 0.0514 Grade Count:24
Arc Resistance	137 - 188 sec	137 - 188 sec	Average value: 168 sec Grade Count:24
Comparative Tracking Index	150 - 225 V	150 - 225 V	Average value: 177 V Grade Count:32

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