

Overview of materials for Phenolic; Unreinforced; Molded

Category : Polymer , Thermoset , Phenolic , Phenolic; Unreinforced; Molded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Phenolic; Unreinforced; Molded". 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-Unreinforced-Molded.php

Physical Properties	Metric	English	Comments
Density	1.35 - 2.13 g/cc	0.0488 - 0.0770 lb/in ³	Average value: 1.49 g/cc Grade Count:15
Apparent Bulk Density	0.600 - 1.01 g/cc	0.0217 - 0.0365 lb/in ³	Average value: 0.750 g/cc Grade Count:3
Water Absorption	0.0300 - 0.500 %	0.0300 - 0.500 %	Average value: 0.303 % Grade Count:15
Linear Mold Shrinkage	0.000400 - 0.0140 cm/cm	0.000400 - 0.0140 in/in	Average value: 0.00826 cm/cm Grade Count:15

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	86.0 - 91.0	86.0 - 91.0	Average value: 88.3 Grade Count:3
Tensile Strength, Ultimate	41.0 - 57.9 MPa	5950 - 8400 psi	Average value: 53.2 MPa Grade Count:15
Modulus of Elasticity	4.10 - 8.64 GPa	595 - 1250 ksi	Average value: 7.00 GPa Grade Count:5
Flexural Yield Strength	76.0 - 109 MPa	11000 - 15800 psi	Average value: 85.6 MPa Grade Count:15
Flexural Modulus	7.53 - 19.0 GPa	1090 - 2760 ksi	Average value: 11.5 GPa Grade Count:3
Compressive Yield Strength	183 - 226 MPa	26600 - 32800 psi	Average value: 206 MPa Grade Count:15
Izod Impact, Notched	0.210 - 0.320 J/cm	0.393 - 0.599 ft-lb/in	Average value: 0.270 J/cm Grade Count:14
Charpy Impact, Notched	0.190 - 0.390 J/cm ²	0.904 - 1.86 ft-lb/in ²	Average value: 0.305 J/cm ² Grade Count:13

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.940 - 0.940 W/m-K @Temperature 100 -	6.52 - 6.52 BTU-in/hr-ft ² -°F	Average value: 0.940 W/m-K Grade

Thermal Properties	100 °C Metric	@Temperature 212 - English 212 °F	Count: Comments
Maximum Service Temperature, Air	150 - 219 °C	302 - 426 °F	Average value: 185 °C Grade Count:15
Deflection Temperature at 1.8 MPa (264 psi)	160 - 226 °C	320 - 439 °F	Average value: 176 °C Grade Count:15
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:14

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+11 - 1.00e+13 ohm-cm	1.00e+11 - 1.00e+13 ohm-cm	Average value: 4.26e+12 ohm-cm Grade Count:15
Insulation Resistance	1.00e+8 - 1.00e+11 ohm	1.00e+8 - 1.00e+11 ohm	Average value: 2.78e+10 ohm Grade Count:10
Dielectric Constant	5.00 - 6.50	5.00 - 6.50	Average value: 5.64 Grade Count:5
Dielectric Strength	8.86 - 13.8 kV/mm	225 - 351 kV/in	Average value: 11.3 kV/mm Grade Count:15
Dissipation Factor	0.0190 - 0.0800	0.0190 - 0.0800	Average value: 0.0540 Grade Count:5
Arc Resistance	120 - 190 sec	120 - 190 sec	Average value: 145 sec Grade Count:8
Comparative Tracking Index	100 - 250 V	100 - 250 V	Average value: 160 V Grade Count:13

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