

Overview of materials for Melamine-Phenolic Copolymer

Category : Polymer , Thermoset , Melamine , Melamine-Phenolic Copolymer

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.50 - 1.81 g/cc	0.0542 - 0.0654 lb/in ³	Average value: 1.64 g/cc Grade Count:22
Apparent Bulk Density	0.500 - 0.800 g/cc	0.0181 - 0.0289 lb/in ³	Average value: 0.655 g/cc Grade Count:11
Water Absorption	0.220 - 2.50 %	0.220 - 2.50 %	Average value: 1.18 % Grade Count:21
Linear Mold Shrinkage	-0.000500 - 0.0130 cm/cm	-0.000500 - 0.0130 in/in	Average value: 0.00732 cm/cm Grade Count:22

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	67.0 - 86.0	67.0 - 86.0	Average value: 75.8 Grade Count:11
Tensile Strength, Ultimate	53.0 - 76.0 MPa	7690 - 11000 psi	Average value: 61.7 MPa Grade Count:12
Tensile Strength, Yield	40.0 - 90.0 MPa	5800 - 13100 psi	Average value: 61.0 MPa Grade Count:10
Elongation at Break	0.470 - 0.950 %	0.470 - 0.950 %	Average value: 0.745 % Grade Count:11
Modulus of Elasticity	5.00 - 13.3 GPa	725 - 1930 ksi	Average value: 8.90 GPa Grade Count:22
Flexural Yield Strength	70.0 - 140 MPa	10200 - 20300 psi	Average value: 101 MPa Grade Count:22
Flexural Modulus	5.00 - 12.5 GPa	725 - 1810 ksi	Average value: 8.93 GPa Grade Count:22
Compressive Yield Strength	142 - 250 MPa	20600 - 36300 psi	Average value: 194 MPa Grade Count:22
Izod Impact, Notched	0.159 - 0.215 J/cm	0.298 - 0.403 ft-lb/in	Average value: 0.186 J/cm Grade Count:11
Charpy Impact Unnotched	0.450 - 1.40 J/cm ²	2.14 - 6.66 ft-lb/in ²	Average value: 0.812 J/cm ² Grade Count:11
	0.400 - 0.700 J/cm ²	1.90 - 3.33 ft-lb/in ²	

Mechanical Properties	Metric @ Temperature -40.0 - - 40.0 °C	English @ Temperature -40.0 - - 40.0 °F	Comments Average value: 0.550 J/cm ² Grade Count:1
Charpy Impact, Notched	0.120 - 0.239 J/cm ²	0.571 - 1.14 ft-lb/in ²	Average value: 0.181 J/cm ² Grade Count:22

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 - 53.0 μm/m-°C @Temperature 40.0 - 130 °C	8.33 - 29.4 μin/in-°F @Temperature 104 - 266 °F	Average value: 29.6 μm/m-°C Grade Count:12
Thermal Conductivity	0.400 - 0.600 W/m-K	2.78 - 4.16 BTU-in/hr- ft ² -°F	Average value: 0.470 W/m-K Grade Count:10
	0.510 - 0.610 W/m-K @Temperature 100 - 100 °C	3.54 - 4.23 BTU-in/hr- ft ² -°F @Temperature 212 - 212 °F	Average value: 0.570 W/m-K Grade Count:4
Maximum Service Temperature, Air	135 - 190 °C	275 - 374 °F	Average value: 150 °C Grade Count:22
Deflection Temperature at 1.8 MPa (264 psi)	155 - 202 °C	311 - 396 °F	Average value: 178 °C Grade Count:21
Deflection Temperature at 8.0 MPa	110 - 140 °C	230 - 284 °F	Average value: 123 °C Grade Count:11
Flammability, UL94	V-0 - 5VB	V-0 - 5VB	Grade Count:21
Oxygen Index	33.0 - 36.0 %	33.0 - 36.0 %	Average value: 34.2 % Grade Count:5

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+11 - 1.00e+14 ohm-cm	1.00e+11 - 1.00e+14 ohm-cm	Average value: 1.63e+13 ohm-cm Grade Count:22
Surface Resistance	1.00e+10 - 1.00e+12 ohm	1.00e+10 - 1.00e+12 ohm	Average value: 1.04e+11 ohm Grade Count:11
Dielectric Constant	6.50 - 16.0	6.50 - 16.0	Average value: 9.33 Grade Count:22
Dielectric Strength	4.80 - 30.0 kV/mm	122 - 762 kV/in	Average value: 12.3 kV/mm Grade Count:21
Dissipation Factor	0.0300 - 0.500	0.0300 - 0.500	Average value: 0.160 Grade Count:22
Arc Resistance	115 - 188 sec	115 - 188 sec	Average value: 172 sec Grade Count:14
Comparative Tracking Index	175 - 600 V	175 - 600 V	Average value: 519 V Grade Count:22

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