

Overview of materials for Phenolic, Novolac, Mineral/Flock Filled

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

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.45 - 1.60 g/cc	0.0524 - 0.0578 lb/in ³	Average value: 1.53 g/cc Grade Count:21
Apparent Bulk Density	0.500 - 0.670 g/cc	0.0181 - 0.0242 lb/in ³	Average value: 0.549 g/cc Grade Count:8
Water Absorption	0.110 - 0.400 %	0.110 - 0.400 %	Average value: 0.239 % Grade Count:21
Linear Mold Shrinkage	0.00281 - 0.00900 cm/cm	0.00281 - 0.00900 in/in	Average value: 0.00522 cm/cm Grade Count:21

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	73.0 - 91.0	73.0 - 91.0	Average value: 81.3 Grade Count:15
Tensile Strength, Ultimate	37.0 - 60.0 MPa	5370 - 8700 psi	Average value: 51.9 MPa Grade Count:21
Elongation at Break	0.460 - 0.970 %	0.460 - 0.970 %	Average value: 0.677 % Grade Count:15
Modulus of Elasticity	8.40 - 11.6 GPa	1220 - 1680 ksi	Average value: 9.93 GPa Grade Count:15
Flexural Yield Strength	63.0 - 100 MPa	9140 - 14500 psi	Average value: 82.9 MPa Grade Count:21
Flexural Modulus	4.80 - 10.5 GPa	696 - 1520 ksi	Average value: 8.22 GPa Grade Count:21
Compressive Yield Strength	153 - 235 MPa	22200 - 34100 psi	Average value: 187 MPa Grade Count:21
Poissons Ratio	0.330 - 0.340	0.330 - 0.340	Average value: 0.333 Grade Count:4
Shear Modulus	3.20 - 3.84 GPa	464 - 557 ksi	Average value: 3.66 GPa Grade Count:4
Izod Impact, Notched	0.166 - 0.310 J/cm	0.311 - 0.581 ft-lb/in	Average value: 0.220 J/cm Grade Count:20
Charpy Impact, Notched			Average value: 0.218 J/cm ² Grade

Mechanical Properties	0.182 - 0.310 J/cm ² Metric	0.866 - 1.48 ft-lb/in ² English	Count:15 Comments
Thermal Properties	Metric	English	Comments
CTE, linear	42.0 - 58.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 40.0 - 130 $^{\circ}\text{C}$	23.3 - 32.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 104 - 266 $^{\circ}\text{F}$	Average value: 47.9 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:7
Thermal Conductivity	0.420 - 0.570 W/m-K @Temperature 100 - 100 $^{\circ}\text{C}$	2.91 - 3.96 BTU-in/hr-ft ² - $^{\circ}\text{F}$ @Temperature 212 - 212 $^{\circ}\text{F}$	Average value: 0.490 W/m-K Grade Count:5
Maximum Service Temperature, Air	190 - 216 $^{\circ}\text{C}$	374 - 421 $^{\circ}\text{F}$	Average value: 202 $^{\circ}\text{C}$ Grade Count:15
Deflection Temperature at 1.8 MPa (264 psi)	163 - 215 $^{\circ}\text{C}$	325 - 419 $^{\circ}\text{F}$	Average value: 187 $^{\circ}\text{C}$ Grade Count:17
Flammability, UL94	V-1 - V-0	V-1 - V-0	Grade Count:16
Oxygen Index	27.0 - 42.0 %	27.0 - 42.0 %	Average value: 33.8 % Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.20e+10 - 3.90e+12 ohm-cm	2.20e+10 - 3.90e+12 ohm-cm	Average value: 7.76e+11 ohm-cm Grade Count:19
Dielectric Constant	4.80 - 6.20	4.80 - 6.20	Average value: 5.45 Grade Count:15
Dielectric Strength	6.20 - 17.4 kV/mm	157 - 442 kV/in	Average value: 11.6 kV/mm Grade Count:21
Dissipation Factor	0.0274 - 0.0860	0.0274 - 0.0860	Average value: 0.0549 Grade Count:15
Arc Resistance	151 - 185 sec	151 - 185 sec	Average value: 173 sec Grade Count:15
Comparative Tracking Index	175 - 200 V	175 - 200 V	Average value: 178 V Grade Count:21

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