

## Overview of materials for Phenolic, Novolac, Impact Grade, Filled

Category : Polymer , Thermoset , Phenolic , Phenolic, Novolac, Impact Grade, Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Phenolic, Novolac, Impact Grade, 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-Impact-Grade-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Phenolic-Novolac-Impact-Grade-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.34 - 1.70 g/cc	0.0484 - 0.0614 lb/in <sup>3</sup>	Average value: 1.41 g/cc Grade Count:21
Apparent Bulk Density	0.450 - 0.570 g/cc	0.0163 - 0.0206 lb/in <sup>3</sup>	Average value: 0.504 g/cc Grade Count:17
Water Absorption	0.300 - 1.00 %	0.300 - 1.00 %	Average value: 0.611 % Grade Count:19
Linear Mold Shrinkage	0.00350 - 0.0120 cm/cm	0.00350 - 0.0120 in/in	Average value: 0.00708 cm/cm Grade Count:21

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	85.0 - 90.0	85.0 - 90.0	Average value: 87.0 Grade Count:5
Tensile Strength, Ultimate	30.0 - 62.0 MPa	4350 - 8990 psi	Average value: 48.7 MPa Grade Count:21
Elongation at Break	0.200 - 0.840 %	0.200 - 0.840 %	Average value: 0.566 % Grade Count:5
Modulus of Elasticity	7.60 - 21.0 GPa	1100 - 3050 ksi	Average value: 11.1 GPa Grade Count:7
Flexural Yield Strength	62.0 - 94.0 MPa	8990 - 13600 psi	Average value: 75.7 MPa Grade Count:21
Flexural Modulus	6.70 - 19.0 GPa	972 - 2760 ksi	Average value: 8.15 GPa Grade Count:19
Compressive Yield Strength	100 - 234 MPa	14500 - 33900 psi	Average value: 200 MPa Grade Count:21
Izod Impact, Notched	0.240 - 0.290 J/cm	0.450 - 0.543 ft-lb/in	Average value: 0.259 J/cm Grade Count:15
Charpy Impact, Notched	0.100 - 0.286 J/cm <sup>2</sup>	0.476 - 1.36 ft-lb/in <sup>2</sup>	Average value: 0.223 J/cm <sup>2</sup> Grade Count:5

Thermal Properties	Metric	English	Comments
	20.0 - 42.2 μm/m-°C	11.1 - 23.4 μin/in-°F	Average value: 33.6 μm/m-°C Grade

CTE linear Thermal Properties	Metric	English	Count:4 Comments
Maximum Service Temperature, Air	150 - 199 °C	302 - 390 °F	Average value: 178 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	135 - 206 °C	275 - 403 °F	Average value: 169 °C Grade Count:21
UL RTI, Electrical	150 °C	302 °F	Average value: 150 °C Grade Count:8
UL RTI, Mechanical with Impact	150 °C	302 °F	Average value: 150 °C Grade Count:8
UL RTI, Mechanical without Impact	150 °C	302 °F	Average value: 150 °C Grade Count:8
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:12

Electrical Properties	Metric	English	Comments
Electrical Resistivity	6.00e+9 - 1.70e+14 ohm-cm	6.00e+9 - 1.70e+14 ohm-cm	Average value: 9.82e+12 ohm-cm Grade Count:19
Dielectric Constant	4.20 - 8.50	4.20 - 8.50	Average value: 5.79 Grade Count:17
Dielectric Strength	7.90 - 15.0 kV/mm	201 - 381 kV/in	Average value: 12.3 kV/mm Grade Count:19
Dissipation Factor	0.0360 - 0.240	0.0360 - 0.240	Average value: 0.0974 Grade Count:17
Arc Resistance	77.0 - 146 sec	77.0 - 146 sec	Average value: 121 sec Grade Count:3
Comparative Tracking Index	125 - 175 V	125 - 175 V	Average value: 146 V Grade Count:11

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