

Overview of materials for Phenolic, Novolac, Heat Resistant Grade, Filled

Category : Polymer , Thermoset , Phenolic , Phenolic, Novolac, Heat Resistant Grade, Filled

Material Notes:

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

| Physical Properties | Metric | English | Comments |
|-----------------------|------------------------|------------------------------------|---|
| Density | 1.47 - 1.61 g/cc | 0.0531 - 0.0582 lb/in ³ | Average value: 1.52 g/cc Grade Count:12 |
| Apparent Bulk Density | 0.600 - 0.740 g/cc | 0.0217 - 0.0267 lb/in ³ | Average value: 0.670 g/cc Grade Count:12 |
| Water Absorption | 0.200 - 0.300 % | 0.200 - 0.300 % | Average value: 0.240 % Grade Count:12 |
| Linear Mold Shrinkage | 0.00330 - 0.0120 cm/cm | 0.00330 - 0.0120 in/in | Average value: 0.00687 cm/cm Grade Count:12 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|---------------------------------|-------------------------------------|--|
| Hardness, Rockwell E | 79.0 - 87.0 | 79.0 - 87.0 | Average value: 82.0 Grade Count:4 |
| Tensile Strength, Ultimate | 41.0 - 60.5 MPa | 5950 - 8770 psi | Average value: 50.5 MPa Grade Count:12 |
| Elongation at Break | 0.740 - 0.860 % | 0.740 - 0.860 % | Average value: 0.813 % Grade Count:4 |
| Modulus of Elasticity | 8.80 - 13.1 GPa | 1280 - 1900 ksi | Average value: 10.3 GPa Grade Count:6 |
| Flexural Yield Strength | 69.0 - 89.8 MPa | 10000 - 13000 psi | Average value: 78.9 MPa Grade Count:12 |
| Flexural Modulus | 8.16 - 10.4 GPa | 1180 - 1510 ksi | Average value: 9.12 GPa Grade Count:10 |
| Compressive Yield Strength | 145 - 221 MPa | 21000 - 32100 psi | Average value: 195 MPa Grade Count:12 |
| Charpy Impact, Notched | 0.170 - 0.210 J/cm ² | 0.809 - 0.999 ft-lb/in ² | Average value: 0.188 J/cm ² Grade Count:4 |

| Thermal Properties | Metric | English | Comments |
|-----------------------------------|--------------|--------------|-------------------------------------|
| Maximum Service Temperature, Air | 150 - 205 °C | 302 - 401 °F | Average value: 186 °C Grade Count:6 |
| Deflection Temperature at 1.8 MPa | 166 - 204 °C | 331 - 399 °F | |

| (264 psi) Thermal Properties | Metric | English | Average value: 180 °C Grade Count:12 Comments |
|-----------------------------------|-----------|-----------|--|
| UL RTI, Electrical | 150 °C | 302 °F | Average value: 150 °C Grade Count:6 |
| UL RTI, Mechanical with Impact | 150 °C | 302 °F | Average value: 150 °C Grade Count:6 |
| UL RTI, Mechanical without Impact | 150 °C | 302 °F | Average value: 150 °C Grade Count:6 |
| Flammability, UL94 | V-1 - 5VA | V-1 - 5VA | Grade Count:12 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-------------------------------|-------------------------------|--|
| Electrical Resistivity | 1.35e+11 - 2.68e+12 ohm-cm | 1.35e+11 - 2.68e+12 ohm-cm | Average value: 9.78e+11 ohm-cm Grade Count:12 |
| Dielectric Constant | 4.80 - 14.0 | 4.80 - 14.0 | Average value: 6.62 Grade Count:12 |
| Dielectric Strength | 7.40 - 16.7 kV/mm | 188 - 424 kV/in | Average value: 12.6 kV/mm Grade Count:12 |
| Dissipation Factor | 0.0370 - 0.170 | 0.0370 - 0.170 | Average value: 0.0726 Grade Count:12 |
| Arc Resistance | 150 - 180 sec | 150 - 180 sec | Average value: 165 sec Grade Count:6 |
| Comparative Tracking Index | 175 - 230 V | 175 - 230 V | Average value: 193 V Grade Count:12 |

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