

Plenco 4466 Phenolic, Granular, Compression Molded

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

Material Notes:

PLENCO 04466 is a heat resistant, mineral and flock filled phenolic molding compound, offering excellent mechanical strength and cosmetic properties. UL recognized under component file E40654. 04466 is available in black or brown. Information supplied by Plenco.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Plenco-4466-Phenolic-Granular-Compression-Molded.php

| Physical Properties | Metric | English | Comments |
|-----------------------|--------------|---------------------------|------------|
| Bulk Density | 0.630 g/cc | 0.0228 lb/in ³ | ASTM D1895 |
| Density | 1.60 g/cc | 0.0578 lb/in ³ | ASTM D792 |
| Water Absorption | 0.134 % | 0.134 % | ASTM D570 |
| Linear Mold Shrinkage | 0.0031 cm/cm | 0.0031 in/in | ASTM D955 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-------------------------|----------------------------|------------------------------|
| Hardness, Rockwell E | 79 | 79 | ASTM D785 |
| Tensile Strength, Ultimate | 46.0 MPa | 6670 psi | ASTM D638 |
| Elongation at Break | 0.46 % | 0.46 % | ASTM D638 |
| Tensile Modulus | 10.9 GPa | 1580 ksi | ASTM D638 |
| Flexural Strength | 63.0 MPa | 9140 psi | ASTM D790 |
| Flexural Modulus | 9.80 GPa | 1420 ksi | ASTM D790 |
| Compressive Strength | 153 MPa | 22200 psi | ASTM D695 |
| Izod Impact, Notched | 0.180 J/cm | 0.337 ft-lb/in | ASTM D256 |
| Charpy Impact, Notched | 0.218 J/cm ² | 1.04 ft-lb/in ² | ASTM D256 |
| Impact | 119 | 119 | J/m Drop Ball Impact; PLENCO |

| Thermal Properties | Metric | English | Comments |
|----------------------|---|---|----------------|
| CTE, linear | 42.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 23.3 $\mu\text{in}/\text{in}\cdot\text{°F}$ | TMA; ASTM E831 |
| | @Temperature 40.0 - 130 °C | @Temperature 104 - 266 °F | |
| Thermal Conductivity | 0.570 W/m-K | 3.96 BTU-in/hr-ft ² -°F | ASTM E1461 |
| | @Temperature 100 °C | @Temperature 212 °F | |

| Maximum Service Temperature, Air Thermal Properties | 208 °C Metric | 406 °F English | Heat Resistance; ASTM D570D Comments |
|---|---------------------------|-----------------------------|---|
| Deflection Temperature at 1.8 MPa (264 psi) | 215 °C | 419 °F | ASTM D648 |
| Flammability, UL94 | V-0 @Thickness 1.50 mm | V-0 @Thickness 0.0591 in | |
| Oxygen Index | 32 % | 32 % | ASTM D2863 |
| Shrinkage | 0.145 % | 0.145 % | 72 hr, 120°C; ASTM D1299 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-----------------|-----------------|-----------------------|
| Volume Resistivity | 2.10e+12 ohm-cm | 2.10e+12 ohm-cm | ASTM D247 |
| Dielectric Constant | 5.4 | 5.4 | ASTM D150 |
| Dielectric Strength | 13.9 kV/mm | 353 kV/in | Short Time; ASTM D149 |
| Dissipation Factor | 0.045 | 0.045 | ASTM D150 |
| Arc Resistance | 185 sec | 185 sec | ASTM D495 |
| Comparative Tracking Index | 175 V | 175 V | ASTM D3638 |

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