

Hexion Bakelite™ PF 2855 Phenolic Formaldehyde Resin, High Surface Quality, Low Shrinkage, For Electrostatic Coating, Dishwasher Proof, UL Listed

Category : Polymer , Thermoset , Filled/Reinforced Thermoset , Phenolic

Material Notes:

Phenolic molding compound, inorganically/organically filled, heat resistant up to 250°C, hot steam and hot water resistant, high surface quality, for electrostatic coating, UL listed molding compound 3.0 mm/V-0 (ALL). Application areas: Lamp holders, electrical switch gears, relays, circuit prot. switches, carbon brush holders, clamp boards, insulating caps, sealing flanges, pump parts, armatures, roll bodies. Information provided by Bakelite AGBakelite AG became a part of Hexion in 2005.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hexion-Bakelite-PF-2855-Phenolic-Formaldehyde-Resin-High-Surface-Quality-Low-Shrinkage-For-Electrostatic-Coating-Dishwasher-Proof-UL-Listed.php

| Physical Properties | Metric | English | Comments |
|-----------------------------|--------------|---------------------------|-----------------------------|
| Density | 1.51 g/cc | 0.0546 lb/in ³ | ISO 1183 |
| Apparent Bulk Density | 0.770 g/cc | 0.0278 lb/in ³ | ISO 60 |
| Linear Mold Shrinkage, Flow | 0.0050 cm/cm | 0.0050 in/in | Injection molding; ISO 2577 |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|---|---|-------------------|
| Flexural Strength | 90.0 MPa | 13100 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 8.50 GPa | 1230 ksi | ISO 178 |
| Charpy Impact Unnotched | 0.600 J/cm ² @Temperature 23.0 °C | 2.86 ft-lb/in ² @Temperature 73.4 °F | ISO 179-1/2 eU |
| Charpy Impact, Notched | 0.140 J/cm ² @Temperature 23.0 °C | 0.666 ft-lb/in ² @Temperature 73.4 °F | ISO 179-1/2 eA |

| Thermal Properties | Metric | English | Comments |
|-----------------------------------|------------------------------|-------------------------------|----------------------------|
| Maximum Service Temperature, Air | 150 °C | 302 °F | <20000 hours; IEC 60216-P1 |
| | 230 °C | 446 °F | < 50 hours; IEC 60216-P1 |
| Deflection Temperature at 8.0 MPa | 135 °C | 275 °F | ISO 75-2 |
| UL RTI, Electrical | 150 °C @Thickness 3.00 mm | 302 °F @Thickness 0.118 in | ALL |
| UL RTI, Mechanical with Impact | 150 °C @Thickness 3.00 mm | 302 °F @Thickness 0.118 in | ALL |
| | 150 °C | 302 °F | |

| UL RTI Mechanical without Impact Thermal Properties | Metric @Thickness 3.00 mm | English @Thickness 0.118 in | ALL Comments |
|--|--|--|-----------------------------|
| Flammability, UL94 | V-0 @Thickness 3.00 mm | V-0 @Thickness 0.118 in | (ALL) |
| Shrinkage | 0.350 % @Temperature 110 °C, Time 605000 sec | 0.350 % @Temperature 230 °F, Time 168 hour | Injection molding; ISO 2577 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|------------------------------------|-------------------------------------|--------------|
| Volume Resistivity | 1.00e+11 ohm-cm | 1.00e+11 ohm-cm | IEC 60093 |
| Surface Resistance | 1.00e+10 ohm | 1.00e+10 ohm | IEC 60093 |
| Dielectric Constant | 12 @Frequency 100 Hz | 12 @Frequency 100 Hz | IEC 60250 |
| Dielectric Strength | 5.00 kV/mm @Thickness 1.00 mm | 127 kV/in @Thickness 0.0394 in | IEC 60243-P1 |
| Dissipation Factor | 0.15 @Frequency 100 Hz | 0.15 @Frequency 100 Hz | IEC 60250 |
| Arc Resistance | 125 - 130 sec | 125 - 130 sec | ASTM D495 |
| Hot Wire Ignition, HWI | >= 120 sec @Thickness 3.00 mm | >= 120 sec @Thickness 0.118 in | ALL |
| High Amp Arc Ignition, HAI | 15 - 30 arcs @Thickness 3.00 mm | 15 - 30 arcs @Thickness 0.118 in | ALL |

| Processing Properties | Metric | English | Comments |
|-----------------------|-------------------|------------------------|--|
| Feed Temperature | 60.0 - 75.0 °C | 140 - 167 °F | Injection molding |
| Nozzle Temperature | 80.0 - 100 °C | 176 - 212 °F | Injection molding |
| Melt Temperature | 80.0 - 100 °C | 176 - 212 °F | Injection molding |
| Mold Temperature | 160 - 190 °C | 320 - 374 °F | Injection molding |
| | 160 - 190 °C | 320 - 374 °F | Compression molding |
| Injection Pressure | >= 15.0 MPa | >= 2180 psi | Compression and injection cavity mold pressure |
| Back Pressure | 0.500 - 2.00 MPa | 72.5 - 290 psi | Injection molding |
| Cure Time | 0.167 - 0.333 min | 0.00278 - 0.00556 hour | Per 1 mm of wall thickness, injection |

| Processing Properties | Metric | English | molding Comments |
|-----------------------|-------------------|-----------------------|--|
| | 0.333 - 0.667 min | 0.00556 - 0.0111 hour | Per 1 mm of wall thickness, compression molding |

| Descriptive Properties | Value | Comments |
|------------------------------|--|--------------------------|
| Chromatic Spectrum | All Colors | |
| Creep Rupture Strength | Very Good | |
| Holding Pressure | Approximately 40-60% of injection pressure | |
| Media Resistance | Very Good | |
| Moisture Absorption | 15 mg | ISO 62, 24 hours at 23°C |
| Reserves by Peak Temperature | Very High | |
| Thermal Expansion | Very Slight | |

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