

Hexion Bakelite™ PF 1107 Phenolic Formaldehyde Resin, Low Shrinkage, Resistant to High Temperatures (disconti

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

Material Notes:

Phenolic molding compound, inorganically filled, glass fiber reinforced, high heat resistance, low heat expansion coefficient, highest resistance to pressure, high dimensional stability. Application areas: Motor vehicle engine attachments, insulating flanges, brake pistons, sensors, grinding disc centers, bearing parts, impellers, pulleys and pump parts. 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-1107-Phenolic-Formaldehyde-Resin-Low-Shrinkage-Resistant-to-High-Temperatures-nbspdisconti.php

Physical Properties	Metric	English	Comments
Density	2.00 g/cc	0.0723 lb/in ³	ISO 1183
Apparent Bulk Density	0.970 g/cc	0.0350 lb/in ³	ISO 60
Linear Mold Shrinkage, Flow	0.00 cm/cm	0.00 in/in	Compression molding; ISO 2577
	0.0016 cm/cm	0.0016 in/in	Injection molding; ISO 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	450 MPa	65300 psi	H 961/30; ISO 2039/P1
Flexural Strength	100 MPa	14500 psi	2 mm/min; ISO 178
Flexural Modulus	17.0 GPa	2470 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	0.200 J/cm ² @Temperature 23.0 °C	0.952 ft-lb/in ² @Temperature 73.4 °F	ISO 179-1/2 eA

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	160 °C	320 °F	<20000 hours; IEC 60216-P1
	280 °C	536 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	170 °C	338 °F	ISO 75-2
Shrinkage	0.0300 % @Temperature 110 °C	0.0300 % @Temperature 230 °F	Compression molding; ISO 2577

Thermal Properties	0.0800 % Metric	0.0800 % English	Comments Injection molding: ISO 2577
	@Temperature 110 °C, Time 605000 sec	@Temperature 230 °F, Time 168 hour	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	IEC 60093
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	IEC 60093
Dielectric Constant	6.0 @Frequency 100 Hz	6.0 @Frequency 100 Hz	IEC 60250
Dielectric Strength	30.0 kV/mm @Thickness 1.00 mm	762 kV/in @Thickness 0.0394 in	IEC 60243-P1
Dissipation Factor	0.050 @Frequency 100 Hz	0.050 @Frequency 100 Hz	IEC 60250

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 molding
	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 Descriptive Properties	5 mg Value	ISO 62: 24 hours at 23°C Comments
Reserves by Peak Temperature	Very High	
Thermal Expansion	Very Slight	

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