

Hexion Bakelite™ PF 1141 Phenolic Formaldehyde Resin, High Surface Quality, Resistant to High Temperatures, Dishwasher Proof

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

Material Notes:

Phenolic molding compound, inorganically/organically filled, glass fiber reinforced, increased heat resistance, hot steam and hot water resistant (not suitable for use of higher voltage). Application areas: Fittings for ovens and dishwashers, cookware fittings. 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-1141-Phenolic-Formaldehyde-Resin-High-Surface-Quality-Resistant-to-High-Temperatures-Dishwasher-Proof.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
Ball Indentation Hardness	350 MPa	50800 psi	H 961/30; ISO 2039/P1
Flexural Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	8.50 GPa	1230 ksi	ISO 178
Compressive Strength	200 MPa	29000 psi	Test specimen flat tested; ISO 604
Charpy Impact Unnotched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179-1/2 eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.140 J/cm ²	0.666 ft-lb/in ²	ISO 179-1/2 eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	150 °C	302 °F	<20000 hours; IEC 60216-P1
	250 °C	482 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	135 °C	275 °F	ISO 75-2
Shrinkage	0.300 %	0.300 %	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+11 ohm-cm	1.00e+11 ohm-cm	IEC 60093
Surface Resistance	1.00e+10 ohm	1.00e+10 ohm	IEC 60093
Dielectric Constant	13	13	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	5.00 kV/mm	127 kV/in	IEC 60243-P1
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Dissipation Factor	0.20	0.20	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	

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	5 mg	ISO 62, 24 hours at 23°C
Reserves by Peak Temperature	Very High	
Thermal Expansion	Very Slight	

Descriptive Properties	Value	Comments
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