

Hexion Bakelite™ PF 1142 Phenolic Formaldehyde Resin, High Mechanical Strength (discontinued **)

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

Material Notes:

Phenolic molding compound, inorganically filled, glass fiber reinforced, high dimensional stability, good mechanical properties. Application areas: Insulating flanges, sealings, pulleys. Information provided by Bakelite AG. Bakelite AG became a part of Hexion in 2005.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hexion-Bakelite-PF-1142-Phenolic-Formaldehyde-Resin-High-Mechanical-Strength-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.73 g/cc	0.0625 lb/in ³	ISO 1183
Apparent Bulk Density	0.810 g/cc	0.0293 lb/in ³	ISO 60
Linear Mold Shrinkage, Flow	0.00090 cm/cm	0.00090 in/in	Compression molding; ISO 2577

Mechanical Properties	Metric	English	Comments
Flexural Strength	120 MPa	17400 psi	2 mm/min; ISO 178
Compressive Strength	225 MPa	32600 psi	Test specimen flat tested; ISO 604
Charpy Impact Unnotched	0.900 J/cm ² @Temperature 23.0 °C	4.28 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	150 °C	302 °F	<20000 hours; IEC 60216-P1
	250 °C	482 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	165 °C	329 °F	ISO 75-2
Shrinkage	0.130 % @Temperature 110 °C	0.130 % @Temperature 230 °F	Compression molding; ISO 2577

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 Processing Properties	80.0 - 100 °C Metric	176 - 212 °F English	Injection molding Comments
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	
Reserves by Peak Temperature	Very High	
Thermal Expansion	Very Slight	

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