

Hexion Bakelite™ PF 31.5 Phenolic Formaldehyde Resin, Improved Electrical Properties (discontinued **)

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

Material Notes:

Phenolic molding compound, mainly organically filled, electrically high grade, standardized molding compound. Application areas: Parts for electrical and telecommunications technology, car electronics, terminal boards and base plates, housings, mounting parts, motor ignition systems. 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-315-Phenolic-Formaldehyde-Resin-Improved-Electrical-Properties-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.43 g/cc	0.0517 lb/in ³	ISO 1183
Apparent Bulk Density	0.600 g/cc	0.0217 lb/in ³	ISO 60
Linear Mold Shrinkage, Flow	0.0040 cm/cm	0.0040 in/in	Compression molding; ISO 2577
	0.0080 cm/cm	0.0080 in/in	Injection molding; ISO 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	300 MPa	43500 psi	H 961/30; ISO 2039/P1
Flexural Strength	115 MPa	16700 psi	2 mm/min; ISO 178
Flexural Modulus	8.00 GPa	1160 ksi	ISO 178
Charpy Impact Unnotched	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179-1/2 eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.150 J/cm ²	0.714 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	140 °C	284 °F	<20000 hours; IEC 60216-P1
	180 °C	356 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	115 °C	239 °F	ISO 75-2
Shrinkage	0.500 %	0.500 %	Compression molding; ISO 2577
	@Temperature 110 °C	@Temperature 230 °F	
	1.00 %	1.00 %	

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

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	0.10 @Frequency 100 Hz	0.10 @Frequency 100 Hz	IEC 60250
Comparative Tracking Index	125 V	125 V	Test liquid A; IEC 60112

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	Subdued Colors	
Creep Rupture Strength	Good	
Holding Pressure	Approximately 40-60% of injection pressure	
Media Resistance	Good	

Descriptive Properties	Value	Comments
Reserves by Peak Temperature	High	hours at 23°C
Thermal Expansion	Slight	

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