Hexion Bakelite™ PF 85 Phenolic Formaldehyde Resin, UL Listed (discontinued **)

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

Material Notes:

Phenolic molding compound, organically filled, reinforced with cotton fibers, average notched impact strength, UL listed molding compound 1.5 mm/HB (BK, BN).Application areas: Switch covers, rolls, handles, terminal parts, brake booster parts and bobbins.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-85-Phenolic-Formaldehyde-Resin-UL-Listed-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.37 g/cc	0.0495 lb/in³	ISO 1183
Apparent Bulk Density	0.580 g/cc	0.0210 lb/in³	ISO 60
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 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
Tensile Strength at Break	50.0 MPa	7250 psi	5 mm/min; ISO 527 - 1/2
Tensile Modulus	7.00 GPa	1020 ksi	1 mm/min; ISO 527 - 1/2
Flexural Strength	85.0 MPa	12300 psi	2 mm/min; ISO 178
Flexural Modulus	6.50 GPa	943 ksi	ISO 178
Compressive Strength	225 MPa	32600 psi	Test specimen flat tested; ISO 604
Charpy Impact Unnotched	0.650 J/cm² @Temperature 23.0 °C	3.09 ft-lb/in² @Temperature 73.4 °F	ISO 179-1/2 eU
Charpy Impact, Notched	0.150 J/cm² @Temperature 23.0 °C	0.714 ft-lb/in² @Temperature 73.4 °F	ISO 179-1/2 eA

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	130 °C	266 °F	<20000 hours; IEC 60216-P1
	160 °C	320 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	115 °C	239 °F	ISO 75-2

Thermal Properties	Metric	English	Comments
UL RTI, Electrical	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	(BK, BN)
UL RTI, Mechanical with Impact	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	(BK, BN)
UL RTI, Mechanical without Impact	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	(BK, BN)
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	(BK, BN)
Shrinkage	0.200 % @Temperature 110 °C	0.200 % @Temperature 230 °F	Compression molding; ISO 2577
	0.600 % @Temperature 110 °C, Time 605000 sec	0.600 % @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	8.0 @Frequency 100 Hz	8.0 @Frequency 100 Hz	IEC 60250
Dielectric Strength	25.0 kV/mm @Thickness 1.00 mm	635 kV/in @Thickness 0.0394 in	IEC 60243-P1
Dissipation Factor	0.25 @Frequency 100 Hz	0.25 @Frequency 100 Hz	IEC 60250
Arc Resistance	<= 60 sec	<= 60 sec	ASTM D495
High Voltage Arc Resistance to Ignition (HVAR)	>= 300 sec @Thickness 3.00 mm	>= 300 sec @Thickness 0.118 in	BK, BN
Comparative Tracking Index	125 V	125 V	Test liquid A; IEC 60112
Hot Wire Ignition, HWI	60 - 120 sec @Thickness 1.50 mm	60 - 120 sec @Thickness 0.0591 in	(BK, BN)
	>= 120 sec @Thickness 3.00 mm	>= 120 sec @Thickness 0.118 in	BK, BN
	30 - 60 arcs	30 - 60 arcs	

Electrical Properties	Metric	English	Comments
High Amp Arc Ignition, HAI	@Thickness 1.50 mm	@Thickness 0.0591 in	(BK, BN)
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min @Thickness 3.00 mm	3.15 - 5.91 in/min @Thickness 0.118 in	BK, BN

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	
Moisture Absorption	50 mg	ISO 62, 24 hours at 23°C
Reserves by Peak Temperature	High	
Thermal Expansion	Slight	

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