

Hexion Bakelite™ PF 13591 Phenolic Formaldehyde Resin, High Surface Quality, UL Listed (discontinued **)

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

Material Notes:

Phenolic molding compound, mainly organically filled, very soft flow for large molds, UL listed molding compound 1.5 mm/V-1 (BK), 3.0 mm/V-0 (BK). Application areas: Pan handles, various applications in electrical and automotive area. 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-13591-Phenolic-Formaldehyde-Resin-High-Surface-Quality-UL-Listed-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Apparent Bulk Density	0.620 g/cc	0.0224 lb/in ³	ISO 60
Linear Mold Shrinkage, Flow	0.0065 cm/cm	0.0065 in/in	Compression molding; ISO 2577

Mechanical Properties	Metric	English	Comments
Flexural Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	7.00 GPa	1020 ksi	ISO 178
Charpy Impact Unnotched	0.550 J/cm ² @Temperature 23.0 °C	2.62 ft-lb/in ² @Temperature 73.4 °F	ISO 179-1/2 eU
Charpy Impact, Notched	0.130 J/cm ² @Temperature 23.0 °C	0.619 ft-lb/in ² @Temperature 73.4 °F	ISO 179-1/2 eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 8.0 MPa	105 °C	221 °F	ISO 75-2
UL RTI, Electrical	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	BK
UL RTI, Mechanical with Impact	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	BK
UL RTI, Mechanical without Impact	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	BK
Flammability, UL94	V-1 @Thickness 1.50 mm	V-1 @Thickness 0.0591 in	BK

Thermal Properties	Metric	English	Comments
	@Thickness 3.00 mm	@Thickness 0.118 in	(BK)
Shrinkage	0.650 %	0.650 %	Compression molding; ISO 2577
	@Temperature 110 °C	@Temperature 230 °F	

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	15	15	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	15.0 kV/mm	381 kV/in	IEC 60243-P1
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Dissipation Factor	0.40	0.40	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Arc Resistance	60 - 120 sec	60 - 120 sec	(BK)
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc Resistance to Ignition (HVAR)	>= 300 sec	>= 300 sec	BK
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Comparative Tracking Index	100 - 175 V	100 - 175 V	(BK)
	@Thickness 3.00 mm	@Thickness 0.118 in	
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	BK
	@Thickness 1.50 mm	@Thickness 0.0591 in	
High Amp Arc Ignition, HAI	30 - 60 arcs	30 - 60 arcs	BK
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	60 - 120 arcs	60 - 120 arcs	(BK)
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	BK
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Processing Properties	Metric	English	Comments
Feed Temperature	60.0 - 75.0 °C	140 - 167 °F	Injection molding

Nozzle Temperature Processing Properties	80.0 - 100 °C Metric	176 - 212 °F English	Injection molding Comments
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	80 mg	ISO 62, 24 hours at 23°C
Reserves by Peak Temperature	High	
Thermal Expansion	Slight	

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