

Hexion Bakelite™ PF 2774 Phenolic Formaldehyde Resin, Dishwasher Proof, Improved Electrical Properties, Low Shrinkage, UL Listed

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

Material Notes:

Phenolic molding compound, inorganically filled, glass fiber reinforced, increased dimensional stability, averaged notched impact strength, average heat resistance, improved electrical properties, UL listed molding compound 1.5 mm/V-0 (ALL). Application areas: Contactors, pump parts, insulating flanges, automotive engine attachments, braking power energizers, bearing brackets and lamp holders. 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-2774-Phenolic-Formaldehyde-Resin-Dishwasher-Proof-Improved-Electrical-Properties-Low-Shrinkage-UL-Listed.php

Physical Properties	Metric	English	Comments
Density	1.72 g/cc	0.0621 lb/in ³	ISO 1183
Apparent Bulk Density	0.750 g/cc	0.0271 lb/in ³	ISO 60
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	Compression molding; ISO 2577
	0.0030 cm/cm	0.0030 in/in	Injection molding; ISO 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	425 MPa	61600 psi	H 961/30; ISO 2039/P1
Flexural Strength	115 MPa	16700 psi	2 mm/min; ISO 178
Flexural Modulus	11.0 GPa	1600 ksi	ISO 178
Charpy Impact Unnotched	0.900 J/cm ²	4.28 ft-lb/in ²	ISO 179-1/2 eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.200 J/cm ²	0.952 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
	220 °C	428 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	150 °C	302 °F	ISO 75-2
UL RTI, Electrical	150 °C	302 °F	ALL
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Thermal Properties	150 °C Metric	302 °F English	Comments
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical without Impact	150 °C @Thickness 1.50 mm	302 °F @Thickness 0.0591 in	ALL
Flammability, UL94	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	ALL
Shrinkage	0.120 % @Temperature 110 °C	0.120 % @Temperature 230 °F	Compression molding; ISO 2577
	0.180 % @Temperature 110 °C, Time 605000 sec	0.180 % @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	7.0 @Frequency 100 Hz	7.0 @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	0.10 @Frequency 100 Hz	0.10 @Frequency 100 Hz	IEC 60250
Arc Resistance	135 - 140 sec	135 - 140 sec	ASTM D495
Comparative Tracking Index	175 V	175 V	Test liquid A; IEC 60112
Hot Wire Ignition, HWI	>= 120 sec @Thickness 1.50 mm	>= 120 sec @Thickness 0.0591 in	ALL
High Amp Arc Ignition, HAI	60 - 120 arcs @Thickness 1.50 mm	60 - 120 arcs @Thickness 0.0591 in	ALL

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

Processing Properties	Metric 190 °C	English 374 °F	Comments
	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	10 mg	ISO 62, 24 hours at 23°C
Reserves by Peak Temperature	Very High	
Thermal Expansion	Very Slight	

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