

Hexion Bakelite™ EP 8412 Epoxy Resin, High Arc Resistance, Improved Electrical Properties, Low Shrinkage

Category : Polymer , Thermoset , Epoxy , Epoxy Molding Compound , Filled/Reinforced Thermoset

Material Notes:

Epoxy molding compound, inorganically filled, glass fiber reinforced, heat resistant, dimensionally stable, good electrical and mechanical properties, very good chemical resistance, low viscosity, UL listed (RTI 155°C). Application areas: Encapsulation of electric parts, e.g. electromagnetic coil. Information provided by Bakelite AG. This product was originally produced by Bakelite AG, now a part of Hexion.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hexion-Bakelite-EP-8412-Epoxy-Resin-High-Arc-Resistance-Improved-Electrical-Properties-Low-Shrinkage.php

Physical Properties	Metric	English	Comments
Density	1.85 g/cc	0.0668 lb/in ³	ISO 1183
Apparent Bulk Density	0.800 g/cc	0.0289 lb/in ³	ISO 60
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	Compression molding; ISO 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	400 MPa	58000 psi	H 961/30; ISO 2039/P1
Tensile Strength at Break	55.0 MPa	7980 psi	5 mm/min; ISO 527 - 1/2
Tensile Modulus	13.0 GPa	1890 ksi	1 mm/min; ISO 527 - 1/2
Flexural Strength	125 MPa	18100 psi	2 mm/min; ISO 178
Flexural Modulus	14.5 GPa	2100 ksi	ISO 178
Compressive Strength	170 MPa	24700 psi	Test specimen flat tested; ISO 604
Charpy Impact Unnotched	0.850 J/cm ² @Temperature 23.0 °C	4.05 ft-lb/in ² @Temperature 73.4 °F	ISO 179-1/2 eU
Charpy Impact, Notched	0.350 J/cm ² @Temperature 23.0 °C	1.67 ft-lb/in ² @Temperature 73.4 °F	ISO 179-1/2 eA

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	180 °C	356 °F	<20000 hours; IEC 60216-P1
	220 °C	428 °F	< 50 hours; IEC 60216-P1
Deflection Temperature at 8.0 MPa	115 °C	239 °F	ISO 75-2
	155 °C	311 °F	

UL RTI Electrical Thermal Properties	Metric @Thickness 1.50 mm	English @Thickness 0.0591 in	BK Comments
UL RTI, Mechanical with Impact	155 °C @Thickness 1.50 mm	311 °F @Thickness 0.0591 in	BK
UL RTI, Mechanical without Impact	155 °C @Thickness 1.50 mm	311 °F @Thickness 0.0591 in	BK
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	BK
Shrinkage	0.000 % @Temperature 110 °C, Time 605000 sec	0.000 % @Temperature 230 °F, Time 168 hour	Compression molding; ISO 2577

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093
Dielectric Constant	5.0 @Frequency 100 Hz	5.0 @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	0.020 @Frequency 100 Hz	0.020 @Frequency 100 Hz	IEC 60250
Arc Resistance	192 - 194 sec	192 - 194 sec	ASTM D495
High Voltage Arc Resistance to Ignition (HVAR)	>= 300 sec @Thickness 1.50 mm	>= 300 sec @Thickness 0.0591 in	BK
Comparative Tracking Index	250 V	250 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
	>= 120 sec @Thickness 3.00 mm	>= 120 sec @Thickness 0.118 in	BK
High Amp Arc Ignition, HAI	15 - 30 arcs @Thickness 1.50 mm	15 - 30 arcs @Thickness 0.0591 in	BK
	60 - 120 arcs	60 - 120 arcs	BK

Electrical Properties	@Thickness 3.00 mm Metric	@Thickness 0.118 in English	Comments
High Voltage Arc-Tracking Rate, HVTR	0.000 - 10.0 mm/min @Thickness 3.00 mm	0.000 - 0.394 in/min @Thickness 0.118 in	BK

Processing Properties	Metric	English	Comments
Feed Temperature	60.0 - 75.0 °C	140 - 167 °F	Injection molding
Nozzle Temperature	70.0 - 100 °C	158 - 212 °F	Injection molding
Melt Temperature	90.0 - 100 °C	194 - 212 °F	Injection molding
Mold Temperature	160 - 190 °C	320 - 374 °F	Compression molding
	170 - 190 °C	338 - 374 °F	Injection molding
Injection Pressure	>= 10.0 MPa	>= 1450 psi	Compression and injection cavity mold pressure
Back Pressure	0.500 - 2.00 MPa	72.5 - 290 psi	Injection molding
Cure Time	0.250 - 0.417 min	0.00417 - 0.00694 hour	Per 1 mm of wall thickness, injection molding
	0.500 - 1.00 min	0.00833 - 0.0167 hour	Per 1 mm of wall thickness, compression molding

Descriptive Properties	Value	Comments
Chromatic Spectrum	Subdued 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	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China

