

Master Bond EP112M Two Component, Medium Viscosity Heat Curing Cycloaliphatic Epoxy Resin

Category : Polymer , Thermoset , Epoxy , Epoxy Encapsulant, Unreinforced

Material Notes:

Product Description: Master Bond Polymer System EP112M is a solventless, medium viscosity two component cycloaliphatic epoxy resin system which is specifically designed for high performance outdoor and indoor electrical/electronic/ structural applications featuring outstanding arc, corona and tracking resistance. The two components are combined in a convenient noncritical mix ratio (100/80 by wt) to a medium viscosity, 100% reactive liquid with a long working (pot) life at ambient temperatures which however cures readily at elevated temperatures to a tough strong solid with superior physical strength properties and outstanding electrical insulation characteristics. Additional performance qualities are high thermal and dimensional stability, very good thermal shock and vibration resistance and excellent adhesion to metals and a variety of other substrates including glass fibers, ceramics and many plastics. The formulated chemical composition of the Master Bond Polymer System EP112M assures high and durable outdoor electrical insulation properties such as tracking resistance, erosion resistance and weather resistance as well as adhesion to reinforcing fibers for epoxy composites over a wide temperature range. Master Bond Polymer System EP112M is widely employed for potting, casting and encapsulation applications, impregnations and the production of glass and/or other reinforcing fibers in epoxy structures such as pipe, tanks, electrical insulation tubing etc. Because of the retention of its outdoor electrical insulation characteristics, formulations based on Master Bond Polymer System EP112M are successfully employed in electrical insulation applications including outdoor post and suspension insulators; outdoor high and low voltage transformer bushings; outdoor switchgear components-resistor housings; interruptor tubes and outdoor instrument transformers. Master Bond Polymer System EP112M is filled with a specially formulated blend of ceramic powders which serve to optimize the system's arc, corona and tracking resistance. **Product Advantages:** Convenient noncritical mixing ratio (A/B 100/80 by wt). Medium viscosity, long working (pot) life at ambient temperatures, ready cure at elevated temperatures (250 to 350°F). High physical strengths, toughness, resiliency; resists cracking around metal inserts. Excellent dielectric properties are constant over a wide range of temperatures. Superior arc, corona and tracking resistance. Good endurance under outdoor exposures exhibited by superior ultraviolet and thermal shock resistance. Low shrinkage upon cure. Excellent adhesion to both metallic and nonmetallic substrates. High thermal stability (HDT >190°C (350°F)). Service temperature -60°F to 500°F. Good water and chemical resistance. Low density. Ready modification with selected resins and other compounding ingredients to maximize specific application requirements. Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP112M-Two-Component-Medium-Viscosity-Heat-Curing-Cycloaliphatic-Epoxy-Resin.php

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 90	>= 90	
Tensile Strength at Break	>= 34.5 MPa	>= 5000 psi	
	@Temperature 149 °C	@Temperature 300 °F	
Tensile Modulus	>= 68.9 MPa	>= 10000 psi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Mechanical Properties	@Temperature 149 °C Metric	@Temperature 300 °F English	Comments
	3.72 GPa	540 ksi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Flexural Strength	137 MPa	19800 psi	
Compressive Strength	>= 190 MPa	>= 27600 psi	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	260 °C	500 °F	
Heat Distortion Temperature	193 °C	380 °F	
Minimum Service Temperature, Air	-51.1 °C	-60.0 °F	
Shrinkage	0.15 - 0.20 %	0.15 - 0.20 %	Cure shrinkage

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.50e+15 ohm-cm	>= 1.50e+15 ohm-cm	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	
	@Temperature 75.0 °C	@Temperature 167 °F	
Surface Resistance	3.90e+14 ohm	3.90e+14 ohm	
	@Temperature 149 °C	@Temperature 300 °F	
	4.80e+15 ohm	4.80e+15 ohm	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Dielectric Constant	3.08	3.08	
	@Frequency 60.0 Hz, Temperature 150 °C	@Frequency 60.0 Hz, Temperature 302 °F	
	3.16	3.16	
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	
Dielectric Strength	17.7 kV/mm	450 kV/in	125 mil
Dissipation Factor	0.0060	0.0060	
	@Frequency 60.0 Hz, Temperature 150 °C	@Frequency 60.0 Hz, Temperature 302 °F	
	0.0090	0.0090	
	@Frequency 60.0 Hz,	@Frequency 60.0 Hz,	

Electrical Properties	Temperature 25.0 °C Metric	Temperature 77.0 °F English	Comments
Arc Resistance	>= 200 sec	>= 200 sec	ASTM D495
Track Resistance	>= 120000 sec	>= 120000 sec	2.5 KV; ASTM D2303

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min	2.00 - 3.00 hour	first
	@Temperature 104 - 121 °C	@Temperature 220 - 250 °F	
Pot Life	240 - 360 min	4.00 - 6.00 hour	second, Post cure for and additional 4-8 hours at 350-375°F
	@Temperature 149 - 160 °C	@Temperature 300 - 320 °F	
Shelf Life	>= 6.0 min	>= 6.0 min	at ambient temperatures
Shelf Life	12.0 Month	12.0 Month	unopened containers

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	100/80	by weight

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