

Master Bond EP30HV Optically Clear, High Strength Two Part Epoxy

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

Description: Master Bond EP30HV is a lower viscosity, two component epoxy system for high performance bonding, sealing, coating and potting. It is formulated to cure at room temperature or more rapidly at elevated temperatures. It has an easy to use, non-critical four to one mix ratio by weight. This system is 100% reactive and does not contain any solvents or diluents. It is especially recommended when low viscosity, excellent physical strength properties along with optical clarity are required. It has low linear shrinkage upon curing, less than 0.1%. EP30HV forms high strength, rigid bonds with superior dimensional stability. It resists many chemicals including water, oils, fuels, acids, bases and solvents. It adheres well to a wide variety of materials including metals, composites, glass, ceramics, rubbers and many plastics. The cured epoxy has top notch electrical insulation properties. EP30HV possesses outstanding optical clarity and light transmittance from 350 to about 2,400 nm. The service temperature range is -60°F to 300°F. This versatile system can be used in the aerospace, electronic, optical, opto-electronic and specialty OEM applications. **Product Advantages:** Convenient mixing: lower viscosity, easy to apply. High physical strength properties. Forms dimensionally stable, rigid bonds. Good optical clarity, high light transmission properties. Outstanding electrical insulation properties; well suited for smaller pottings. Good chemical and temperature resistance. Meets FDA requirements for indirect food related applications. Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP30HV-Optically-Clear-High-Strength-Two-Part-Epoxy.php

Physical Properties	Metric	English	Comments
Viscosity	250 - 500 cP	250 - 500 cP	Part B
	9000 - 15000 cP	9000 - 15000 cP	Part A

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 75	>= 75	
Tensile Strength at Break	>= 62.1 MPa	>= 9000 psi	
Shear Strength	>= 20.0 MPa	>= 2900 psi	Tensile lap, Al to Al

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 - 50.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	25.0 - 27.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
Maximum Service Temperature, Air	149 $^\circ\text{C}$	300 $^\circ\text{F}$	
Minimum Service Temperature, Air	-51.1 $^\circ\text{C}$	-60.0 $^\circ\text{F}$	

Optical Properties	Metric	English	Comments
Refractive Index	1.55	1.55	
Transmission, Visible	90 %	90 %	clear; thickness not quantified

Optical Properties	Metric	English	Comments
Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	
Dielectric Constant	3.5	3.5	
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	
Dielectric Strength	17.3 kV/mm	440 kV/in	
	@Thickness 3.17 mm	@Thickness 0.125 in	
Dissipation Factor	0.0050	0.0050	
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min	2.00 - 3.00 hour	
	@Temperature 93.3 °C	@Temperature 200 °F	
	720 min	12.0 hour	followed by 2 hours at 150-200°F
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	1440 - 2880 min	24.0 - 48.0 hour	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Pot Life	30 - 40 min	30 - 40 min	100 gram batch
Shelf Life	12.0 Month	12.0 Month	in unopened container
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	4:1	by weight

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