

Master Bond EP30AN-1 Low Viscosity, NASA Low Outgassing Epoxy

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

Material Notes:

Description: Master Bond EP30AN-1 is a two part epoxy for high performance potting, sealing, coating and bonding featuring high thermal conductivity, excellent electrical insulation properties and NASA low outgassing approval. It will cure at room temperature or more rapidly at elevated temperatures. Other properties include dimensional stability and good physical strength properties. Its low viscosity and excellent flow characteristics make it an ideal thermally conductive potting epoxy. EP30AN-1 is also an excellent adhesive/sealant forming durable, rigid bonds that resist to thermal cycling and chemicals including water, oils, etc. over the wide temperature range of -60°F to +250°F. The coefficient of thermal expansion is desirably low. The color of Part A is gray and Part B is clear. Master Bond EP30AN-1 is widely used in applications where thermal conductivity, electrical isolation and low outgassing properties are required. It is particularly well suited to high vacuum environments. Product Advantages: Easy application: adhesive spreads or pours evenly and smoothly. Versatile cure schedules: ambient temperature cures or fast elevated temperature cures as required. High bond strength to a wide variety of substrates; excellent adhesive properties. Exceptionally high thermal conductivity with excellent electrical insulation properties. Good physical strength characteristics; especially high compressive strength. Meets NASA low outgassing specifications

Key Features Thermally conductive Electrically insulative Low thermal expansion coefficient NASA approved for low outgassing applications Low viscosity with excellent flowability Dimensional stability

Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP30AN-1-Low-Viscosity-NASA-Low-Outgassing-Epoxy.php

Physical Properties	Metric	English	Comments
Viscosity	300 - 400 cP	300 - 400 cP	Part B
	10000 - 18000 cP	10000 - 18000 cP	Part A

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85 - 90	85 - 90	
Tensile Strength at Break	>= 41.4 MPa	>= 6000 psi	
Compressive Strength	>= 103 MPa	>= 15000 psi	
Shear Strength	>= 6.21 MPa	>= 900 psi	Tensile lap, Al to Al

Thermal Properties	Metric	English	Comments
CTE, linear	20.0 - 25.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	11.1 - 13.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
Thermal Conductivity	3.60 W/m-K	25.0 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	121 °C	250 °F	
Minimum Service Temperature, Air	-51.1 °C	-60.0 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.80e+14 ohm-cm	4.80e+14 ohm-cm	
Dielectric Constant	6.4 @Frequency 60.0 Hz, Temperature 25.0 °C	6.4 @Frequency 60.0 Hz, Temperature 77.0 °F	
Dielectric Strength	16.5 kV/mm @Thickness 3.17 mm	420 kV/in @Thickness 0.125 in	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min @Temperature 93.3 °C	2.00 - 3.00 hour @Temperature 200 °F	
	2880 - 4320 min @Temperature 23.9 °C	48.0 - 72.0 hour @Temperature 75.0 °F	
Pot Life	30 - 45 min	30 - 45 min	100 gram batch
Shelf Life	6.00 Month @Temperature 23.9 °C	6.00 Month @Temperature 75.0 °F	in original unopened container

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	10:1	by weight

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