

Master Bond EP42HT-2AO-1 Two Part, Cryogenically Serviceable Epoxy

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

Material Notes:

Description: Master Bond EP42HT-2AO-1 Black is a room temperature curable, two component epoxy adhesive, sealant, coating and casting material that meets NASA low outgassing specifications. It features high temperature resistance and outstanding chemical resistance and is widely used in a variety of potting and encapsulation applications where thermal conductivity is needed. Aside from being a superior adhesive, sealant and coating, EP42HT-2AO-1 Black is castable to thicknesses exceeding 2-3 inches. EP42HT-2AO-1 Black cures readily at ambient temperatures or more quickly at elevated temperatures even in the presence of moisture. The cured epoxy compound is resistant to various types of chemicals such as inorganic and organic acids, alkalis, many organic solvents, aromatic hydrocarbons, etc. EP42HT-2AO-1 Black is an excellent electrical insulator. Especially noteworthy is its cryogenic serviceability from 4K up to +400°F combined with being relatively impervious to intermittent exposures to steam. Aside from its widespread use in the electronics industry, EP42HT-2AO-1 Black is also used in medical, fiber-optic, optical, as well as OEM type applications. While the mixed material is black in color, Part A is black and Part B is brown.

Product Advantages: Non-critical 100:40 mix ratio by weight
Convenient cure schedules at both ambient and elevated temperatures
Excellent chemical resistance to acids, alkalis and many solvents
Castable to thicknesses exceeding 2-3 inches
Excellent flow properties

Key Features and Benefits: Passes NASA low outgassing specifications
Outstanding thermal conductivity and electrical insulation properties
Superior thermal stability with serviceability up to +400°F
Suitable for cryogenic applications at temperatures down to 4K

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP42HT-2AO-1-Two-Part-Cryogenically-Serviceable-Epoxy.php

Physical Properties	Metric	English	Comments
Viscosity	200 - 1000 cP	200 - 1000 cP	Part B
	50000 - 120000 cP	50000 - 120000 cP	Part A

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 80	>= 80	
Tensile Strength at Break	>= 51.7 MPa	>= 7500 psi	
Elongation at Break	>= 2.0 %	>= 2.0 %	
Tensile Modulus	>= 3.45 GPa	>= 500 ksi	
Shear Strength	>= 8.27 MPa	>= 1200 psi	Tensile lap, Al to Al

Thermal Properties	Metric	English	Comments
CTE, linear	25.0 - 30.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	13.9 - 16.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
Thermal Conductivity	1.30 - 1.44 W/m-K	9.00 - 10.0 BTU-in/hr-ft ² -°F	

Maximum Service Temperature, Air Thermal Properties	204 °C Metric	400 °F English	Comments
Minimum Service Temperature, Air	-168 °C	-270 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+12 ohm-cm	>= 1.00e+12 ohm-cm	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min	2.00 - 3.00 hour	
	@Temperature 93.3 °C	@Temperature 200 °F	
	1440 - 4320 min	24.0 - 72.0 hour	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Shelf Life	6.00 Month	6.00 Month	in unopened container
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	100:40	by weight

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