

Master Bond EP42HT-2Med Epoxy Meets USP Class VI Requirements

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

Material Notes:

Description: Master Bond Polymer System EP42HT-2Med is a room temperature curable two component epoxy, adhesive, sealant, coating and casting material featuring high temperature resistance along with outstanding chemical resistance. It is widely used in medical devices because of its capability of withstanding repeated sterilizations, including radiation, ethylene oxide, chemical sterilants and especially autoclaving. In addition, it fully complies with the testing requirements of USP Class VI plastics. EP42HT-2Med is a superior adhesive, sealant and coating and can also be used for potting and encapsulating up to 2-3 inches thick. EP42HT-2Med cures readily at ambient temperatures or more quickly at elevated temperatures. To optimize properties and ensure biocompatibility, a desirable cure schedule is overnight at room temperature followed by 2-4 hours at 150-200°F. It has an easy to use 100 to 40 mix ratio by weight or 100 to 50 by volume. In addition to withstanding various types of sterilizations, it resists acids, bases, solvents and fuels. EP42HT-2Med has excellent electrical insulation properties. Especially noteworthy is its serviceability from -60°F up to 450°F. EP42HT-2Med is widely used in the medical industry for manufacturing and repairing endoscopes, surgical instruments, catheters and many other medical devices.

Additionally, EP42HT-2Med is available in black as a USP Class VI system. Product Advantages: Convenient 100 to 40 mix ratio by weight or 100 to 50 by volume Can be used as adhesive, sealing, coating, potting or encapsulation compound Withstands multiple cycles of medical sterilization Outstanding resistance to radiation, EtO, chemicals and steam Excellent chemical resistance to acids, bases and many solvents Available in amber-clear and black as a USP Class VI system Contains no solvents Key Features and Benefits: USP Class VI approved High temperature resistant Sterilization resistant Cures at room temperature or elevated temperatures Serviceable from -60°F to 450°F Castable to thicknesses exceeding 2-3 inches Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP42HT-2Med-Epoxy-Meets-USP-Class-VI-Requirements.php

Physical Properties	Metric	English	Comments
Viscosity	30 - 70 cP	30 - 70 cP	Part B
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	1000 - 1800 cP	1000 - 1800 cP	Part A
	@Temperature 52.2 °C	@Temperature 126 °F	
	55000 - 110000 cP	55000 - 110000 cP	Part A
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 75	>= 75	
Tensile Strength at Break	>= 82.7 MPa	>= 12000 psi	
Elongation at Break	<= 5.0 %	<= 5.0 %	
Tensile Modulus	2.41 - 2.76 GPa	350 - 400 ksi	

Shear Strength Mechanical Properties	≥ 13.8 MPa Metric	≥ 2000 psi English	Tensile lap, Al to Al Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	35.0 - 40.0 $\mu\text{m}/\text{m}\cdot\text{C}$	19.4 - 22.2 $\mu\text{in}/\text{in}\cdot\text{F}$	
Maximum Service Temperature, Air	232 °C	450 °F	
Minimum Service Temperature, Air	-51.1 °C	-60.0 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	
Dielectric Constant	3.8 @Frequency 60.0 Hz, Temperature 25.0 °C	3.8 @Frequency 60.0 Hz, Temperature 77.0 °F	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min @Temperature 93.3 °C	2.00 - 3.00 hour @Temperature 200 °F	
Pot Life	2880 - 4320 min @Temperature 23.9 °C	48.0 - 72.0 hour @Temperature 75.0 °F	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)	100:40	by weight
	100:50	by volume

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