

Master Bond EP45HTMED Epoxy Resists Radiation and Steam Sterilization

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

Material Notes:

Description: Master Bond Polymer System EP45HTMED is a two component heat cured epoxy system for high performance structural bonding, sealing, coating and casting. It is especially designed for the assembly of reusable medical devices which must be sterilized repeatedly by radiation, sterilants and steam (autoclaving). It is suitable for applications where high strength properties and long term exposure to temperatures from -80°F to +500°F are required. It is 100% reactive and does not contain any solvents or diluents. The minimum cure temperature is 250°F with faster curing schedules at higher temperatures. It has a convenient mix ratio of 100 to 30 by weight. Master Bond Polymer System EP45HTMED can be applied easily by syringe, brushing or with a spatula. It produces durable high strength and tough bonds as well as castings which are remarkably resistant to thermal cycling and chemicals, including water, oil and most organic solvents, over an exceptionally wide temperature range of -80°F to +500°F. The EP45HT can withstand the most demanding sterilization procedures such as repetitive autoclaving. Adhesion to metals, glass, ceramics, wood, vulcanized rubber and many plastics is excellent. The cured system is a great electrical insulator. The color of Part A is clear and part B is amber. Master Bond Polymer System EP45HTMED is widely used in the manufacturing of medical devices where resistance to repeated sterilization is required. The cured System fully meets the biocompatibility requirements of USP Class VI Specifications. Product Advantages: Convenient mixing: 100/30 by weight Easy application: contact pressure only required for cure, System spreads evenly and smoothly Convenient cure schedules: long pot life at room temperature and fast elevated temperature cures as required High bonding strength to similar and dissimilar substrates Good durability, thermal shock and chemical resistance Reactive and does not contain any solvents or diluents Resists radiation, chemical sterilants and repeated autoclaving Fully meets USP Class VI requirements Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-EP45HTMED-Epoxy-Resists-Radiation-and-Steam-Sterilization.php

Physical Properties	Metric	English	Comments
Viscosity	50000 - 60000 cP	50000 - 60000 cP	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	85.5 MPa	12400 psi	
Tensile Modulus	3.31 GPa	480 ksi	
Shear Strength	>= 16.5 MPa	>= 2400 psi	
	>= 17.2 MPa	>= 2500 psi	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	260 °C	500 °F	
Minimum Service Temperature, Air	-62.2 °C	-80.0 °F	
Glass Transition Temp, Tg	>= 185 °C	>= 365 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	

Processing Properties	Metric	English	Comments
Cure Time	120 - 180 min @Temperature 121 - 163 °C	2.00 - 3.00 hour @Temperature 250 - 325 °F	
Pot Life	>= 1440 min	>= 1440 min	100 gram batch
Shelf Life	6.00 Month	6.00 Month	

Descriptive Properties	Value	Comments
Mixing Ratio (A to B)	100/30	by weight

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