

Epoxy Technology EPO-TEK® H37-MP Electrically Conductive, Silver Epoxy

Category : Polymer , Thermoset , Epoxy , Epoxy, Electrically Conductive

Material Notes:

Product Description: EPO-TEK® H37-MP is a single component, electrically conductive, thixotropic silver-filled adhesive for die-attach and SMD attach inside hybrid microelectronic packages. Also available in a frozen syringe.
Advantages & Application Notes: Designed specifically to meet the requirements pertaining to the MIL-STD 883/Test Method 5011 for military hybrids. Can be considered a lower stress, and lower cure temperature alternative to EPO-TEK® H35-175MP. Compliant material; eliminates cracking when bonding large components or substrates. Excellent adhesion to ceramic, Si, Au, kovar, Au/kovar and AgPd. May also be used on lead-frames and die-paddles compatible with JEDEC plastic IC packaging. Adaptable to conventional processing methods such as automatic dispensing or screen printing. Passes NASA low outgassing standard ASTM E595 with proper cure.
 Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-H37-MP-Electrically-Conductive-Silver-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	3.07 g/cc	3.07 g/cc	
Particle Size	<= 20 µm	<= 20 µm	
Viscosity	22000 - 26000 cP @Temperature 23.0 °C	22000 - 26000 cP @Temperature 73.4 °F	10 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Tensile Modulus	5.0172 GPa	727.68 ksi	Storage
Shear Strength	13.0 MPa	1880 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	52.0 µm/m-°C	28.9 µin/in-°F	Below Tg
	148 µm/m-°C	82.2 µin/in-°F	Above Tg
Thermal Conductivity	1.59 W/m-K	11.0 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	300 °C	572 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	150.0 °C	302 °F	Cure 20–200°C /ISO 25 Min; Ramp - 10–200°C @ 20°C/Min
Decomposition Temperature	358 °C	676 °F	Degradation Temperature

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 0.00050 ohm-cm	<= 0.00050 ohm-cm	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	<= 50 ppm	<= 50 ppm	
Ionic Impurities - K (Potassium)	<= 50 ppm	<= 50 ppm	
Ionic Impurities - Cl (Chloride)	<= 200 ppm	<= 200 ppm	

Processing Properties	Metric	English	Comments
Cure Time	60.0 min @Temperature 150 °C	1.00 hour @Temperature 302 °F	Minimum Bond Line
Pot Life	40320 min	40320 min	
Shelf Life	12.0 Month @Temperature -40.0 °C	12.0 Month @Temperature -40.0 °F	

Descriptive Properties	Value	Comments
Color	Silver	
Consistency	Smooth flowing paste	
Ionic Impurities NH4	65 ppm	
Number of Components	Single	
Thixotropic Index	3.62	
Weight Loss	0.13%	200°C
	0.41%	250°C
	0.8%	300°C

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