

Epoxy Technology EPO-TEK® H35-175MP Electrically Conductive, Silver Epoxy

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

Material Notes:

Product Description: EPO-TEK® H35-175MP is a single component, silver-filled, electrically conductive epoxy designed for semiconductor die attach applications found in hybrids, JEDEC, and opto-electronic packaging. Low viscosity version of EPO-TEK® H31. Advantages & Application Notes: Exhibits a smooth, flowing consistency that is adaptable to conventional processing methods such as dispensing and screen printing. See Technical Paper #43 from our website link for hints and best practices for high speed auger screw dispensing. Performs exceptionally well as a die attach for small chips such as GaAs, LEDs and diodes. Capable of resisting 260°C green reflow process, low outgassing in hermetic lid-seal processes near 300°C, and organic burn-in up to 150°C/1000 hours storage. Certified to MIL-STD 883/Test Method 5011 – yields low levels of water extractable monovalent ions such as Chlorides. Passes NASA low outgassing standard ASTM E595 with proper cure. Capable of JEDEC Level II die-attach packaging on die-paddles and lead-frames. Widely used epoxy; popular choice for silver-filled epoxies; opto-packaging, hybrids, and many types of substrates including kovar, ceramic and BT. Available in many different viscosity ranges. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-H35-175MP-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 - 28000 cP @Temperature 23.0 °C	22000 - 28000 cP @Temperature 73.4 °F	10 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	83	83	
Tensile Modulus	7.632 GPa	1107 ksi	Storage
Shear Strength	>= 13.8 MPa	>= 2000 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	31.0 µm/m-°C	17.2 µin/in-°F	Below Tg
	97.0 µm/m-°C	53.9 µin/in-°F	Above Tg
Thermal Conductivity	1.50 W/m-K	10.4 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	300 °C	572 °F	Intermittent

Thermal Properties	Metric	English	Comments
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 100 °C	>= 212 °F	Dynamic Cure 20–300°C /ISO 25 Min; Ramp -10–200°C @ 20°C/Min
Decomposition Temperature	372 °C	702 °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	1.00 hour	Minimum Bond Line
	@Temperature 180 °C	@Temperature 356 °F	
	90.0 min	1.50 hour	Minimum Bond Line
	@Temperature 165 °C	@Temperature 329 °F	
Pot Life	40320 min	40320 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Descriptive Properties	Value	Comments
Color	Bright silver	
Consistency	Smooth thixotropic paste	
Ionic Impurities NH4	39 ppm	
Number of Components	Single	
Thixotropic Index	4	
Weight Loss	0.13%	200°C
	0.14%	250°C

Descriptive Properties	0.28% Value	300°C Comments
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