

Epoxy Technology EPO-TEK® H20-LC Electrically Conductive, Silver Epoxy

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

Material Notes:

Product Description: EPO TEK® H20E-LC is a two component, silver-filled epoxy system designed specifically for chip bonding in microelectronic and optoelectronic applications. It is also used extensively for thermal management applications due to its high thermal conductivity. It has proven itself to be extremely reliable over many years of service and is the conductive adhesive of choice for non-military low chloride applications. **Advantages & Application Notes:** Especially recommended for use in high speed epoxy chip bonding systems where very fast cures are desired. Suggested for JEDEC Level III and II for plastic IC packaging. Capable of resisting TC wire bonding temperatures in the range of 300°C to 400°C. Ease of use; apply by dispensing, screen printing, die-stamping, or by hand. Especially suited for high power devices and high current flow. High power LEDs. Opto-electronic packaging material: LED, LCDs, and fiber optic components. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-H20-LC-Electrically-Conductive-Silver-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.42 g/cc	2.42 g/cc	Part A
	3.07 g/cc	3.07 g/cc	Part B
Particle Size	<= 45 µm	<= 45 µm	
Viscosity	2200 - 3200 cP	2200 - 3200 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60	60	
Tensile Modulus	5.39 GPa	781 ksi	Storage
Shear Strength	11.53 MPa	1672 psi	Lap
	>= 11.7 MPa	>= 1700 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	19.0 µm/m-°C	10.6 µin/in-°F	Below Tg
	78.0 µm/m-°C	43.3 µin/in-°F	Above Tg
Thermal Conductivity	1.69 W/m-K	11.7 BTU-in/hr-ft²-°F	
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	300 °C	572 °F	Intermittent

Minimum Service Temperature, Air Thermal Properties	-55.0 °C Metric	-67.0 °F English	Continuous Comments
	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 80.0 °C	>= 176 °F	Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min
Decomposition Temperature	451 °C	844 °F	Degradation Temperature

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 0.00040 ohm-cm	<= 0.00040 ohm-cm	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	6.0 ppm	6.0 ppm	
Ionic Impurities - K (Potassium)	2.0 ppm	2.0 ppm	
Ionic Impurities - Cl (Chloride)	11 ppm	11 ppm	

Processing Properties	Metric	English	Comments
Cure Time	0.750 min	0.0125 hour	Minimum Bond Line
	@Temperature 175 °C	@Temperature 347 °F	
	5.00 min	0.0833 hour	Minimum Bond Line
	@Temperature 150 °C	@Temperature 302 °F	
	15.0 min	0.250 hour	Minimum Bond Line
	@Temperature 120 °C	@Temperature 248 °F	
Pot Life	5760 min	5760 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Silver	Part A
	Silver	Part B
Consistency	Smooth thixotropic paste	
Ionic Impurities NH4	259 ppm	
Mix Ratio By Weight	1:1	
Number of Components	Two	

Descriptive Properties	Value	Comments
Weight Loss	0.42%	200°C
	1.03%	250°C
	1.96%	300°C

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