

Epoxy Technology EPO-TEK® H20S Electrically Conductive, Silver Epoxy for Die Stamping

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

Material Notes:

Product Description: EPO-TEK® H20S is a modified version of EPO-TEK® H20E, designed primarily for die stamping and dispensing techniques for chip bonding. EPO-TEK®H20S is a highly reliable, two component, silver-filled epoxy with a smooth, thixotropic consistency. In addition to the high electrical conductivity, the short curing cycles, the proven reliability, and the convenient mix ratio, EPO-TEK® H20S is extremely simple to use.
Advantages & Application Notes: Especially recommended for use in high speed epoxy chip bonding systems where fast cures are highly desirable. Suggested for JEDEC Level III and II plastic IC packaging. The low temperature cure makes it ideal for flex circuitry and other low stress applications. It is used extensively for bonding quartz crystal oscillators and other stress sensitive chips. Used for die and SMD bonding inside hybrid/hermetic packages such as DIP and TO-Cans; also EMI/Rf shielding of micro-electronics. Ideal for making ITO electrical contacts in LCD packaging; and suggested for LED die-attach. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-H20S-Electrically-Conductive-Silver-Epoxy-for-Die-Stamping.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.74 g/cc	1.74 g/cc	Part A
	3.07 g/cc	3.07 g/cc	Part B
Particle Size	<= 20 µm	<= 20 µm	
Viscosity	1800 - 2800 cP	1800 - 2800 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	64	64	
Tensile Modulus	2.3423 GPa	339.72 ksi	Storage
Shear Strength	8.55 MPa	1240 psi	Lap
	>= 11.7 MPa	>= 1700 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	31.0 µm/m-°C	17.2 µin/in-°F	Below Tg
	120 µm/m-°C	66.7 µin/in-°F	Above Tg
Thermal Conductivity	3.25 W/m-K	22.6 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	200 °C	392 °F	Continuous

Thermal Properties	Metric	English	Comments
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-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	414 °C	777 °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)	0.00 ppm	0.00 ppm	
Ionic Impurities - K (Potassium)	4.0 ppm	4.0 ppm	
Ionic Impurities - Cl (Chloride)	162 ppm	162 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		
45.0 min	0.750 hour	Minimum Bond Line	
@Temperature 100 °C	@Temperature 212 °F		
Pot Life	4320 min	4320 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	

Descriptive Properties	Value	Comments
Mix Ratio By Weight	1:1	
Number of Components	Two	
Thixotropic Index	5	
Weight Loss	0.4%	200°C
	0.6%	250°C
	1.37%	300°C

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