EPO-TEK® H22

Technical Data Sheet

For Reference Only

Electrically Conductive, Silver Epoxy

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	100:4.5	150°C	5 Minutes
Specific Gravity:		120°C	10 Minutes
Part A	2.03	100°C	20 Minutes
Part B	1.03	80°C	45 Minutes
Pot Life:	16 Hours		
Shelf Life:	One year at room temperature		

*Note: Container(s) should be kept closed when not in use. For filled systems, mix the contents of Part A thoroughly before mixing the two parts together. *Please see Applications Note available on our website.*

Product Description:

EPO-TEK® H22 is a two component, silver-filled epoxy system designed specifically for die bonding and sealing hybrid circuit packages.

EPO-TEK® H22 Advantages & Application Notes:

- A smooth, free flowing, slightly thixotropic paste, using a 100% solids system. It can be dispensed, screen printed, or manually applied.
- High Tg allows it to be used for high temperature applications.
- Outstanding high temperature properties and excellent solvent, chemical and moisture resistance.
- Extended pot life and fast curing at relatively low temperatures < 100°C.
- Designed to be used in the 300°C range for applications such as wire bonding operations and eutectic lid-sealing processes.
- Contains no solvents or thinners. Passes NASA low outgassing standard ASTM E595 with proper cure - http://outgassing.nasa.gov/
- Can be used instead of eutectic solders for near-hermetic sealing.

Typical Properties: ***(To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: 150°C/1 hour; * denotes test on lot acceptance basis)***

Physical Properties:	
***Color:** **Part A:** Silver **Part B:** Amber	**Weight Loss:**
***Consistency:** Smooth flowing paste	@ **200°C:** 0.09%
***Viscosity (@ 20 RPM/23°C):** 12,000 – 20,000 cPs	@ **250°C:** 0.23%
Thixotropic Index: 2.36	@ **300°C:** 0.42%
***Glass Transition Temp.(Tg):** ≥ 100°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**Operating Temp:**
Coefficient of Thermal Expansion (CTE):	**Continuous:** - 55°C to 250°C
Below Tg: 39 x 10^{-6} in/in/°C	**Intermittent:** - 55°C to 350°C
Above Tg: 224 x 10^{-6} in/in/°C	**Storage Modulus @ 23°C:** 540,120 psi
Shore D Hardness: 80	**Ions:** Cl^- 175 ppm
Lap Shear Strength @ 23°C: 1,980 psi	Na^+ 60 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH_4^+ 148 ppm
Degradation Temp. (TGA): 454°C	K^+ 6 ppm
	***Particle Size:** ≤ 45 Microns
Electrical Properties:	
***Volume Resistivity @ 23°C:** ≤ 0.005 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 0.94 W/mK	

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