EPOXY TECHNOLOGY

EPO-TEK® H35-175MP
Technical Data Sheet
For Reference Only
Electrically Conductive, Silver Epoxy

Number of Components:	Single		Minimum Bond Line Cure Schedule**:	
Mix Ratio By Weight:	N/A		180°C	1 Hour
Specific Gravity:	3.07		165°C	1.5 Hours
Part A:	N/A			
Part B:	N/A			
Pot Life*:	28 Days			
Shelf Life:	One year at -40°C			

Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of container thoroughly.
**Complies with MIL-STD-883, Method 5011 Section 3.4.3*
***Please see Applications Note available on our website. Material should be brought to room temperature before opening the container.*

Product Description:

EPO-TEK® H35-175MP is a single component, silver-filled epoxy for military hybrid die and component attach.

EPO-TEK® H35-175MP 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 – http://www.epotek.com/technical-papers.asp
- 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 - http://outgassing.nasa.gov/
- 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 – contact Technical Services at techserv@epotek.com for best recommendation.

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: 180°C/1 hour; * denotes test on lot acceptance basis)***

Physical Properties:	
***Color:** Bright Silver	**Weight Loss:**
***Consistency:** Smooth, Thixotropic Paste	* **@ 200°C:** 0.13%
***Viscosity (@ 10 RPM/23°C):** 22,000 – 28,000 cPs	**@ 250°C:** 0.14%
Thixotropic Index: 4.0	**@ 300°C:** 0.28%
***Glass Transition Temp.(Tg):** ≥ 100°C (Dynamic Cure 20—300°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**Operating Temp:**
Coefficient of Thermal Expansion (CTE):	**Continuous:** - 55°C to 200°C
	Intermittent: - 55°C to 300°C
Below Tg: 31 x 10^{-6} in/in/°C	**Storage Modulus @ 23°C:** 1,106,623 psi
Above Tg: 97 x 10^{-6} in/in/°C	***Ions:** Cl^- < 200 ppm
Shore D Hardness: 83	Na^+ < 50 ppm
Lap Shear Strength @ 23°C: > 2,000 psi	NH_4^+ 39 ppm
***Die Shear Strength @ 23°C:** ≥ 10 Kg / 3,400 psi	K^+ < 50 ppm
Degradation Temp. (TGA): 372°C	***Particle Size:** ≤ 20 Microns
Electrical Properties:	
***Volume Resistivity @ 23°C:** ≤ 0.0005 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 1.5 W/mK	

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