EPO-TEK® H35-175MP

Technical Data Sheet
For Reference Only
Electrically Conductive, Silver Epoxy

Date:	February 2021
Rev:	XI
No. of Components:	Single
Mix Ratio by Weight:	N/A
Specific Gravity:	3.07
Pot Life:	28 Days
Shelf Life- Bulk:	One year at -40°C

Recommended Cure: 180°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
165°C / 1.5 Hours

NOTES:
- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Complies with the requirements of MIL-STD 883/Method 5011.

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

Typical Properties: Cure condition: 180°C / 1 Hour Different batches, conditions & applications yield differing results.
Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:				
* Color (before cure):	Bright Silver			
* Consistency:	Smooth thixotropic paste			
* Viscosity (23°C) @ 10 rpm:	22,000-28,000		cPs	
Thixotropic Index:	4.0			
* Glass Transition Temp:	≥ 100		°C (Dynamic Cure: 20-300°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):				
Below Tg:	31		x 10^{-6} in/in°C	
Above Tg:	97		x 10^{-6} in/in°C	
Shore D Hardness:	83			
Lap Shear @ 23°C:	> 2,000		psi	
* Die Shear @ 23°C:	≥ 10		Kg	3,556 psi
Degradation Temp:	372		°C	
Weight Loss:				
* @ 200°C:	0.13		%	
@ 250°C:	0.14		%	
@ 300°C:	0.28		%	
Suggested Operating Temperature:	< 300		°C (Intermittent)	
Storage Modulus:	1,106,623		psi	
* Ion Content:	Cl^-:	< 200 ppm	Na^+:	< 50 ppm
	NH_4^+:	39 ppm	K^+:	< 50 ppm
* Particle Size:	≤ 20		microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.5	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0005	Ohm-cm
Dielectric Constant (1KHz):	N/A	
Dissipation Factor (1KHz):	N/A	

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EPO-TEK® H35-175MP Advantages & Suggested 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.

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