EPO-TEK® H35-175MPT

Technical Data Sheet
For Reference Only
Electrically Conductive, Silver Epoxy

Date:	February 2022
Rev:	VIII
No. of Components:	Single
Mix Ratio by Weight:	N/A
Specific Gravity:	3.65
Pot Life:	28 Days
Shelf Life- Bulk:	One year at -40°C
Shelf Life- Syringe:	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® H35-175MPT 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):	Silver			
* Consistency:	Smooth thixotropic paste			
* Viscosity (23°C) @ 2.5 rpm:	90,000-110,000	cPs		
Thixotropic Index:	4.6			
* 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:	35	x 10^{-6} in/in°C		
Above Tg:	123	x 10^{-6} in/in°C		
Shore D Hardness:	83			
Lap Shear @ 23°C:	1,693	psi		
* Die Shear @ 23°C:	≥ 10	Kg	3,556 psi	
Degradation Temp:	354	°C		
Weight Loss:				
* @ 200°C:	0.03	%		
@ 250°C:	0.05	%		
@ 300°C:	0.13	%		
Suggested Operating Temperature:	< 300	°C (Intermittent)		
Storage Modulus:	423,781	psi		
* Ion Content:	Cl^-:	< 200 ppm	Na^+:	< 50 ppm
	NH_4^+:	32 ppm	K^+:	< 50 ppm
* Particle Size:	≤ 20	microns		

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	2.7	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0005	Ohm-cm
Dielectric Constant (1KHz):	N/A	
Dissipation Factor (1KHz):	N/A	

EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com
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EPO-TEK® H35-175MPT Advantages & Suggested Application Notes:

- This epoxy can be classified as a higher viscosity version of EPO-TEK® H35-175MP, suggested for the following purposes:
    - Used for improved stencil printing via small apertures (not for dispensing).
    - Less flow-out between small pads like 0402 or 0603 caps and resistors.
- 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.
- 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

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