EPO-TEK® H35-175MPLV

Technical Data Sheet
For Reference Only
Thermally and Electrically Conductive Epoxy

Date:	March 2022
Rev:	VIII
No. of Components:	Single
Mix Ratio by Weight:	N/A
Specific Gravity:	2.65
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® H35-175MPLV is a single component, silver-filled epoxy for hybrid die and component attach. It is a lower viscosity version of EPO-TEK® H35-175MP.

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 paste		
* Viscosity (23°C) @ 10 rpm:	10,500-16,500	cPs	
Thixotropic Index:	2.7		
* 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:	47	x 10^{-6} in/in°C	
Above Tg:	190	x 10^{-6} in/in°C	
Shore D Hardness:	75		
Lap Shear @ 23°C:	1,864	psi	
* Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	330	°C	
Weight Loss:			
* @ 200°C:	0.04	%	
@ 250°C:	0.06	%	
@ 300°C:	0.19	%	
Suggested Operating Temperature:	< 280	°C (Intermittent)	
Storage Modulus:	494,899	psi	
* Ion Content:	Cl^-: < 200 ppm	Na^+:	< 50 ppm
	NH_4^+: 65 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® H35-175MPLV Advantages & Suggested Application Notes:

- 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.
- 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 alternatives – contact Technical Services at techserv@epotek.com for best recommendation.
- Designed for improved flow for smaller needle gauge dispensing, or stamping operations.

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