EPO-TEK® H37MP-2

Technical Data Sheet
For Reference Only
Electrically Conductive, Silver Epoxy

Date:	July 2019
Rev:	IV
No. of Components:	Single
Mix Ratio by Weight:	N/A
Specific Gravity:	3.15
Pot Life:	28 Days
Shelf Life- Bulk:	One year at -40°C
Shelf Life- Syringe:	Six months at -40°C

Recommended Cure: 150°C / 1 Hour

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® H37MP-2 is a single component, silver-filled and electrically conductive adhesive designed for semiconductor die attach and bonding of SMDs for hybrid microelectronic packaging.

Typical Properties: Cure condition: 150°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) @ 10 rpm:		30,000-36,000	cPs	
Thixotropic Index:		2.8		
* Glass Transition Temp:		≥ 90	°C (Dynamic Cure: 20-300°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):				
	Below Tg:	40	x 10^{-6} in/in°C	
	Above Tg:	139	x 10^{-6} in/in°C	
Shore D Hardness:		67		
Lap Shear @ 23°C:		1,612	psi	
* Die Shear @ 23°C:		≥ 10	Kg	3,556 psi
Degradation Temp:		379	°C	
Weight Loss:				
	* @ 200°C:	0.50	%	
Suggested Operating Temperature:		< 300	°C (Intermittent)	
Storage Modulus:		595,486	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:	1.6	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0005	Ohm-cm
Dielectric Constant (1KHz):	N/A	
Dissipation Factor (1KHz):	N/A	

EPO-TEK® H37MP-2 Advantages & Suggested Application Notes:

- Can be used for opto-packaging including LEDs, laser and photo-diodes, and fiber optic circuit assembly.
- More thixotropic version of EPO-TEK® H37-MP but a lower viscosity version of EPO-TEK® H37-MPT.
- Compliant with MIL-STD 883 / Test Method 5011.
- Compliant material; eliminates cracking when bonding large components or substrates.
- Excellent adhesion to ceramic, Si, Au, kovar, Au/kovar and AgPd.
- May also be used on lead-frames and die-paddles compatible with JEDEC plastic IC packaging.
- Adaptable to conventional processing methods such as automatic dispensing or screen printing.