EPOXY TECHNOLOGY

EPO-TEK® H24

Technical Data Sheet
For Reference Only
Electrically Conductive Epoxy

Date:	November 2019	
Rev:	VII	
No. of Components:	Two	
Mix Ratio by Weight:	100 : 5	
Specific Gravity:	Part A: 2.10	Part B: 1.05
Pot Life:	18 Hours	
Shelf Life- Bulk:	Six months at room temperature	

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
150°C / 5 Minutes
120°C / 10 Minutes
100°C / 20 Minutes
80°C / 45 Minutes

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.

Product Description: EPO-TEK® H24 is a two component, electrically and thermally conductive epoxy adhesive designed for semiconductor die attach and hybrid micro-electronics assembly.

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):	Part A: Silver		Part B: Amber	
* Consistency:	Smooth paste			
* Viscosity (23°C) @ 10 rpm:		15,000-23,000	cPs	
Thixotropic Index:		1.9		
* Glass Transition Temp:		≥ 100	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):				
Below Tg:		28	$\times 10^{-6}$ in/in°C	
Above Tg:		104	$\times 10^{-6}$ in/in°C	
Shore D Hardness:		76		
Lap Shear @ 23°C:		> 2,000	psi	
Die Shear @ 23°C:		≥ 5	Kg	1,778 psi
Degradation Temp:		470	°C	
Weight Loss:				
@ 200°C:		0.04	%	
@ 250°C:		0.04	%	
@ 300°C:		0.10	%	
Suggested Operating Temperature:		< 350	°C (Intermittent)	
Storage Modulus:		484,807	psi	
Ion Content:	Cl^-:	60 ppm	Na^+:	88 ppm
	NH_4^+:	21 ppm	K^+:	8 ppm
* Particle Size:		≤ 45	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.7	W/mK
* Volume Resistivity @ 23°C:	≤ 0.02	Ohm-cm

Epoxies and Adhesives for Demanding Applications™
This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.
EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com

EPO-TEK® H24 Advantages & Suggested Application Notes:

- Low density silver-filled epoxy is ideal for ultrasound and acoustical applications of electronics.
- Extended pot-life allows for mass production and low waste.
- Suggested Applications:
  - Hybrid Micro-electronics: SMD and die attach on Au pads and ceramic substrates. Single step curing method of die and SMDs.
  - Electronics: compatible with piezo technologies for ultrasound circuits found in medical, industrial, and petrochemical industries.
  - Scientific / Life Sciences: geo-thermal, geo-seismic, infra-sound, as well as acoustical-optical circuits for interferometers and lasers.
  - Optical: bright and shiny silver flake is advantageous for LED die-attach.
- A smooth and creamy paste allows for automated or hand dispensing, pin transfer, or screen printing application methods of manufacture.

This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.
EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com