EPO-TEK® H44

Technical Data Sheet
For Reference Only
Gold-Filled, Electrically Conductive Epoxy

Date:	June 2019
Rev:	VIII
No. of Components:	Single
Mix Ratio by Weight:	N/A
Specific Gravity:	Available for a fee
Pot Life:	N/A
Shelf Life- Bulk:	Six months at room temperature

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.

Product Description: EPO-TEK® H44 is a single component, gold-filled, electrically conductive epoxy adhesive designed 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):	Brown		
* Consistency:	Smooth thick paste		
* Viscosity (23°C) @ 0.5 rpm:	> 819,200	cPs	
Thixotropic Index:	N/A		
* 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:	Available for a fee		
Above Tg:	Available for a fee		
Shore D Hardness:	Available for a fee		
Lap Shear @ 23°C:	Available for a fee		
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	388	°C	
Weight Loss:			
@ 300°C:	0.06	%	
Suggested Operating Temperature:	< 300	°C	(Intermittent)
Storage Modulus:	Available for a fee		
Ion Content:	Available for a fee		
* Particle Size:	≤ 50	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	Available for a fee	
* 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® H44 Advantages & Suggested Application Notes:

- High viscosity paste. Users should not expect the same creamy viscosity as silver-filled epoxies.
- Design engineers need to be aware of longer lead times and shorter shelf-life than traditional silver-filled epoxies.
- Suggested applications for hybrid/hermetic packaging: Die-attach and SMD attach instead of silver epoxy; avoiding silver migration inside sealed packages; medical and aerospace electronics and circuits.
- Passes NASA low outgassing standard ASTM E595 with proper cure - http://outgassing.nasa.gov/.

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