

EPO-TEK<sup>®</sup> H20E-8 Technical Data Sheet For Reference Only

Electrically Conductive, Silver Epoxy

Date:	September 2017	7	Recommended Cure: 150°C / 1 Hour
Rev:	III		
No. of Components:	Two		Minimum Alternative Cure(s):
Mix Ratio by Weight:	1:1		May not achieve performance properties listed below
Specific Gravity:	Part A: 2.72	Part B: 4.33	150°C / 5 Minutes
Pot Life:	3 Days		120°C / 15 Minutes
Shelf Life- Bulk:	Six months at ro	om temperature	80°C / 90 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.

<u>Product Description</u>: EPO-TEK® H20E-8 is a two component, silver-filled epoxy system designed specifically for chip bonding in microelectronic and optoelectronic applications. It is a higher viscosity and higher thixotropic version of EPO-TEK® H20E.

**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: S	Silver	Part B: Silver		
* Consistency:	Thixotro	pic paste			
* Viscosity (23°C) @ 20 rpm:	10.	,000-20,000	cPs		
Thixotropic Index:		4.9			
* Glass Transition Temp:		≥ 80	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)		
Coefficient of Thermal Expansion (CTE):					
Below Tg	1	26	x 10 <sup>-6</sup> in/in°C		
Above Tg		111	x 10 <sup>-6</sup> in/in°C		
Shore D Hardness:		66			
Lap Shear @ 23°C:		1,216	psi		
Die Shear @ 23°C:		≥ 5	Kg 1,778 psi		
Degradation Temp:		470	°C		
Weight Loss:					
@ 200°C	-:	0.25	%		
@ 250°C	4	0.37	%		
@ 300°C	-:	0.79	%		
Suggested Operating Temperature:		< 350	°C (Intermittent)		
Storage Modulus:		791,453	psi		
Ion Content:	Cl⁻:	141 ppm			
	NH4+:	265 ppm			
* Particle Size:		≤ 45	microns		
ELECTRICAL AND THERMAL PROPERTIES:					
Thermal Conductivity:		3.5	W/mK		
* Volume Resistivity @ 23°C:		≤ 0.0004	Ohm-cm		

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## **EPO-TEK® H20E-8 Advantages & Suggested Application Notes:**

- Especially recommended for use in high speed epoxy chip bonding systems where very fast cures are desired.
- Suggested for JEDEC Level III and II for plastic IC packaging.
- Capable of resisting TC wire bonding temperatures in the range of 300°C to 400°C.
- Ease of use: apply by dispensing, screen printing, die-stamping, or by hand.
- Especially suited for high power devices and high current flow; high power LEDs.
- Opto-electronic packaging material: LED, LCDs, and fiber optic components.