

Date: November 2019
Rev: VIII
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 1.36 Part B: 1.92
Pot Life: 2 Days
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 180°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 150°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.

Product Description: EPO-TEK® H70E-175 is a two component, thermally conductive, electrically insulating epoxy adhesive for semiconductor, microelectronic and opto-electronic packaging. It may be used in aluminum heat sinking power devices in the form of hybrid circuits or at the SMD/PCB level.

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):	Part A: Dark grey	Part B: Dark grey	
* Consistency:	Smooth paste		
* Viscosity (23°C) @ 20 rpm:	5,000 - 11,000	cPs	
Thixotropic Index:	2.6		
* Glass Transition Temp:	≥ 70	°C	(Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	26	x 10 ⁻⁶ in/in°C
	Above Tg:	84	x 10 ⁻⁶ in/in°C
Shore D Hardness:	88		
Lap Shear @ 23°C:	> 2,000	psi	
Die Shear @ 23°C:	≥ 4	Kg	1,422 psi
Degradation Temp:	392	°C	
Weight Loss:			
	@ 200°C:	0.59	%
	@ 250°C:	1.38	%
	@ 300°C:	3.28	%
Suggested Operating Temperature:	< 300	°C	(Intermittent)
Storage Modulus:	756,581	psi	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.3	W/mK
Volume Resistivity @ 23°C:	≥ 2 x 10 ¹³	Ohm-cm
Dielectric Constant (1KHz):	4.72	
Dissipation Factor (1KHz):	0.012	

Epoxyes 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® H70E-175 Advantages & Suggested Application Notes:

- Semiconductor: die attaching chips to lead-frames or ceramic microcircuit substrates.
- Hybrid packaging: dielectric and thermal adhesive for microwave and military circuits; reinforcing capacitor and resistor SMD attach.
- PCB: bonding aluminum heat sinks; die-attaching IC's via COB format.
- Optical: heat sinking laser diodes and fiber optic components; adhesive for the optical bench.

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