

Date: September 2017
Rev: VII
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 1.25 Part B: 2.03
Pot Life: 3 Days
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):

May not achieve performance properties listed below

175°C / 1 Minute

150°C / 5 Minutes

120°C / 15 Minutes

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.

Product Description: EPO TEK® H70S is a modified version of EPO TEK® H70E, designed primarily for die stamping. It is a highly reliable, alumina- filled epoxy with a smooth, flowable consistency, designed for chip bonding in micro-electronic and opto-electronic applications.

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: Cream	Part B: Grey
* Consistency:	Pourable paste	
* Viscosity (23°C) @ 100 rpm:	1,300 - 1,800	cPs
Thixotropic Index:	1.4	
* Glass Transition Temp:	≥ 50	°C (Dynamic Cure: 20-200°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:	190	x 10 ⁻⁶ in/in°C
Shore D Hardness:	83	
Lap Shear @ 23°C:	> 2,000	psi
Die Shear @ 23°C:	≥ 10	Kg 3,556 psi
Degradation Temp:	400	°C
Weight Loss:		
@ 250°C:	2.25	%
Suggested Operating Temperature:	< 300	°C (Intermittent)
Storage Modulus:	350,092	psi
Ion Content:	Cl ⁻ : 231 ppm	Na ⁺ : 95 ppm
		K ⁺ : 39 ppm
* Particle Size:	≤ 20	microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	0.4	W/mK
Volume Resistivity @ 23°C:	≥ 7 x 10 ¹³	Ohm-cm
Dielectric Constant (1KHz):	4.97	
Dissipation Factor (1KHz):	0.016	

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.

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EPO-TEK® H70S Advantages & Suggested Application Notes:

- Heat-sinking adhesive. It is particularly recommended for thermal management applications where good heat dissipation is necessary.
- Easy to use. It can be screen printed, machine dispensed, stamped, or hand applied.
- Die attach adhesive designed to be used in the 300°C range to resist TC wire bonding operations. Meets JEDEC Level III and II packaging criteria.
- Excellent adhesion to ferrous and non-ferrous metals, lead-frame die paddle, glass, ceramic, kovar, and PCB.
- Can be cured very rapidly, it is an excellent material to use for making fast circuit repairs. Can be snap-cured for in-line semiconductor die-bonding.
- Suggested for potting applications due to easy flow and pouring – works well with thermistors into cavities.