EPO-TEK® H70S
Technical Data Sheet
For Reference Only
Thermally Conductive Epoxy for Die Stamping

Number 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: One year at room temperature.

Minimum Bond Line Cure Schedule*:

175°C	1 Minute
150°C	5 Minutes
120°C	15 Minutes
80°C	90 Minutes

*Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of each container (A & B) thoroughly before mixing the two together. *Please see Applications Note available on our website.*

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.

EPO-TEK® H70S Advantages & 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.

Typical Properties: ***(To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: 150°C/1 hour; * denotes test on lot acceptance basis)***

Physical Properties:	
***Color: Part A:** Cream **Part B:** Grey	**Weight Loss:**
***Consistency:** Pourable paste	**@ 200°C:**
***Viscosity (@ 100 RPM/23°C):** 1,300 – 1,800 cPs	**@ 250°C:** 2.25%
Thixotropic Index: 1.37	**@ 300°C:**
***Glass Transition Temp.(Tg):** ≥ 50°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**Operating Temp:**
Coefficient of Thermal Expansion (CTE):	**Continuous:** - 55°C to 200°C
	Intermittent: - 55°C to 300°C
Below Tg: 40×10^{-6} in/in/°C	**Storage Modulus @ 23°C:** 350,092 psi
Above Tg: 190×10^{-6} in/in/°C	**Ions:** Cl^- 231 ppm
Shore D Hardness: 83	Na^+ 95 ppm
Lap Shear Strength @ 23°C: > 2,000 psi	NH_4^+
Die Shear Strength @ 23°C: ≥ 10 Kg / 3,400 psi	K^+ 39 ppm
Degradation Temp. (TGA): 400°C	***Particle Size:** ≤ 20 Microns
Thermal Properties:	
Thermal Conductivity: 0.44 W/mK	
Electrical Properties:	
Dielectric Constant (1KHz): 4.97	**Volume Resistivity:** ≥ 7×10^{13} Ohm-cm
Dissipation Factor (1KHz): 0.0161	

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