

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	100:4	150°C	5 Minutes
Specific Gravity:		100°C	20 Minutes
Part A	2.01	80°C	2 Hours
Part B	1.02		
Pot Life:	2 Hours		
Shelf Life:	One year at room temperature		

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

--IF PART A CRYSTALLIZES IN STORAGE, PLACE CONTAINER IN A WARM OVEN UNTIL CRYSTALLIZATION DISAPPEARS. ALLOW TO COOL TO ROOM TEMPERATURE BEFORE MIXING WITH THE PART B HARDENER--

### Product Description:

EPO-TEK<sup>®</sup> H72 is a two component, high Tg, thermally conductive and electrically insulating epoxy designed for semiconductor packaging including heat sinking, hermetic sealing, and opto-electronic assemblies.

### EPO-TEK<sup>®</sup> H72 Advantages & Application Notes:

- Suggested applications:
  - Semiconductor/PCB: heat sinking, adhesion to Al, Cu, Al<sub>2</sub>O<sub>3</sub>; extra mechanical protection for SMDs.
  - Hybrids: substrate attach of ceramic circuit to package. Underfill below SMDs; staking large tantalum caps to ceramic substrates, lid sealing.
  - Opto-electronics: sensor devices, sealing ferrule or fiber optic feed through, replacement of eutectic lid seal.
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>
- Paste-like rheology allows for application by syringe dispensing, screen printing, pin transfer or by hand.
- Built in color change - from grey to amber - when cured properly.
- Possible to be snap cured in less than 5 minutes, at relatively low temperature.
- Alumina filler allows a toughened epoxy formulation that is very robust and high temperature resistant.
- Highly resistant to most chemicals and solvents.

**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: Grey Part B: Amber	Die Shear Strength @ 23°C: ≥ 20 Kg / 6,800 psi
*Consistency: Smooth paste	Degradation Temp. (TGA): 476°C
*Viscosity (@ 10 RPM/23°C): 20,000 – 27,000 cPs	Weight Loss:
Thixotropic Index: 1.2	@ 200°C: 0.18%
*Glass Transition Temp.(Tg): ≥ 100°C (Dynamic Cure	@ 250°C: 0.28%
20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	@ 300°C: 0.43%
Coefficient of Thermal Expansion (CTE):	Operating Temp:
Below Tg: 29 x 10 <sup>-6</sup> in/in/°C	Continuous: - 55°C to 250°C
Above Tg: 138 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 350°C
Shore D Hardness: 88	Storage Modulus @ 23°C: 759,931 psi
Lap Shear Strength @ 23°C: > 2,000 psi	*Particle Size: ≤ 50 Microns
Thermal Properties:	
Thermal Conductivity: 0.60 W/mK	
Electrical Properties:	
Dielectric Constant (1KHz): 5.40	Volume Resistivity @ 23°C: ≥ 1 x 10 <sup>13</sup> Ohm-cm
Dissipation Factor (1KHz): 0.009	

EPOXY TECHNOLOGY, INC.  
14 Fortune Drive, Billerica, MA 01821-3972 Phone: 978.667.3805 Fax: 978.663.9782  
[www.EPOTEK.com](http://www.EPOTEK.com)

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