**EPO-TEK® H72**

**Technical Data Sheet**

For Reference Only

**Thermally Conductive Epoxy**

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**Number of Components:** Two  
**Mix Ratio By Weight:** 100:4  
**Minimum Bond Line Cure Schedule**:  
- 150°C 5 Minutes  
- 100°C 20 Minutes  
- 80°C 2 Hours  
**Specific Gravity:**  
- Part A 2.01  
- 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 CRYSTALIZES IN STORAGE, PLACE CONTAINER IN A WARM OVEN UNTIL CRYSTALIZATION DISAPPEARS. ALLOW TO COOL TO ROOM TEMPERATURE BEFORE MIXING WITH THE PART B HARDENER--

**Product Description:**

EPO-TEK® 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® H72 Advantages & Application Notes:**

- Suggested applications:
  - Semiconductor/PCB: heat sinking, adhesion to Al, Cu, Al₂O₃; 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.
- 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 |  
| *Consistency:* Smooth paste | Die Shear Strength @ 23°C: ≥ 20 Kg / 6,800 psi |  
| *Viscosity (@ 10 RPM/23°C):* 20,000 – 27,000 cPs | Degradation Temp. (TGA): 476°C |  
| Thixotropic Index: 1.2 | Weight Loss: |  
| *Glass Transition Temp.(Tg):* ≥ 100°C (Dynamic Cure  
20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min) | @ 200°C: 0.18% |  
| Operating Temp: | @ 250°C: 0.28% |  
| Continuous: - 55°C to 250°C | @ 300°C: 0.43% |  
| Intermittent: - 55°C to 350°C | Storage Modular @ 23°C: 759,931 psi |  
| Shore D Hardness: 88 | *Particle Size: ≤ 50 Microns |  
| Lap Shear Strength @ 23°C: > 2,000 psi | Thermal Properties: |  
| Thermal Conductivity: 0.60 W/mK | Electrical Properties: |  
| Dielectric Constant (1KHz): 5.40 | Volume Resistivity @ 23°C: ≥ 1 x 10¹³ Ohm-cm |  
| Dissipation Factor (1KHz): 0.009 |  

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**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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