EPO-TEK® H74

Technical Data Sheet

For Reference Only

Thermally Conductive Epoxy

Number of Components:	Two
Mix Ratio By Weight:	100:3
Specific Gravity:	
Part A	2.11
Part B	1.02
Pot Life:	2 Hours
Shelf Life:	One year at room temperature.

Minimum Bond Line Cure Schedule*:

150°C	5 Minutes
100°C	20 Minutes

*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® H74 is a two component, thermally conductive epoxy designed for hybrid circuit assembly including die attach, substrate attach, lid-seal, heat dissipation, and hermetic sealing in general.

EPO-TEK® H74 Advantages & Application Notes:

- Thixotropic paste allows for good handling characteristics. The epoxy can be dispensed, screen printed, or manually applied by toothpick or spatula.
- Outstanding high temperature properties and excellent solvent, chemical, and moisture resistance.
- Reasonable working life with fast curing at relatively low temperatures <120°C.
- Capable of providing a near-hermetic seal.
- Passes NASA low outgassing standard ASTM E595 with proper cure - http://outgassing.nasa.gov/
- Built-in color indicator when the product is cured. This color change varies from a tan to brown, depending upon the curing conditions. It is normal for the epoxy to turn a very dark red when subjected to wire bonding temperatures.
- Used in opto-packaging for sealing 1) fiber into the snout; 2) a ferrule seal to the package; or 3) a boot to the package. Commonly used with DIP or Butterfly packages or TO-cans.

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:** ≥ 15 Kg / 5,100 psi
***Consistency:** Thixotropic paste	**Degradation Temp. (TGA):** 425°C
***Viscosity (@ 5 RPM/23°C):** 45,000 – 65,000 cPs	**Weight Loss:**
Thixotropic Index: 2.14	**@ 200°C:** 0.29%
***Glass Transition Temp.(Tg):** ≥ 100°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**@ 250°C:** 0.50% **@ 300°C:** 0.80%
Coefficient of Thermal Expansion (CTE):	**Operating Temp:**
Below Tg: 21 x 10^{-6} in/in/°C	**Continuous:** - 55°C to 250°C
Above Tg: 95 x 10^{-6} in/in/°C	**Intermittent:** - 55°C to 350°C
Shore D Hardness: 90	**Storage Modulus @ 23°C:** 860,430 psi
Lap Shear Strength @ 23°C: 1,656 psi	***Particle Size:** ≤ 50 Microns
Thermal Properties:	
Thermal Conductivity: 1.25 W/mK	
Electrical Properties:	
Dielectric Constant (1 KHz): 4.95	**Volume Resistivity:** ≥ 4 x 10^{12} Ohm-cm
Dissipation Factor (1KHz): 0.007	

EPOXY TECHNOLOGY, INC.
14 Fortune Drive, Billerica, MA 01821-3972 **Phone**: 978.667.3805 **Fax**: 978.663.9782
www.EPOTEK.com

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