

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:1	120°C	15 Minutes
Specific Gravity:		80°C	90 Minutes
Part A	5.80	50°C	12 Hours
Part B	5.62		
Pot Life:	2 Days		
Shelf Life:	One year at room temperature		

*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<sup>®</sup> H81 is a two component, gold-filled, electrically and thermally conductive epoxy designed for hybrid micro-electronic and semiconductor packaging.

### EPO-TEK<sup>®</sup> H81 Advantages & Application Notes:

- Gold filled epoxy allows for anti-oxidation of contacts and terminals in high reliability devices found in aerospace, military, and avionics industry.
  - It has also been used in medical circuits using traditional hybrid packaging technologies.
- High viscosity paste allows for precision deposition onto circuits by means of printing and delicate hand processes.
- Low temperature cure capabilities with an extended pot life.
- Suggested applications:
  - Adhesive for joining die and SMDs onto the hybrid circuits.
  - Repairing defective Au thick-film conductor traces and contact pads.
  - Resisting oxidation and electro-migration in high-reliability micro-electronics.
  - Joining material as alternative to high temperature Au-Sn eutectic solders processes exceeding 300°C.
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>

**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:	
<b>*Color:</b> Part A: Dark brown Part B: Dark brown <b>*Consistency:</b> Thick paste <b>Viscosity (@ 0.5 RPM/23°C):</b> > 400,000 cPs <b>Thixotropic Index:</b> N/A <b>*Glass Transition Temp.(Tg):</b> ≥ 100°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min) <b>Coefficient of Thermal Expansion (CTE):</b> Below Tg: Upon Request Above Tg: Upon Request <b>Shore D Hardness:</b> Upon Request <b>Lap Shear Strength @ 23°C:</b> Upon Request <b>Die Shear Strength @ 23°C:</b> ≥ 5 Kg / 1,700 psi <b>Degradation Temp. (TGA):</b> 483°C	<b>Weight Loss:</b> @ 200°C: @ 250°C: @ 300°C: < 0.10% <b>Operating Temp:</b> Continuous: - 55°C to 275°C Intermittent: - 55°C to 375°C <b>Storage Modulus @ 23°C:</b> Upon Request <b>Ions:</b> Cl <sup>-</sup> Upon Request Na <sup>+</sup> Upon Request NH <sub>4</sub> <sup>+</sup> Upon Request K <sup>+</sup> Upon Request <b>*Particle Size:</b> ≤ 50 Microns
Electrical Properties:	
<b>*Volume Resistivity @ 23°C:</b> ≤ 0.0009 Ohm-cm	
Thermal Properties:	
<b>Thermal Conductivity:</b> Upon Request	

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