

Number of Components: Single
 Mix Ratio By Weight: N/A
 Specific Gravity: 2.85
 Part A
 Part B

Minimum Bond Line Cure Schedule*:
 150°C 1 Hour

Pot Life (closed container): 3 months
 Shelf Life: 6 months at -40°C

*Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of container thoroughly.
 Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] H31D is a single component, electrically conductive silver epoxy designed for die-bonding of semiconductors, including IC's, resistors, capacitors, transistors, and diodes which may be found in opto-electronics packaging or hybrid micro-electronics.

EPO-TEK[®] H31D Advantages & Application Notes:

- Rheology provides a soft, smooth, thixotropic paste. The epoxy can be screen printed or applied by hand or spatula.
- Ideal for screen printing applications. Designed for use in machine dispensing where dot sizes as small as 8 mils can be readily deposited.
- Available in lower viscosity versions; contact techserv@epotek.com for your best recommendation.
- Thermal resistance is nearly equivalent to solder die-attach. Suitable for laser diode attach, TE Coolers, and heat-sinking in general.
- Reliability report summarized in Technical Paper #2 from Epoxy Technology - <http://www.epotek.com/technical-papers.asp>

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: Silver	Weight Loss:
*Consistency: Smooth, thixotropic paste	@ 200°C: 0.08%
*Viscosity (@ 5 RPM/23°C): 40,000 – 70,000 cPs	@ 250°C: 0.18%
Thixotropic Index: 3.9	@ 300°C: 0.43%
*Glass Transition Temp.(Tg): ≥ 110°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—250°C @ 20°C/Min)	Operating Temp:
Coefficient of Thermal Expansion (CTE):	Continuous: - 55°C to 200°C
Below Tg: 42 x 10 ⁻⁶ in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 178 x 10 ⁻⁶ in/in/°C	Storage Modulus @ 23°C: 905,956 psi
Shore D Hardness: 85	Ions: Cl ⁻ 19 ppm
Lap Shear Strength @ 23°C: 1,152 psi	Na ⁺ 222 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH ₄ ⁺
Degradation Temp. (TGA): 350°C	K ⁺ 36 ppm
	*Particle Size: ≤ 20 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 3.48 W/mK	

EPOXY TECHNOLOGY, INC.

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

Epoxy and Adhesives for Demanding Applications™

This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.