

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	1:1	175°C	45 Seconds
Specific Gravity:		150°C	5 Minutes
Part A	1.74	120°C	15 Minutes
Part B	3.07	100°C	45 Minutes
Pot Life:	3 Days	80°C	90 Minutes
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> H20S is a modified version of EPO-TEK<sup>®</sup> H20E, designed primarily for die stamping and dispensing techniques for chip bonding. EPO-TEK<sup>®</sup> H20S is a highly reliable, two component, silver-filled epoxy with a smooth, thixotropic consistency. In addition to the high electrical conductivity, the short curing cycles, the proven reliability, and the convenient mix ratio, EPO-TEK<sup>®</sup> H20S is extremely simple to use.

#### EPO-TEK<sup>®</sup> H20S Advantages & Application Notes:

- Especially recommended for use in high speed epoxy chip bonding systems where fast cures are highly desirable.
- Suggested for JEDEC Level III and II plastic IC packaging.
- The low temperature cure makes it ideal for flex circuitry and other low stress applications.
- It is used extensively for bonding quartz crystal oscillators and other stress sensitive chips.
- Used for die and SMD bonding inside hybrid/hermetic packages such as DIP and TO-Cans; also EMI/Rf shielding of micro-electronics.
- Ideal for making ITO electrical contacts in LCD packaging; and suggested for LED die-attach.

**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: Silver Part B: Silver	Weight Loss:
*Consistency: Smooth, thixotropic paste	@ 200°C: 0.40%
*Viscosity (@100 RPM/23°C): 1,800 – 2,800 cPs	@ 250°C: 0.60%
Thixotropic Index: 5	@ 300°C: 1.37%
*Glass Transition Temp.(Tg): ≥ 80°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10-200°C @ 20°C/Min)	Operating Temp:
Coefficient of Thermal Expansion (CTE):	Continuous: - 55°C to 200°C
Below Tg: 31 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 120 x 10 <sup>-6</sup> in/in/°C	Storage Modulus @ 23°C: 339,720 psi
Shore D Hardness: 57	Ions: Cl <sup>-</sup> 162 ppm
Lap Shear Strength @ 23°C: 1,240 psi	Na <sup>+</sup> 0 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH <sub>4</sub> <sup>+</sup> 282 ppm
Degradation Temp. (TGA): 414°C	K <sup>+</sup> 4 ppm
	*Particle Size: ≤ 20 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 3.25 W/mK	

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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