

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	100:3	170°C	45 Seconds
Specific Gravity:		160°C	5 Minutes
Part A	2.78	150°C	15 Minutes
Part B	1.04		
Pot Life:	1 Day		
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.

#### Product Description:

EPO-TEK<sup>®</sup> E2001 is a two component, silver-filled, electrically conductive epoxy designed for semiconductor die attach applications using a snap-cure profile.

#### EPO-TEK<sup>®</sup> E2001 Advantages & Application Notes:

- This product is the two component version of EPO-TEK<sup>®</sup> E3001. The two component version can offer advantages such as: lower cost, room temperature shipment instead of pre-mixed and frozen dry ice shipments, and maximum pot-life observed at site.
- Versatility & Cure: snap cures of 90 seconds, fast cures of 15 minutes and traditional oven cures of 1-3 hours can be realized.
- Designed for JEDEC Level III and II packaging criteria.
- Compatible with die sizes up to 250 mil x 250 mil. Also recommended for small die such as LEDs and GaAs devices like 10 mil x 10 mil.
- Beneficial radius of curvature after die-attach cure.
- Compatible with high volume, automated syringe dispensing manufacturing processes.
- Suggested applications:
  - Semiconductor: die attach onto lead-frames such as Ag spot die paddle, COB, advanced packages, and hybrid circuits.
  - Hybrid Microelectronics: die attach bonding onto ceramic PCB, as well as attaching SMDs onto the same substrate.
  - Opto-electronics:
    - Die attach of LEDs, LED arrays, LED on PCB, or packaged onto lead-frames.
    - Die attach epoxy for near-IR chips used in IRDA (Infra Red Data Acquisition).
    - Die-attach bonding of laser diode or photo-diode for fiber optics packaging.
- Many modifications are available, including lower temperature cure, lower stress, longer pot-life, and higher thixotropic index. Contact [techserv@epotek.com](mailto:techserv@epotek.com) for your best recommendation.

**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: Amber	Weight Loss:
*Consistency: Smooth Thixotropic Paste	@ 200°C: 0.04%
*Viscosity (@ 100 RPM/23°C): 2,000 – 4,100 cPs	@ 250°C:
Thixotropic Index: 2.7	@ 300°C: 0.22%
*Glass Transition Temp.(Tg): ≥ 90°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: 50 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 124 x 10 <sup>-6</sup> in/in/°C	Storage Modulus @ 23°C: 374,999 psi
Shore D Hardness: 78	Ions: Cl <sup>-</sup>
Lap Shear Strength @ 23°C: 1,391 psi	Na <sup>+</sup>
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH <sub>4</sub> <sup>+</sup>
Degradation Temp. (TGA): 428°C	K <sup>+</sup>
	*Particle Size: ≤ 45 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm	Volume Resistivity @ 23°C (200°C/2 Minutes): 0.0007 Ohm-cm
Thermal Properties:	
Thermal Conductivity: 0.93 W/mK	

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