

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:1	150°C	15 Minutes
Specific Gravity:		100°C	1 Hour
Part A	3.10	80°C	3 Hours
Part B	0.95	60°C	6 Hours
Pot Life:	4 Hours	23°C	3 Days
Shelf Life:	One year at room temperature	<b>A heat cure is recommended to achieve optimum properties.</b>	

*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> E4110 is an electrically conductive, silver-filled epoxy paste. This two component system is designed for low temperature curing from ambient to 80°C, although other heat cures can be used.

#### EPO-TEK<sup>®</sup> E4110 Advantages & Application Notes:

- Ease of use: smooth flowing paste allows for automated dispensing, stamping, brushing, or hand applications. In some cases, the low viscosity nature of the paste allows it to be sprayed onto targets.
- Suggested applications include: EMI and Rf shielding, ITO interconnects in LCDs, low temperature cryogenic cooling.
- Exhibits superior adhesion to a wide variety of substrates including most metals, ceramics, glass and plastics.
- Hybrid / Micro-electronic adhesive including die-attach and substrate attach for Rf and Microwave devices.
- Bright and shiny silver epoxy; provides a metallic-like layer after cure.

**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: Clear/Colorless	<b>Weight Loss:</b>
*Consistency: Smooth flowing paste	@ 200°C: 0.70%
*Viscosity (@ 100 RPM/23°C): 800 – 1,600 cPs	@ 250°C:
Thixotropic Index: 2.1	@ 300°C:
*Glass Transition Temp.(Tg): ≥ 40°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	<b>Operating Temp:</b>
<b>Coefficient of Thermal Expansion (CTE):</b>	Continuous: - 55°C to 150°C
Below Tg: 48 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 250°C
Above Tg: 150 x 10 <sup>-6</sup> in/in/°C	<b>Storage Modulus @ 23°C:</b> 518,756 psi
Shore D Hardness: 60	<b>Ions:</b> Cl <sup>-</sup> 151 ppm
Lap Shear Strength @ 23°C: 1,266 psi	Na <sup>+</sup> 23 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH <sub>4</sub> <sup>+</sup> 23 ppm
Degradation Temp. (TGA): 380°C	K <sup>+</sup> 31 ppm
	<b>*Particle Size:</b> ≤ 45 Microns

#### Electrical Properties:

\*Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm  
Volume Resistivity @ 23°C (25°C/40-60%RH/3 Day cure): ≤ 0.007 Ohm-cm

#### Thermal Properties:

Thermal Conductivity: 1.37 W/mK

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