

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:1	150°C	10 Minutes
Specific Gravity:		120°C	30 Minutes
Part A	1.20	80°C	2 Hours
Part B	1.15		
Pot Life:	3 Days		
Shelf Life:	One year at room temperature		

Note: Container(s) should be kept closed when not in use. \*Please see Applications Note available on our website.  
- TOTAL MASS SHOULD NOT EXCEED 25 GRAMS -

### Product Description:

EPO-TEK<sup>®</sup> 354 is a two component, high Tg epoxy designed for semiconductor packaging in medical, fiber optic and optoelectronic assemblies. It is an electrically and thermally insulating epoxy.

### EPO-TEK<sup>®</sup> 354 Advantages & Application Notes:

- Extended pot-life of many days which allows low waste between manufacturing shifts.
- Built-in color change upon cure. Users can determine cure by visual means due to a red-amber color change from slight yellow.
- Suggested Applications:
  - Semiconductor: capillary underfill below flip chip mounted die or SMDs.
  - Opto-electronic: %Transmission in the IR from 800 – 2000 nm range, adhesion to Si, glass, ceramic and metals.
  - Fiber Optic: sealing fiber into ferrules, optical connectors, adhesion to quartz, Au, kovar, stainless steel, packaging of Fiber Optic components.
  - Medical: resisting autoclave steam sterilization cycles in fiber optic bundles, adhesion to most plastics.
- Designed to be a longer pot-life alternative to EPO-TEK<sup>®</sup> 353ND, it may be used in similar applications and devices.
- Capable of being syringe dispensed in mass production. It's medium viscosity lends itself to adhesive, sealing, potting and encapsulation.
- Complies with USP Class VI biocompatibility standards.

**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: Clear/Colorless Part B: Dark Amber	Weight Loss:
*Consistency: Pourable liquid	@ 200°C: 0.50%
*Viscosity (@ 50 RPM/23°C): 4,000 – 6,000 cPs	@ 250°C: 0.70%
Thixotropic Index: N/A	@ 300°C: 0.85%
*Glass Transition Temp.(Tg): ≥ 95°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 250°C
Below Tg: 96 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 350°C
Above Tg: 175 x 10 <sup>-6</sup> in/in/°C	Storage Modulus @ 23°C: 356,376 psi
Shore D Hardness: 82	Ions: Cl <sup>-</sup> 81 ppm
Lap Shear Strength @ 23°C: 1,668 psi	Na <sup>+</sup> 17 ppm
Die Shear Strength @ 23°C: ≥ 10 Kg / 3,400 psi	NH <sub>4</sub> <sup>+</sup> 300 ppm
Degradation Temp. (TGA): 487°C	K <sup>+</sup> 9 ppm
	*Particle Size: N/A
Optical Properties @ 23°C:	
Refractive Index @ 23°C (uncured): 1.5734 @ 589 nm	Spectral Transmission: > 96% @ 600 nm
	> 99% @ 800 nm
Electrical & Thermal Properties:	
Thermal Conductivity: N/A	Volume Resistivity @ 23°C: ≥ 2 x 10 <sup>13</sup> Ohm-cm
Dielectric Constant (1KHz): 3.48	Dissipation Factor (1KHz): 0.004

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