

Number of Components:	Two
Mix Ratio By Weight:	20:5
Specific Gravity:	
Part A	1.15
Part B	0.87
Pot Life:	1 - 2 Hours
Shelf Life:	One year at room temperature

Note: Container(s) should be kept closed when not in use. Filled systems should be stirred thoroughly before mixing and prior to use.  
- MIXED VOLUME SHOULD NOT EXCEED 25 GRAMS -

### Recommended Cure:

<b>65°C</b>	<b>2 Hours</b>
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Minimum Alternative Cure(s):	
<i>Note: May not achieve performance properties below</i>	
65°C	1 Hour
23°C	24 Hours

### Product Description:

EPO-TEK® 301 is a two component, room temperature curing epoxy featuring very low viscosity, and excellent optical-mechanical properties.

### EPO-TEK® 301 Advantages & Suggested Application Notes:

- Semiconductor: optical glob top or underfill; adhesion to common wafer passivation, solder mask and flex circuits; compatible with LED die, Si, GaAs.
- PCB: general potting and protection over FR4, flex, or ceramic PCBs.
- Medical:
  - It is NONTOXIC—complying with USP Class VI Biocompatibility standards. Suggested for medical devices such as catheters, hand and tooling, dental, and endoscopic products; adhesion to stainless steel, titanium, and most plastics; resisting sterilizing techniques like ETO, gamma, and autoclave (65°C/1 hour cure); resisting X-ray radiation; potting and protection of scintillator crystals; CT Detector packaging; adhesive for the optical beam pathway in photo-diode arrays.
  - Compatible with CIDEX® OPA sterilization.
- Fiber Optic: adhesive for glass and plastic fibers; wicking into fiber bundles used in patch cords, endoscopes or sensor devices; adhesive/seal/encapsulant used for fiber packaging and components; transmission of IR up to 2500 nm; terminating fibers into ferrules; fiber coupling and splicing.
- Opto-electronic;
  - LCD/LED adhesive for laminating glass layers; adhesion to PET plastic; general potting, encapsulation, and protection; spectral transmission in VIS and IR light; adhesive/encapsulant for VCSEL's packaged devices; resisting yellowing per ASTM D1925; adhesive for precision optics including lens, prism, beam splitter cubes, mirrors, and diodes, found in medical, university, or research communities.
- NASA approved, low outgassing epoxy – <http://outgassing.nasa.gov/>

**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: varies as required; \* denotes test on lot acceptance basis)

Physical Properties:	
*Color: Part A: Clear/Colorless Part B: Clear/Colorless	Die Shear Strength @ 23°C: ≥ 10 Kg / 3400 psi
*Consistency: Pourable liquid	Degradation Temp. (TGA): 430°C
*Viscosity (@ 100 RPM/23°C): 100 – 200 cPs	Weight Loss:
Thixotropic Index: N/A	@ 200°C: 0.12%
*Glass Transition Temp.(Tg): ≥ 65°C (Dynamic Cure	@ 250°C: 0.13%
20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	@ 300°C: 0.39%
Coefficient of Thermal Expansion (CTE):	Operating Temp:
Below Tg: 39 x 10 <sup>-6</sup> in/in/°C	Continuous: - 55°C to 200°C
Above Tg: 98 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 300°C
Shore D Hardness: 85	Storage Modulus @ 23°C: 327,463 psi
Lap Shear Strength @ 23°C: > 2,000 psi	*Particle Size: N/A
Optical Properties @ 23°C:	
Refractive Index @ 23°C (uncured): 1.519 @ 589 nm	Spectral Transmission: >99% 380-980nm   >97% 980-1640nm
	>95% 1640-2040nm
Electrical & Thermal Properties:	
Thermal Conductivity: N/A	Volume Resistivity @ 23°C: ≥ 1 x 10 <sup>13</sup> Ohm-cm
Dielectric Constant (1 KHz): 4.00	Dissipation Factor (1 KHz): 0.016

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