

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	100:35	80°C	3 Hours
Specific Gravity:		23°C	2 Days
Part A	1.02		
Part B	0.89		
Pot Life:	8 Hours		
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.

–IF PART A CRYSTALLIZES IN STORAGE, PLACE CONTAINER IN A WARM OVEN UNTIL CRYSTALLIZATION DISAPPEARS. ALLOW TO COOL TO ROOM TEMPERATURE BEFORE MIXING WITH THE PART B HARDENER \*Please refer to Tech Tip #7 on our website --

### Product Description:

EPO-TEK<sup>®</sup> 301-2 is a two component optical, medical, and semiconductor grade epoxy resin, with low viscosity, long pot-life, and good handling characteristics.

### EPO-TEK<sup>®</sup> 301-2 Advantages & Application Notes:

- Suggested for LCD optical lamination and sealing of glass plates. The product can resist yellowing over 17 days of continuous UV light exposure. Suitable for LED encapsulation.
- Ease of use: potting and casting, encapsulation and adhesive.
- Semiconductor applications: underfill for flip chips, glob top encapsulation over wire bonds, spin coating at wafer level including wafer level packaging.
- Compliant adhesive that will be resistant to impact or vibrations. Low stress adhesive for bonding optics inside OEM / Scientific instruments.
- Fiber optic adhesive: bundling fibers, terminating fiber into ferrule, adhesive for mounting optics inside fiber components, bonding glass cover slip over V-groove; spectral transmission of visible and IR light.
- BIOCOMPATIBLE and NON-TOXIC; complies with USP Class VI biocompatibility standards for medical devices and implantation applications.
- Adhesion to glass, quartz, metals, wood and most plastics is very good
- May also be used for impregnating wooden or porous objects for artifact restoration
- Capable of cryogenic cooling applications.
- 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: 80°C/3 Hours; \* denotes test on lot acceptance basis)

Physical Properties:	
*Color: Part A: Clear/Colorless Part B: Clear/Colorless	Weight Loss:
*Consistency: Pourable Liquid	@ 200°C: 0.01%
*Viscosity (@ 100 RPM/23°C): 225 – 425 cPs	@ 250°C: 0.46%
Thixotropic Index: N/A	@ 300°C: 2.19%
*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: 61 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 180 x 10 <sup>-6</sup> in/in/°C	Storage Modulus: 298,719 psi
Shore D Hardness: 80	Ions: Cl <sup>-</sup> 61 ppm
Lap Shear Strength @ 23°C: > 2,000 psi	Na <sup>+</sup> 104 ppm
Die Shear Strength @ 23°C: ≥ 15 Kg / 5,100 psi	NH <sub>4</sub> <sup>+</sup> Not detectable
Degradation Temp. (TGA): 360°C	K <sup>+</sup> Not detectable
	*Particle Size: N/A
Optical Properties @ 23°C:	
Refractive Index @ 23°C (uncured): 1.5318 @ 589 nm	Spectral Transmission: > 94% @ 320 nm
	> 99% @ 400-1200 nm
	> 98% @ 1200-1600 nm
Electrical & Thermal Properties:	
Thermal Conductivity: N/A	Volume Resistivity: ≥ 2 x 10 <sup>12</sup> Ohm-cm
Dielectric Constant (1 KHz): 3.80	Dissipation Factor (1 KHz): 0.012

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