EPOXY TECHNOLOGY

EPO-TEK® 305

Technical Data Sheet

For Reference Only

Spectrally Transparent Epoxy

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:2.8	65°C	1 Hour
Specific Gravity:		23°C	24 Hours
Part A	1.25		
Part B	0.87		
Pot Life:	1 Hour		
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® 305 is a two component, semi-rigid, optical grade epoxy for semiconductor packaging of fiber optics, optoelectronics and medical devices. It is an electrically and thermally insulating epoxy.

EPO-TEK® 305 Advantages & Application Notes:

- Capable of transmitting light in the UV range. %Transmission from 248 to 400 nm may be realized.
- Tg and Shore D values are indicative of a somewhat “semi flexible or semi rigid” epoxy. It can be used for low stress applications in optics.
- Low viscosity, water-like epoxy formulation. This allows for application by pouring, dip coating, brushing, or micro-dispensing methods.
- Versatility in curing from 23°C to 80°C range. This allows many types of low cost plastic substrate or housings to be used.
- Suggested applications:
  - Optics:
    - Index matching epoxy for adhesive and coating applications with Scientific / OEM instruments and sensor devices
    - LED potting and encapsulation; LCD glass-glass or glass-PET laminations
  - Fiber Optics: potting or sealing the fiber into the snout of the opto-package in order to provide stress relief.
  - PCB / General: low stress potting of electronics as a clear encapsulant, COB glob top encapsulant.

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: 65°C/2 hours * denotes test on lot acceptance basis)***

Physical Properties:	
***Color:** Part A:* Clear/Colorless **Part B:** Clear/Colorless	**Die Shear Strength @ 23°C:** ≥ 10 Kg / 3,400 psi
***Consistency:** Pourable liquid	**Degradation Temp. (TGA):** 270°C
***Viscosity (@ 100 RPM/23°C):** 150 – 250 cPs	**Weight Loss:**
Thixotropic Index: N/A	**@ 200°C:** 1.22%
***Glass Transition Temp.(Tg):** ≥ 35°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**@ 250°C:** 3.99%
	@ 300°C:
Coefficient of Thermal Expansion (CTE):	**Operating Temp:**
Below Tg: 31 x 10^{-6} in/in/°C	**Continuous:** - 55°C to 100°C
Above Tg: 148 x 10^{-6} in/in/°C	**Intermittent:** - 55°C to 200°C
Shore D Hardness: 66	**Storage Modulus @ 23°C:** 100,395 psi
Lap Shear Strength @ 23°C: 1880psi	***Particle Size:** N/A
Optical Properties @ 23°C:	
Index of Refraction: 1.4763 @ 589 nm	**Spectral Transmission:** > 91% @ 250 nm > 97% @ 300 nm > 98% @ 400 - 1600 nm
Electrical & Thermal Properties:	
Thermal Conductivity: N/A	**Volume Resistivity @ 23°C:** ≤ 2 x 10^{13} Ohm-cm
Dielectric Constant (1KHz): 4.46	**Dissipation Factor (1KHz):** 0.026

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