

Date: June 2018
Rev: VI
No. of Components: Two
Mix Ratio by Weight: 10 : 2.8
Specific Gravity: Part A: 1.25 Part B: 0.87
Pot Life: 1 Hour
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 65°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 23°C / 24 Hours

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.
- **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.

Typical Properties: Cure condition: 65°C / 2 Hours Different batches, conditions & applications yield differing results.
 Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

| PHYSICAL PROPERTIES: | | | |
|---|-------------------------|--|-----------|
| * Color (before cure): | Part A: Clear/Colorless | Part B: Clear/Colorless | |
| * Consistency: | Pourable liquid | | |
| * Viscosity (23°C) @ 100 rpm: | 150 - 250 | cPs | |
| Thixotropic Index: | N/A | | |
| * Glass Transition Temp: | ≥ 35 | °C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min) | |
| Coefficient of Thermal Expansion (CTE): | | | |
| Below Tg: | 31 | x 10 ⁻⁶ in/in°C | |
| Above Tg: | 148 | x 10 ⁻⁶ in/in°C | |
| Shore D Hardness: | 66 | | |
| Lap Shear @ 23°C: | 1,880 | psi | |
| Die Shear @ 23°C: | ≥ 10 | Kg | 3,556 psi |
| Degradation Temp: | 270 | °C | |
| Weight Loss: | | | |
| @ 200°C: | 1.22 | % | |
| @ 250°C: | 3.99 | % | |
| Suggested Operating Temperature: | < 200 | °C (Intermittent) | |
| Storage Modulus: | 100,395 | psi | |
| * Particle Size: | N/A | | |

| ELECTRICAL AND 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 | | |

| OPTICAL PROPERTIES @ 23°C: | | | |
|----------------------------|--------|--------------|----|
| Spectral Transmission: | > 67% | @ 260 | nm |
| | > 95% | @ 340 | nm |
| | > 98% | @ 400 - 1600 | nm |
| Refractive Index: | 1.4763 | @ 589 | nm |

Epoxyes and Adhesives for Demanding Applications™

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EPO-TEK® 305 Advantages & Suggested Application Notes:

- Capable of transmitting light in the UV range.
- 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.

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