

Date: February 2021
Rev: VII
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	

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This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

EPOXY TECHNOLOGY, INC.

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www.epotek.com

EPO-TEK® 305 Advantages & Suggested Application Notes:

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