

Date: June 2026
Rev: VII
No. of Components: Two
Mix Ratio by Weight: 10 : 1
Specific Gravity: Part A: 2.43 Part B: 0.87
Pot Life: 30 Minutes
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 70°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.

Product Description: EPO-TEK® 320NC-2 is a two component, black-colored and optically opaque epoxy designed for optical and opto-electronic packaging of semiconductor devices and components. It is a modification of EPO-TEK® 320 for increased electrical insulation. It is also more viscous and thixotropic. Can be used for adhesion, sealing, potting and encapsulation.

Typical Properties: Cure condition: Varies as required 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: Black	Part B: Clear/Colorless	
* Consistency:	Slightly thixotropic paste		
* Viscosity (23°C) @ 100 rpm:	1,500 – 3,000	cPs	
Thixotropic Index:	3.2		
* Glass Transition Temp:	≥ 50	°C	(Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	20	x 10 ⁻⁶ in/in°C
	Above Tg:	82	x 10 ⁻⁶ in/in°C
Shore D Hardness:	89		
Lap Shear @ 23°C:	1,573	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	340	°C	
Weight Loss:			
	@ 200°C:	0.17	%
	@ 250°C:	0.35	%
	@ 300°C:	0.98	%
Suggested Operating Temperature:	< 275	°C	(Intermittent)
Storage Modulus:	684,864	psi	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:			
Thermal Conductivity:	N/A		
Volume Resistivity @ 23°C:	≥ 0.1 x 10 ¹⁴	Ohm-cm	
Dielectric Constant (1KHz):	9.75		
Dissipation Factor (1KHz):	0.033		

OPTICAL PROPERTIES @ 23°C:			
Spectral Transmission:	< 1 % @ 300-2500	nm	
Refractive Index:	N/A		

Epoxyes and Adhesives for Demanding Applications™

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EPOXY TECHNOLOGY, INC.

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www.epotek.com

EPO-TEK® 320NC-2 Advantages & Suggested Application Notes:

- Optically opaque between IR and Visible regions of light, including 185 – 2500 nm range
- It can be used for room temperature curing, low temp, or box oven elevated temperature cure.
- Suggested Applications:
 - Optical:
 - blocking light in photonics packaging through VIS and NIR range; sensor packaging including IR detectors packaged in TO-cans
 - bonding of various optics including lens, prism, diodes
 - adhesion to metals, most plastics, and glasses
 - Fiber optics: sealing / potting fibers into the boot, ferrule, or fiber feed-through of the package wall
- The low viscosity nature allows syringe dispensing and automation, hand, brushing, roller coating, tooth-pick or spatula, and pour or dipping

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