



**Manufacturer:**  
Epoxy Technology

**Product Name:**  
EPO-TEK 320 Black Epoxy, Room Temperature Cure (2.5g)

**Manufacturer Part Number:**  
ET320-2.5G



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## EPO-TEK® 320

Technical Data Sheet  
For Reference Only  
Optical, Opaque Epoxy

**Date:** August 2024  
**Rev:** VI  
**No. of Components:** Two  
**Mix Ratio by Weight:** 10 : 2  
**Specific Gravity:** Part A: 1.10 Part B: 0.87  
**Pot Life:** 1 Hour  
**Shelf Life- Bulk:** One year at room temperature

**Recommended Cure:** 65°C / 2 Hours

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® 320 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 widely used fiber-optic grade epoxy.

**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:	700 - 1,200	cPs	
Thixotropic Index:	5.7		
* Glass Transition Temp:	≥ 55	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):	Below Tg:	58	x 10 <sup>-6</sup> in/in°C
	Above Tg:	169	x 10 <sup>-6</sup> in/in°C
Shore D Hardness:	83		
Lap Shear @ 23°C:	> 2,000	psi	
Die Shear @ 23°C:	≥ 15	Kg	5,334 psi
Degradation Temp:	384	°C	
Weight Loss:	@ 200°C:	0.27	%
	@ 250°C:	0.45	%
	@ 300°C:	0.80	%
Suggested Operating Temperature:	< 300	°C (Intermittent)	
Storage Modulus:	506,751	psi	
* Particle Size:	≤ 20	microns	
ELECTRICAL AND THERMAL PROPERTIES:			
Thermal Conductivity:	N/A		
Volume Resistivity @ 23°C:	≥ 1 x 10 <sup>8</sup>	Ohm-cm	
Dielectric Constant (1KHz):	N/A		
Dissipation Factor (1KHz):	N/A		
OPTICAL PROPERTIES @ 23°C:			
Spectral Transmission:	< 1 % @ 300-2500	nm	
Refractive Index:	N/A		

Epoxyes and Adhesives for Demanding Applications™

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.

Contact the professionals at Fiber Optic Center for a quote or to get more details.

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Product specifications and data are  
subject to change without notice.



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### EPO-TEK® 320 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.
- Many modifications are available, such as viscosity, electrical insulation, Tg, flexibility, and biocompatibility (EPO-TEK® MED-320).
- 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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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.

**Contact the professionals at Fiber Optic Center for a quote or to get more details.**

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