



Product Information Sheet

EPO-TEK® 320-3

Date: July 2019
Rev: III
No. of Components: Two
Mix Ratio by Weight: 10 : 1
Specific Gravity: Part A: 1.52 Part B: 1.06
Pot Life: 1.5 Days
Shelf Life- Bulk: One year at room temperature
Shelf Life- Syringe: Six months at -40°C

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 150°C / 10 Minutes
 95°C / 1 Hour

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: A two component, black-colored and optically opaque epoxy designed for optical, medical, and opto-electronic packaging of semiconductor devices and components. It is a modification of EPO-TEK® 320 for increased electrical insulation, higher Tg, and more viscous appearance.

Typical Properties: Cure condition: 150°C / 1 Hour 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 opaque	Part B: Amber	
* Consistency:	Slightly thixotropic paste		
* Viscosity (23°C) @ 50 rpm:	5,800 - 8,200 cPs		
Thixotropic Index:	1.8		
* Glass Transition Temp:	≥ 70 °C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)		
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	27 x 10 ⁻⁶ in/in°C	
	Above Tg:	109 x 10 ⁻⁶ in/in°C	
Shore D Hardness:	88		
Lap Shear @ 23°C:	> 2,000 psi		
Die Shear @ 23°C:	≥ 10 Kg	3,556 psi	
Degradation Temp:	395 °C		
Weight Loss:			
	@ 200°C:	0.16	%
	@ 250°C:	0.36	%
	@ 300°C:	0.90	%
Suggested Operating Temperature:	< 300 °C (Intermittent)		
Storage Modulus:	526,437 psi		
* Particle Size:	≤ 20 microns		

ELECTRICAL AND THERMAL PROPERTIES:			
Thermal Conductivity:	N/A		
Volume Resistivity @ 23°C:	≥ 2.5 x 10 ¹¹	Ohm-cm	
Dielectric Constant (1KHz):	5.19		
Dissipation Factor (1KHz):	0.027		

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

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.

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