



Manufacturer:
Epoxy Technology

Product Name:
EPO-TEK® 302-3M Transparent Epoxy, Room Temperature Cure (2.5g)

Manufacturer Part Number:
ET302-3M-2.5G



Learn More

▶ Click here for more details on the EPO-TEK® 302-3M Transparent Epoxy, Room Temperature Cure (2.5g)



EPO-TEK® 302-3M

Technical Data Sheet
For Reference Only
Optically Transparent Epoxy

Date: August 2024
Rev: XIV
No. of Components: Two
Mix Ratio by Weight: 100 : 45
Specific Gravity: Part A: 1.20 Part B: 0.96
Pot Life: 1 Hour
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 65°C / 3 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**

- If product crystallizes in storage, place container in warm oven until crystallization disappears. Please refer to Tech Tip #7 on website.

Product Description: EPO-TEK® 302-3M is a two component epoxy used for optical, fiber optic, and semiconductor applications. The epoxy is good for adhesive joining, sealing, potting, or as a coating.

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: Clear/Colorless	Part B: Clear/Colorless	
* Consistency:	Pourable liquid		
* Viscosity (23°C) @ 100 rpm:	800 - 1,600	cPs	
Thixotropic Index:	N/A		
* 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:	56	x 10 ⁻⁶ in/in/°C	
Above Tg:	193	x 10 ⁻⁶ in/in/°C	
Shore D Hardness:	80		
Lap Shear @ 23°C:	> 2,000	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	351	°C	
Weight Loss:			
@ 250°C:	0.77	%	
@ 300°C:	1.22	%	
Suggested Operating Temperature:	< 250	°C (Intermittent)	
Storage Modulus @ 23°C	456,443	psi	
Ion Content:	Cl ⁻ : 42 ppm	Na ⁺ : 10 ppm	
	NH ₄ ⁺ : 1 ppm	K ⁺ : 4 ppm	
ELECTRICAL AND THERMAL PROPERTIES:			
Thermal Conductivity:	N/A		
Volume Resistivity @ 23°C:	≥ 1 x 10 ¹³	Ohm-cm	
Dielectric Constant (1KHz):	3.39		
Dissipation Factor (1KHz):	0.006		
OPTICAL PROPERTIES @ 23°C:			
Spectral Transmission:	> 95% @ 460-1620	nm	
Refractive Index (uncured):	1.5446 @589	nm	

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® 302-3M Advantages & Suggested Application Notes:

- Low viscosity, clear and colorless epoxy is well suited for potting applications, and for transmitting VIS or NIR light in opto-circuits
- Excellent water, chemical, and solvent resistant properties including 10% nitric acid, acetone, hexane, and dichloromethane.
- Suggested Applications:
 - Fiber Optic/Optical:
 - Potting and encapsulation; lens and prism bonding for Scientific / OEM instruments; LED encapsulant.
 - Transmission in the VIS/NIR range from 350 – 1550 nm. Can be used in the optical pathway
 - Potting or sealing the fiber into the snout of the opto-package.
 - Adhesive for V-groove, fiber arrays or lens arrays.
 - Bonding optical fibers into ferrules. Fibers of glass or plastic. Ferrules of glass, quartz, stainless steel, kovar, or ceramic.
 - Semiconductor:
 - Recommended for underfilling of flip chips or SMDs on PCB; can also be used for COB glob top process using a DAM/FILL method; can resist 85/85 moisture soaks, as well as Tcycles and Tshocks
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>

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