

Date: August 2024
Rev: XIII
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 1.15 Part B: 1.22
Pot Life: 24 Hours
Shelf Life- Bulk: One year at room temperature
Shelf Life- Syringe: Six months at -40°C

Recommended Cure: 150°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.

Product Description: EPO-TEK® 377 is a two component, high Tg, fiber optic grade epoxy. It is well suited for semiconductor and optical applications.

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: Clear/Colorless	Part B: Amber	
* Consistency:	Pourable liquid		
* Viscosity (23°C) @ 100 rpm:	150 - 300	cPs	
Thixotropic Index:	N/A		
* Glass Transition Temp:	≥ 95	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	57	x 10 ⁻⁶ in/in°C
	Above Tg:	210	x 10 ⁻⁶ in/in°C
Shore D Hardness:	67		
Lap Shear @ 23°C:	1,456	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	375 °C		
Weight Loss:			
	@ 200°C:	0.06	%
	@ 250°C:	0.17	%
	@ 300°C:	0.50	%
Suggested Operating Temperature:	< 300 °C (Intermittent)		
Storage Modulus:	373,622	psi	
Ion Content:	Cl ⁻ : 26 ppm	Na ⁺ :	15 ppm
	NH ₄ ⁺ : 22 ppm	K ⁺ :	3 ppm
Particle Size:	N/A		

ELECTRICAL AND THERMAL PROPERTIES:			
Thermal Conductivity:	N/A		
Volume Resistivity @ 23°C:	≥ 1 x 10 ¹³	Ohm-cm	
Dielectric Constant (1KHz):	3.36		
Dissipation Factor (1KHz):	0.005		

OPTICAL PROPERTIES @ 23°C:			
Spectral Transmission:	≥ 90% @ 600-1000	nm	
	≥ 98% @ 1000-6800	nm	
Refractive Index:	1.5195 @ 589		

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.

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EPO-TEK® 377 Advantages & Suggested Application Notes:

- Low viscosity epoxy with excellent handling characteristics. It can be used for encapsulating or potting. It may be applied by hand, pouring, spin coating, brushing, dipping, or automated dispensers.
- NASA approved, low outgassing epoxy – <http://outgassing.nasa.gov/>
- Suggested Semiconductor Grade epoxy:
 - Spin coating at wafer level for MEMS fabrication of pressure sensors and accelerometers.
 - Wafer-to-wafer bonding in CSP.
 - Capillary underfill of flip chip packaged die.
- Suggested Optical grade epoxy, opto-electronic packaging:
 - Transmission in NIR from 700 – 900 nm >95%.
 - Glass seal, hermetic seal of glass plates in LCD fabrication.
 - Hermetic seal of IR-filter window to aluminum cap of TO-Can in hybrid packaged IR sensors.
- Suggested Industrial: resist salt water, hydraulic fluids, motor oil, alcohol, 10% nitric acid, 10% sulfuric acid, 10% ammonia solution and most solvents.
 - For an ISO 10993 biocompatible version, see EPO-TEK® MED-377.

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EPO-TEK® 377

Technical Data Sheet
For Reference Only
High Temperature Epoxy

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