



EPO-TEK® MED-377

Technical Data Sheet
For Reference Only

Biocompatible/High Temperature, Optical Epoxy
ISO 10993 Tested/Fully Compliant

Date: March 2023
Rev: XI
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

Biocompatible Certified Cure: 150°C / 1 Hour

Alternative biocompatible cure schedules may be possible, but have not been certified. Contact med@epotek.com with any questions.

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® MED-377 is a biocompatible, high Tg, high temperature epoxy. Due to its low viscosity, it is easy to use and can be applied easily by many methods. It has excellent chemical and moisture resistance, and often used in potting fibers for endoscopes.

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:	63	x 10 ⁻⁶ in/in°C
Above Tg:	179	x 10 ⁻⁶ in/in°C
Shore D Hardness:	78	
Lap Shear @ 23°C:	1,856	psi
Die Shear @ 23°C:	≥ 20	Kg 7,112 psi
Degradation Temp:	367	°C
Weight Loss:		
@ 200°C:	0.30	%
@ 250°C:	0.57	%
@ 300°C:	1.28	%
Suggested Operating Temperature:	< 300	°C (Intermittent)
Storage Modulus:	459,641	psi
Particle Size:	N/A	

OPTICAL PROPERTIES:

Spectral Transmission:	96% @ 640-1640	nm
Refractive Index:	1.5194 @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.

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Fiber and Electro-Optics

- Potting/Impregnating fiber optic image bundles in endoscopes with high capillary wicking forces and similarly used for surgical illumination products whether light guides, cables, headlights and replacement parts
- A high temperature / high Tg material resisting autoclave and >400 Sterrad® sterilization cycles
- A general purpose adhesive for endoscope aftermarket repairs and services, as well as light guides and headlights
- Leak and vacuum tight adhesive: enabling high vacuum (UHV) photonic packaging

Surgical Tools

- Adhesive for hand held stainless steel surgical tooling, resisting steam autoclaves

Electronic Components

- PZT / Ferro-electronics: adhesive for ceramic / PCB lamination, impregnating ceramic for ultrasound kerf fabrication; carrier resin for acoustic tailoring
- Power electronics: impregnating Cu coils for electric motors; bonding and potting ferrites cores

Biocompatibility Approvals

- EPO-TEK® MED-377 cured at 150° C for 1 hour has been tested and is ISO 10993 certified, meeting Hemolysis (10993-4), Cytotoxicity (10993-5), Implantation (10993-6), Intracutaneous (10993-10), Sensitization (10993-10) and Systemic Toxicity (10993-11) test protocols.

Sterilization Information

- Epoxy performance is most influenced by surface preparation and cleanliness, overall process and handling, and finally proper curing selection. While bulk samples of MED-377 may resist sterilization technologies such as autoclave steam, gaseous technologies, gamma radiation as well as liquid disinfectants, the glue joints may differ. All users need to determine the suitability of MED-377 for their given application.
- Gamma radiation/ion beam will discolor MED-377 thus altering its UV-VIS transmission.
See our Technical Tip # 29: Gamma Sterilization for Medical Devices and its Effect on Epoxies for more information:
http://www.epotek.com/site/files/Techtips/pdfs/techtips_29.pdf
- MED-377 is generally regarded for resisting ETO and gamma sterilization.
- A report from Advanced Sterilization Products®, a J&J Company, suggests MED-377 is compatible with >400 cycles of Sterrad® 100NX.

Packaging Availability

- EPO-TEK® MED-377 is available in specialty packaging such as Pre-Mixed Frozen Syringes (PMF), or bulk (A & B containers).
- A video tutorial on handling frozen syringes can be found here:
<http://www.epotek.com/site/technical-material/application-video-tutorials/231-proper-receiving-and-thawing.html>

