



# EPO-TEK® MED-T905BN-3

Technical Data Sheet  
For Reference Only

Biocompatible/Thermally Conductive Epoxy  
ISO 10993-5 Tested/Compliant

**Date:** February 2021  
**Rev:** IV  
**No. of Components:** Two  
**Mix Ratio by Weight:** 100 : 14  
**Specific Gravity:** Part A: 1.64      Part B: 0.91  
**Pot Life:** < 3 Hours  
**Shelf Life- Bulk:** One year at room temperature

**Recommended Cure: 80°C / 2 Hours**

*Alternative biocompatible cure schedules may be possible, but have not been certified. Contact [med@epotek.com](mailto: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.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.

**Product Description:** EPO-TEK® MED-T905BN-3 is a biocompatible, thermally conductive, and electrically insulating epoxy for potting and heat sinking. It is often used in cooling of ultrasound and x-ray circuits and was formulated with a low exothermic chemistry; ideal for large volume casting or potting.

**Typical Properties:** Cure condition: 80°C / 2 Hours      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: Grey	Part B: Clear	
* Consistency:	Granular paste		
* Viscosity (23°C) @ 50 rpm:	2,000-7,000	cPs	
Thixotropic Index:			
* Glass Transition Temp:	≥ 40	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	37	x 10 <sup>-6</sup> in/in°C	
Above Tg:	177	x 10 <sup>-6</sup> in/in°C	
Shore D Hardness:	76		
Lap Shear @ 23°C:	1,736	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	363	°C	
Weight Loss:			
@ 200°C:	0.13	%	
@ 250°C:	0.27	%	
@ 300°C:	0.73	%	
Suggested Operating Temperature:	< 300	°C (Intermittent)	
Storage Modulus:	673,161	psi	
* Particle Size:	300	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	2.3	W/mK

### 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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[www.epotek.com](http://www.epotek.com)

## Fiber and Electro-Optics

- Heat sinking fiber and laser optics – adhesion to SST, Cu, Al and brass
- General, all-purpose fiber optic repair adhesive

## Imaging Technologies

- Adhesive between Si substrate bench and PCB, for photo-diode arrays in xray detection circuits

## Ultrasound/Ultrasonic

- General all-purpose ultrasound potting and probe repair adhesive

## Life Sciences and MicroFluidics

- General adhesive for bio and molecular diagnostic markets

## Implantable Devices

- Heat sinking and potting Cu coils and electric motors

## Surgical Tools

- Potting PCBs into metals shafts of hand held surgical instruments
- Laser optics, surgical tools, thermal interface material (TIM)

## Biocompatibility Approvals

- EPO-TEK® MED-T905BN-3 cured at 80°C for 2 hours has been tested and is ISO 10993-5 certified (Cytotoxicity testing by MEM Elution methodology).

## 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-T905BN-3 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-T905BN-3 for their given application.
- MED-T905BN-3 is generally regarded for resisting few cycles of ETO, gamma radiation and autoclave sterilization cycles.
- Gamma Radiation/ion beam may discolor MED-T905BN-3, thus altering its appearance.  
See 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](http://www.epotek.com/site/files/Techtips/pdfs/techtips_29.pdf)

## Packaging Availability

- EPO-TEK MED-T905BN-3 is available in specialty packaging such as Pre-Mixed Frozen Syringe (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>



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