

**Date:** September 2017  
**Rev:** VI  
**No. of Components:** Two  
**Mix Ratio by Weight:** 100 : 14  
**Specific Gravity:** Part A: 1.65      Part B: 0.96  
**Pot Life:** 3 Hours  
**Shelf Life- Bulk:** One year at room temperature

**Recommended Cure: 80°C / 2 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.

**Product Description:** EPO-TEK® T905BN-3 is a thermally conductive, electrically insulating epoxy designed for heat sinking and encapsulation.

**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:	1.5		
* 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:	151	x 10 <sup>-6</sup> in/in°C
Shore D Hardness:	60		
Lap Shear @ 23°C:	> 1,600	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	347 °C		
Weight Loss:			
	@ 200°C:	< 0.05	%
	@ 250°C:	0.16	%
	@ 300°C:	1.00	%
Suggested Operating Temperature:	< 300 °C (Intermittent)		
Storage Modulus:	721,520	psi	
* Particle Size:	≤ 300	microns	

ELECTRICAL AND THERMAL PROPERTIES:			
Thermal Conductivity:	2.0	W/mK	
Volume Resistivity @ 23°C:	≥ 3 x 10 <sup>11</sup>	Ohm-cm	
Dielectric Constant (1KHz):	3.51		
Dissipation Factor (1KHz):	0.009		

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.

EPOXY TECHNOLOGY, INC.

14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782

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### **EPO-TEK® T905BN-3 Advantages & Suggested Application Notes:**

- Potting applications:
  - Low viscosity, self leveling epoxy is ideal for potting applications .
  - Low exothermic chemistry is ideal for large volume casting or potting – up to 10 liters can be realized.
  - Reasonable pot-life allows for repeated cycles of vacuum and pressure, yielding bubble free epoxy and potted elements.
- High thermal conductivity allows for adhesive bonding of heat sinks and metal cases.
- Suggested applications:
  - Hybrids: staking and globbing high power SMDs to ceramic PCB
  - Medical: cooling of ultrasound and x-ray circuits, via adhesive and potting
  - Optical: thermally enhanced laser diode packaging
  - Electronics: encapsulating inductors, Cu coils and SMDs in transformer casings
- After cure, it is capable of being machined, grinded and polished into desired shapes.
- A grey color with a unique granular-like appearance. It should not be used above delicate Au wire bonds, resulting in sweep or break.

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