

**Date:** September 2017  
**Rev:** IV  
**No. of Components:** Two  
**Mix Ratio by Weight:** 10 : 1  
**Specific Gravity:** Part A: 2.28      Part B: 0.92  
**Pot Life:** 3.5 Hours  
**Shelf Life- Bulk:** One year at room temperature

**Recommended Cure: 80°C / 2 Hours**

**Minimum Alternative Cure(s):**  
*May not achieve performance properties listed below*  
 150°C / 10 Minutes  
 100°C / 1 Hour  
 23°C / 3 Days

**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® T7110 is a two component, thermally conductive, electrically insulating epoxy designed for heat sinking electronics and semiconductors. It may be used as an adhesive, potting, or encapsulation material, for industries such as consumer, medical or optics.

**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/Colorless	
* Consistency:	Pourable paste		
* Viscosity (23°C) @ 100 rpm:	1,400 - 2,200	cPs	
Thixotropic Index:	2.2		
* 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:	31	x 10 <sup>-6</sup> in/in°C
	Above Tg:	142	x 10 <sup>-6</sup> in/in°C
Shore D Hardness:	91		
Lap Shear @ 23°C:	1,932	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	314	°C	
Weight Loss:			
	@ 200°C:	0.40	%
	@ 250°C:	0.66	%
	@ 300°C:	1.78	%
Suggested Operating Temperature:	< 250	°C (Intermittent)	
Storage Modulus:	789,250	psi	
* Particle Size:	≤ 50	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.0	W/mK
Volume Resistivity @ 23°C:	≥ 2 x 10 <sup>13</sup>	Ohm-cm
Dielectric Constant (1KHz):	5.69	
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® T7110 Advantages & Suggested Application Notes:**

- Low viscosity allows for bubble-free potting and encapsulation.
- Room temperature or low temperature cure (< 100°C) permits use in temperature sensitive devices.
- Suggested Applications:
  - Semiconductor: capillary flow underfill for flip chip mounted die; possible glob top “fill” encapsulant.
  - Electronics: heat sinking; thermally conductive potting and general protection of PCB and SMDs; potting thermistors into cavities; potting and protection of resistor coils or Peltier devices.
  - Hybrids: potting power modules found in electronics such as cockpit, aerospace and Rf/Microwave devices.
  - Optical: encapsulation around copper coils found in nuclear, x-ray, and magnetic imaging; heat sinking outdoor LCD / touch panels exposed to sunlight.
- Low exothermic chemistry during polymerization. This allows up to one liter to be cast or potted in volumes. Contact [techserv@epotek.com](mailto:techserv@epotek.com) for the best cure schedule and sample preparation.

**Epoxy Technology, Inc.**  
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