EPO-TEK® T7110

Technical Data Sheet

For Reference Only

Thermally Conductive, Room-Temperature Cure Epoxy

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:1	150°C	15 Minutes
Specific Gravity:		100°C	1 Hour
Part A	2.28	80°C	2 Hours
Part B	0.92	23°C	3 Days
Pot Life:	3.5 Hours		
Shelf Life:	One year at room temperature		

*Note: Container(s) should be kept closed when not in use. For filled systems, mix the contents of Part A thoroughly before mixing the two parts together. *Please see Applications Note available on our website.*

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.

EPO-TEK® T7110 Advantages and 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 for the best cure schedule and sample preparation.

Typical Properties: ***(To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: 80°C/2 hours; * denotes test on lot acceptance basis)***

Physical Properties:	
***Color: Part A:** Grey **Part B:** Clear/Colorless	**Die Shear Strength @ 23°C:** ≥ 10 Kg / 3,400 psi
***Consistency:** Pourable paste	**Degradation Temp. (TGA):** 314°C
***Viscosity (@ 100 RPM/23°C):** 1,400 – 2,200cPs	**Weight Loss:**
Thixotropic Index: 2.2	**@ 200°C:** 0.40%
***Glass Transition Temp.(Tg):** ≥ 40°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**@ 250°C:** 0.66%
	@ 300°C: 1.78%
Coefficient of Thermal Expansion (CTE):	**Operating Temp:**
Below Tg: 31×10^{-6} in/in/°C	**Continuous:** - 55°C to 150°C
Above Tg: 142×10^{-6} in/in/°C	**Intermittent:** - 55°C to 250°C
Shore D Hardness: 91	**Storage Modulus @ 23°C:** 789,250psi
Lap Shear Strength @ 23°C: > 1,932 psi	***Particle Size:** ≤ 50 Microns
Thermal Properties:	
Thermal Conductivity: 1.0 W/mK	
Electrical Properties:	
Dielectric Constant (1KHz): 5.69	**Volume Resistivity @ 23°C:** ≥ 2×10^{13} Ohm-cm
Dissipation Factor (1KHz): 0.009	

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