EPOXY TECHNOLOGY

EPO-TEK® T905BN-3

Technical Data Sheet

For Reference Only

Thermally Conductive Epoxy

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	100:14	80ºC	2 Hours
Specific Gravity:			
Part A	1.65		
Part B	0.96		
Pot Life:	3 Hours		
Shelf Life:	One year at room temperature		

Note: Container(s) should be kept closed when not in use. Mix contents of container A thoroughly before mixing together with container B.
**Please see Applications Note available on our website.*

Product Description:

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

EPO-TEK® T905BN-3 Advantages & 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.

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: varies as required; * denotes test on lot acceptance basis)***

Physical Properties:	
***Color:** **Part A:** Grey **Part B:** Clear	**Die Shear Strength @ 23°C:** ≥ 10 Kg / 3,400 psi
***Consistency:** Granular paste	**Degradation Temp. (TGA):** 347°C
***Viscosity (@ 50 RPM/23°C):** 2,000 – 7,000 cPs	**Weight Loss:**
Thixotropic Index: 1.53	**@ 200°C:** < 0.05 %
***Glass Transition Temp.(Tg):** ≥ 40°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**@ 250°C:** 0.16 %
	@ 300°C: 1.00 %
Coefficient of Thermal Expansion (CTE):	**Operating Temp:**
Below Tg: 37 x 10^{-6} in/in/°C	**Continuous:** - 55°C to 200°C
Above Tg: 151 x 10^{-6} in/in/°C	**Intermittent:** - 55°C to 300°C
Shore D Hardness: 60	**Storage Modulus @ 23°C:** 721,520psi
Lap Shear Strength @ 23°C: > 1,600psi	***Particle Size:** ≤ 300 Microns
Thermal Properties:	
Thermal Conductivity: 2.02 W/mK	
Electrical Properties:	
Dielectric Constant (1KHz): 3.51	**Volume Resistivity @ 23°C:** 3 x 10^{11} Ohm-cm
Dissipation Factor (1KHz): 0.009	

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