EPO-TEK® T7109-17

Technical Data Sheet
For Reference Only
Thermally Conductive Epoxy

Date:	February 2021	
Rev:	XII	
No. of Components:	Two	
Mix Ratio by Weight:	10 : 3	
Specific Gravity:	Part A: 1.34	Part B: 1.08
Pot Life:	2 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
23°C / 2 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® T7109-17 is a flexible, thermally conductive, electrically insulating epoxy paste designed for low stress and heat dissipation applications within the semiconductor, hybrid, electronic and optical industries. It is a replacement for EPO-TEK® T7109-14.

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:	Smooth paste	
* Viscosity (23°C) @ 5 rpm:	30,000-70-000	cPs
Thixotropic Index:	2.3	
* Glass Transition Temp:	≤ 20	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -40-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):		
Below Tg:	48	x 10^{-6} in/in°C
Above Tg:	181	x 10^{-6} in/in°C
Shore A Hardness:	83	
Lap Shear @ 23°C:	574	psi
Die Shear @ 23°C:	≥ 2.8	Kg 996 psi
Degradation Temp:	317	°C
Weight Loss:		
@ 200°C:	0.67	%
@ 250°C:	1.15	%
@ 300°C:	3.14	%
Suggested Operating Temperature:	< 250	°C (Intermittent)
Storage Modulus:	2,600	psi
* Particle Size:	≤ 20	microns

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.5	W/mK
Volume Resistivity @ 23°C:	≥ 0.01 x 10^{12}	Ohm-cm
Dielectric Constant (1KHz):	6.10	
Dissipation Factor (1KHz):	0.146	

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EPO-TEK® T7109-17 Advantages & Suggested Application Notes:

- Suggested applications:
  - Hybrids: bonding thermo-electric coolers (TECs)
  - Power devices: adhesive for low-stress bonding of ferrites; laminating Cu foils to substrates
  - Optics:
    - Die-attaching µ-LCDs to PCB/substrate
    - Flexible potting of kapton flex PCB containing µ-LCD into the frame
    - Adhesive for OEM optics including profilometry
  - Semiconductor: glob top over IC and wire bonds
  - General: adhesive for Al, Cu, Kovar, ceramic, glass, PCBs, and most plastics
- Rheology allows deposition by hand, dispensers or screen printers.
- Alternative products exist. Contact techserv@epotek.com for your best recommendation.

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