

Date: February 2022
Rev: XI
No. of Components: Two
Mix Ratio by Weight: 100 : 15
Specific Gravity: Part A: 1.36 Part B: 1.01
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® T7109-19 is a two component, flexible, thermally conductive, electrically insulating epoxy paste designed for low stress and heat dissipation applications. It is a lower outgassing version of EPO-TEK® T7109-17 with similar thermal management.

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:	40,000-70,000	cPs	
Thixotropic Index:	2.7		
* 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:	59	x 10 ⁻⁶ in/in°C
	Above Tg:	216	x 10 ⁻⁶ in/in°C
Shore D Hardness:	41		
Lap Shear @ 23°C:	1,434	psi	
Die Shear @ 23°C:	≥ 5	Kg	1,778 psi
Degradation Temp:	338	°C	
Weight Loss:			
	@ 200°C:	0.41	%
	@ 250°C:	0.68	%
	@ 300°C:	1.44	%
Suggested Operating Temperature:	< 250 °C (Intermittent)		
Storage Modulus:	29,931	psi	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.3	W/mK
Volume Resistivity @ 23°C:	≥ 5 x 10 ¹²	Ohm-cm
Dielectric Constant (1KHz):	3.42	
Dissipation Factor (1KHz):	0.030	

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.

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www.epotek.com

EPO-TEK® T7109-19 Advantages & Suggested Application Notes:

- Power devices:
 - Potting in semiconductor lithograph engine for ultra-high resolution wafer printing and low-stress bonding of ferrites; laminating Cu foils to substrates.

- Hybrids:
 - Bonding thermo-electric coolers (TECs).

- 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.

- Life Sciences / Analytical / Biotech / Energy & Gas:
 - Fabrication of cryogenic parts, sensors, and optics
 - Capable of a dozen thermal cycles to -130°C under vacuum

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