EPO-TEK® 920-FL

Technical Data Sheet
For Reference Only
Thermally Conductive Epoxy

Date:	February 2021	
Rev:	VII	
No. of Components:	Two	
Mix Ratio by Weight:	100 : 3	
Specific Gravity:	Part A: 2.52	Part B: 1.02
Pot Life:	7 Hours	
Shelf Life- Bulk:	One year at room temperature	

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
150°C / 5 Minutes
120°C / 10 Minutes
100°C / 20 Minutes

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® 920-FL is a two component, high Tg, electrically insulating, thermally conductive epoxy designed for thermal management applications found in semiconductor, hybrid microelectronics, PCB, and optical industries. It is a low viscosity version of EPO-TEK® 920.

Typical Properties: Cure condition: 150°C / 1 Hour 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: Amber
* Consistency:	Smooth flowing paste	
* Viscosity (23°C) @ 20 rpm:	8,000-12,000	cPs
Thixotropic Index:	3.1	
* Glass Transition Temp:	≥ 90	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):		
Below Tg:	21	x 10^{-6} in/in°C
Above Tg:	97	x 10^{-6} in/in°C
Shore D Hardness:	93	
Lap Shear @ 23°C:	> 2,000	psi
Die Shear @ 23°C:	≥ 20	Kg 7,112 psi
Degradation Temp:	362	°C
Weight Loss:		
@ 200°C:	0.20	%
@ 250°C:	0.28	%
@ 300°C:	0.48	%
Suggested Operating Temperature:	< 300	°C (Intermittent)
Storage Modulus:	783,073	psi
* Particle Size:	≤ 50	microns

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.9	W/mK
Volume Resistivity @ 23°C:	≥ 4 x 10^{13}	Ohm-cm
Dielectric Constant (1KHz):	5.96	
Dissipation Factor (1KHz):	0.009	

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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A Meridian Adhesives Group Company

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EPO-TEK® 920-FL Advantages & Suggested Application Notes:

- Can be an adhesive for mounting heat sinks and substrates, a seal for many types of packages, or a thermal potting compound.
- Rheology allows for a smooth free flowing paste, which allows ease of use for potting and casting applications, as well as syringe dispensing.
- Built-in color change from tan to an amber color.
- Suggested Applications:
  - Hybrids: thermal potting compound; potting connectors and potting transformers, mounting heat sinks to SMDs and ceramic circuits; potting, glob top protection over SMDs.
  - PCB Level: heat sinking adhesive; adhesion to Au, Cu, Al, FR4, many plastics, components and connectors.
  - Semiconductor: thermal management as semiconductor underfill or glob top encapsulant; potting IC packages like BGAs or CSPs.
- Available in many intermediate viscosity ranges. Contact techserv@epotek.com for your best recommendation.
- Low temperature curing < 120°C.

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