



Product Information Sheet

EPO-TEK® H74F

Date: September 2017
Rev: V
No. of Components: Two
Mix Ratio by Weight: 100 : 4
Specific Gravity: Part A: 2.02 Part B: 1.02
Pot Life: 3 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
 80°C / 2 Hours

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.
- Refrigeration of Part A may prevent settling.

Product Description: A two component, high Tg, thermally conductive, electrically insulating epoxy designed for semiconductor packaging including heat sinking, hermetic sealing, and opto-electronic assemblies. It may be used for flip chip underfill, sealing sensor devices packaged in TO-cans or fiber optic feed-through. It may be considered a finer particle version of EPO-TEK® H74.

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: Dark grey	Part B: Amber	
* Consistency:	Smooth paste		
* Viscosity (23°C) @ 5 rpm:	45,000-75,000	cPs	
Thixotropic Index:	1.9		
* 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:	33 x 10 ⁻⁶ in/in°C	
	Above Tg:	108 x 10 ⁻⁶ in/in°C	
Shore D Hardness:	88		
Lap Shear @ 23°C:	> 2,000		psi
Die Shear @ 23°C:	≥ 15		Kg 5,334 psi
Degradation Temp:	486 °C		
Weight Loss:			
	@ 200°C:	0.05 %	
	@ 250°C:	0.05 %	
	@ 300°C:	0.10 %	
Suggested Operating Temperature:	< 350 °C (Intermittent)		
Storage Modulus:	638,392 psi		
Ion Content:	Cl ⁻ :	41 ppm	Na ⁺ : 20 ppm
	NH ₄ ⁺ :	100 ppm	K ⁺ : 9 ppm
* Particle Size:	≤ 20 microns		

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.5	W/mK
Volume Resistivity @ 23°C:	≥ 5 x 10 ¹³	Ohm-cm
Dielectric Constant (1KHz):	4.90	
Dissipation Factor (1KHz):	0.012	

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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