

Date: February 2019
Rev: IV
No. of Components: Single
Mix Ratio by Weight: N/A
Specific Gravity: 2.90
Pot Life: 15 Hours
Shelf Life: One year at -40°C

Recommended Cure: 200°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 200°C / 1 Minute
 180°C / 15 Minutes
 150°C / 30 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® E3082 is a single component, silver filled, electrically and thermally conductive adhesive for semiconductor die attach, hybrid, electronics and optical applications. It is a one component version of EPO-TEK® E2082.

Typical Properties: Cure condition: 200°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):	Silver		
* Consistency:	Smooth paste		
* Viscosity (23°C) @ 50 rpm:	4,000 - 6,500	cPs	
Thixotropic Index:	4.8		
* Glass Transition Temp:	≥ 90	°C (Dynamic Cure: 20-300°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	40	x 10 ⁻⁶ in/in/°C
	Above Tg:	174	x 10 ⁻⁶ in/in/°C
Shore D Hardness:	72		
Lap Shear @ 23°C:	1,384	psi	
Die Shear @ 23°C:	≥ 5	Kg	1,778 psi
Degradation Temp:	361	°C	
Weight Loss:			
	@ 200°C:	0.07	%
	@ 250°C:	0.32	%
	@ 300°C:	0.81	%
Suggested Operating Temperature:	< 300	°C (Intermittent)	
Storage Modulus:	234,625	psi	
Ion Content:			
	Cl ⁻ :	190 ppm	Na ⁺ : 16 ppm
	NH ₄ ⁺ :	21 ppm	K ⁺ : 6 ppm
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	2.8	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0001 x 10	Ohm-cm
Volume Resistivity @ 23°C (200°C/1 Minute):	0.00004	Ohm-cm

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.

EPOXY TECHNOLOGY, INC.

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www.epotek.com

EPO-TEK® E3082 Advantages & Suggested Application Notes:

- Low modulus adhesive suitable for large IC or substrate bonding yielding low stress.
- Its viscosity and pot life are suitable for high volume dispensing applications. Stamping, screen printing, or manual methods can also be achieved.
- Suggested Applications:
 - Semiconductor:
 - Die attach for JEDEC level II and III packaging.
 - Bonding of chips as large as 300 mil x 300 mil.
 - Adhesion to Si, Ag, Cu, and most lead-frame formats.
 - Versatility in cure; capable of in-line snap cure, as well as traditional box oven methods.
 - Hybrids:
 - Die bonding of GaAs and SMDs, with compatible adhesion to ceramic, Ag, Au, AgPd, kovar, brass, SST, glass.
 - High temperature hermetic packaging technology and processes
 - PCB / Electronics:
 - COB die attach adhesive on FR4 or flex-PCB
- It is a faster curing version of EPO-TEK® E3081. Contact techserv@epotek.com for your best recommendation.

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