

Date: December 2017
Rev: V
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 2.93 Part B: 2.86
Pot Life: 1.5 Days
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 / 15 Minutes
 80°C / 3 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.

Product Description: EPO-TEK® N20E is a two component, electrically and thermally conductive, epoxy adhesive designed for semiconductor and electronics assembly. Its applications and field conditions include the optical, sensor, consumer, and industrial industries.

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: Dark grey	
* Consistency:	Smooth paste		
* Viscosity (23°C) @ 20 rpm:	5,000 - 10,000	cPs	
Thixotropic Index:	1.9		
* Glass Transition Temp:	≥ 70	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	27	x 10 ⁻⁶ in/in°C	
Above Tg:	89	x 10 ⁻⁶ in/in°C	
Shore D Hardness:	50		
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	478 °C		
Weight Loss:			
@ 200°C:	0.07	%	
@ 250°C:	0.22	%	
@ 300°C:	0.81	%	
Suggested Operating Temperature:	< 300 °C (Intermittent)		
Storage Modulus:	1,145,788	psi	
Ion Content:	Cl:	34 ppm	Na ⁺ : 265 ppm
	NH ₄ ⁺ :	16 ppm	K ⁺ : 10 ppm
* Particle Size:	≤ 45 microns		

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.2	W/mK
* Volume Resistivity @ 23°C:	≤ 0.07	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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EPO-TEK® N20E Advantages & Suggested Application Notes:

- Pot life of more than one day allows for mass production and minimal waste.
- Suggested Applications:
 - PCB / Electronics: EMI and Rf shielding of RF and Microwave devices.
 - Opto-electronics: IR, digital imaging, and sensor device interconnects.
- Versatility in cure allows for low temperature, box oven, SMT tunnel oven, hand held, or snap curing techniques to be realized
- Thixotropic nature allows for deposition methods like dispensing, screen printing, stamping, or other patterning techniques.

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