

Date: February 2022
Rev: IX
No. of Components: Two
Mix Ratio by Weight: 3 : 1
Specific Gravity: Part A: 2.35 Part B: 4.58
Pot Life: 5 Days
Shelf Life- Bulk: One year at room temperature
Shelf Life- Syringe: One year at -40°C

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 175°C / 15 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.

Product Description: EPO-TEK® E2101 is a two component, thixotropic, electrically conductive adhesive. It may be used for circuit assembly and semiconductor applications.

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: Silver	Part B: Silver
* Consistency:	Smooth thixotropic paste	
* Viscosity (23°C) @ 20 rpm:	15,000-18,000	cPs
Thixotropic Index:	3.9	
* 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:	48	x 10 ⁻⁶ in/in°C
Above Tg:	192	x 10 ⁻⁶ in/in°C
Shore D Hardness:	68	
Lap Shear @ 23°C:	952	psi
Die Shear @ 23°C:	≥ 5	Kg 1,778 psi
Degradation Temp:	401 °C	
Weight Loss:		
@ 200°C:	0.37	%
@ 250°C:	0.61	%
@ 300°C:	0.90	%
Suggested Operating Temperature:	< 300 °C (Intermittent)	
Storage Modulus:	1,052,430	psi
Ion Content:		
Cl ⁻ :	27 ppm	Na ⁺ : 10 ppm
NH ₄ ⁺ :	80 ppm	K ⁺ : 1 ppm
* Particle Size:	≤ 20	microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	2.5	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0005	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® E2101 Advantages & Suggested Application Notes:

- Thixotropic paste allows for application by stencil or screen printing. SMD caps and resistors as small as the 0402 format have been mounted to PCB without silver bridging between the 2 electrodes.
- Capable of adhering to PCB metals like Au, Cu, OSP / Cu, Ag, Ag-Pd.
- Used for making electrical connections to PZT electrodes in ink-jetting or medical / ultrasound applications.
- Suitable for low temperature flip chip packaging. "Bumps" of E2101 may be used instead of Sn/Pb solder balls.
- Suited for high speed automated syringe dispensing techniques.
- Low flow, low resin bleedout on gold surfaces.
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>
- JEDEC Level III and II semiconductor packaging material

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