

Date: February 2022
Rev: VIII
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 2.42 Part B: 3.07
Pot Life: 4 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 / 45 Seconds

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® H20E-LC is a two component, silver-filled epoxy system designed specifically for chip bonding in microelectronic and optoelectronic applications. It is also used extensively for thermal management applications due to its high thermal conductivity. It has proven itself to be extremely reliable over many years of service and is the conductive adhesive of choice for low chloride 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 paste | | |
| * Viscosity (23°C) @ 100 rpm: | 2,200 - 3,200 | cPs | |
| Thixotropic Index: | 4.6 | | |
| * Glass Transition Temp: | ≥ 80 | °C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min) | |
| Coefficient of Thermal Expansion (CTE): | | | |
| Below Tg: | 44 | x 10 ⁻⁶ in/in°C | |
| Above Tg: | 174 | x 10 ⁻⁶ in/in°C | |
| Shore D Hardness: | 60 | | |
| Lap Shear @ 23°C: | 1,672 | psi | |
| Die Shear @ 23°C: | ≥ 5 | Kg | 1,778 psi |
| Degradation Temp: | 451 | °C | |
| Weight Loss: | | | |
| @ 200°C: | 0.42 | % | |
| @ 250°C: | 1.03 | % | |
| @ 300°C: | 1.96 | % | |
| Suggested Operating Temperature: | < 300 | °C (Intermittent) | |
| Storage Modulus: | 939,871 | psi | |
| Ion Content: | Cl ⁻ : 11 ppm | Na ⁺ : 6 ppm | |
| | NH ₄ ⁺ : 259 ppm | K ⁺ : 2 ppm | |
| * Particle Size: | ≤ 45 | microns | |

| ELECTRICAL AND THERMAL PROPERTIES: | | | |
|------------------------------------|----------|--------|--|
| Thermal Conductivity: | 2.0 | W/mK | |
| * Volume Resistivity @ 23°C: | ≤ 0.0004 | 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.

14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782

www.epotek.com

EPO-TEK® H20E-LC Advantages & Suggested Application Notes:

- Especially recommended for use in high speed epoxy chip bonding systems where very fast cures are desired.
- Suggested for JEDEC Level III and II for plastic IC packaging.
- Capable of resisting TC wire bonding temperatures in the range of 300°C to 400°C.
- Ease of use: apply by dispensing, screen printing, die-stamping, or by hand.
- Especially suited for high power devices and high current flow; high power LEDs.
- Opto-electronic packaging material: LED, LCDs, and fiber optic components.

Epoxies 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.

14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782

www.epotek.com