

Date: March 2024
Rev: VIII
No. of Components: Single
Mix Ratio by Weight: N/A
Specific Gravity: 1.72
Pot Life: > 7 Days
Shelf Life- Bulk: One year at -40°C
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

200°C / 5 Minutes

180°C / 15 Minutes

140°C / 40 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® TJ1104-LH is a black, single component, low halogen, electrically insulating die attach adhesive with extended pot life.

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): | Black | | |
| * Consistency: | Thick paste | | |
| * Viscosity (23°C) @ 1 rpm: | 80,000-130,000 | cPs | |
| Thixotropic Index: | 2.0 | | |
| * Glass Transition Temp: | ≥ 100 | °C | (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min) |
| Coefficient of Thermal Expansion (CTE): | | | |
| Below Tg: | 43 | x 10 ⁻⁶ in/in°C | |
| Above Tg: | 130 | x 10 ⁻⁶ in/in°C | |
| Shore D Hardness: | 88 | | |
| Lap Shear @ 23°C: | > 2,000 | psi | |
| Die Shear @ 23°C: | ≥ 20 | Kg | 7,112 psi |
| Degradation Temp: | 393 | °C | |
| Weight Loss: | | | |
| @ 200°C: | 0.07 | % | |
| @ 250°C: | 0.11 | % | |
| @ 300°C: | 0.27 | % | |
| Suggested Operating Temperature: | < 325 | °C | (Intermittent) |
| Storage Modulus: | 1,328,890 | psi | |
| Ion Content: | | | |
| Cl ⁻ : | 53 ppm | Na ⁺ : | 13 ppm |
| NH ₄ ⁺ : | 39 ppm | K ⁺ : | 7 ppm |
| * Particle Size: | ≤ 20 | microns | |

ELECTRICAL AND THERMAL PROPERTIES:

| | | |
|-----------------------------|------------------------|--------|
| Thermal Conductivity: | 0.5 | W/mK |
| Volume Resistivity @ 23°C: | ≥ 4 x 10 ¹³ | Ohm-cm |
| Dielectric Constant (1KHz): | 3.68 | |
| Dissipation Factor (1KHz): | 0.010 | |

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® TJ1104-LH