

## Product Information Sheet

### EPO-TEK® 310M Black

**Date:** November 2022  
**Rev:** IX  
**No. of Components:** Two  
**Mix Ratio by Weight:** 10 : 5.5  
**Specific Gravity:** Part A: 1.11      Part B: 1.08  
**Pot Life:** 2 Hours  
**Shelf Life- Bulk:** One year at room temperature  
**Shelf Life- Syringe:** 6 months at -40°C

**Recommended Cure: 65°C / 2 Hours**

**Minimum Alternative Cure(s):**  
*May not achieve performance properties listed below*  
 23°C / 24 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.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.
- **TOTAL MASS SHOULD NOT EXCEED 25 GRAMS**
- Black color is cosmetic only, and not intended to be photonic, spectral, or lampblack. All users need to confirm its opacity versus wavelength.

**Product Description:** A two component, flexible, optically opaque epoxy adhesive designed for optical and semiconductor applications. Replacement for EPO-TEK® 310 Black.

**Typical Properties:** Cure condition: 65°C / 2 Hours      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: Black   | Part B: Clear |                            |
| * Consistency:                          | Pourable liquid   |               |                            |
| * Viscosity (23°C) @ 100 rpm:           | 450 - 850   | cPs           |                            |
| Thixotropic Index:                      | N/A   |               |                            |
| * Glass Transition Temp:                | ≤ 15 °C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min) |               |                            |
| Coefficient of Thermal Expansion (CTE): |   |               |                            |
|   | Below Tg:   | 78            | x 10 <sup>-6</sup> in/in°C |
|   | Above Tg:   | 261           | x 10 <sup>-6</sup> in/in°C |
| Shore A Hardness:                       | 69  |               |                            |
| Lap Shear @ 23°C:                       | 354   | psi           |                            |
| Die Shear @ 23°C:                       | ≥ 2.5   | Kg            | 889 psi                    |
| Degradation Temp:                       | 397 °C  |               |                            |
| Weight Loss:                            |   |               |                            |
|   | @ 200°C:  | 0.09          | %                          |
|   | @ 250°C:  | 0.28          | %                          |
|   | @ 300°C:  | 0.64          | %                          |
| Suggested Operating Temperature:        | < 300 °C (Intermittent)   |               |                            |
| Storage Modulus:                        | 726 psi   |               |                            |
| * Particle Size:                        | N/A   |               |                            |

| ELECTRICAL AND THERMAL PROPERTIES: |                        |        |  |
|------------------------------------|------------------------|--------|--|
| Thermal Conductivity:              | N/A                    |        |  |
| Volume Resistivity @ 23°C:         | ≥ 1 x 10 <sup>10</sup> | Ohm-cm |  |
| Dielectric Constant (1KHz):        | 6.62                   |        |  |
| Dissipation Factor (1KHz):         | 1.125                  |        |  |

| OPTICAL PROPERTIES @ 23°C: |                   |    |  |
|----------------------------|-------------------|----|--|
| Spectral Transmission:     | < 7% @400-1000    | nm |  |
|                            | < 15% @ 1000-1550 | nm |  |
| Refractive Index:          | N/A               |    |  |

**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.**

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