Date: September 2017
Rev: IV
No. of Components: Two
Mix Ratio by Weight: 100 : 45
Specific Gravity: Part A: 1.20 Part B: 0.96
Pot Life: 1 Hour
Shelf Life- Bulk: One year at room temperature

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
- Contact techserv@epotek.com for alternatives designed to meet European regulatory requirements.

Product Description: EPO-TEK® 302-3M Black is a two component room temperature curing epoxy used for optical, medical, fiber optic, and semiconductor applications. The system offers excellent joining, sealing, potting, and coating.

Typical Properties: Cure condition: Varies as required 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/Yellow tint
- Consistency: Pourable liquid
- Viscosity (23°C) @ 20 rpm: 800 - 1,600 cPs
- Glass Transition Temp: ≥ 55 °C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
- Coefficient of Thermal Expansion (CTE):
  * Below Tg: 56 x 10⁻⁶ in/in°C
  * Above Tg: 193 x 10⁻⁶ in/in°C
- Shore D Hardness: 80
- Lap Shear @ 23°C: > 2,000 psi
- Die Shear @ 23°C: ≥ 10 Kg 3,556 psi
- Degradation Temp: 351 °C
- Weight Loss:
  * @ 250°C: 0.77 %
  * @ 300°C: 1.22 %
- Suggested Operating Temperature: < 250 °C (Intermittent)
- Storage Modulus: 251,532 psi
- Ion Content:
  * Cl⁻: 42 ppm
  * Na⁺: 10 ppm
  * NH₄⁺: 1 ppm
  * K⁺: 4 ppm
- * Particle Size: ≤ 20 microns

ELECTRICAL AND THERMAL PROPERTIES:
- Thermal Conductivity: N/A
- Volume Resistivity @ 23°C: ≥ 5 x 10¹² Ohm-cm
- Dielectric Constant (1KHz): 3.41
- Dissipation Factor (1KHz): 0.011

OPTICAL PROPERTIES @ 23°C:
- Spectral Transmission:
  * < 10% @ 900 nm
  * < 20% @ 1,320 nm
  * < 45% @ 2,500 nm
- Refractive Index: N/A
EPO-TEK® 302-3M Black
Advantages & Suggested Application Notes:

- Low viscosity, black epoxy is well suited for potting applications and for light blocking in optoelectronics applications.

- Excellent water, chemical, and solvent resistant properties including 10% nitric acid, acetone, hexane, and dichloromethane.

- Suggested Applications:
  - Fiber Optic/Optical:
    - Potting and encapsulation; light blocking and optics sealing applications
    - Passive fiber sealing in opto-packages
    - Adhesive for V-groove, fiber arrays or lens arrays
    - Bonding optical fibers into ferrules. Fibers of glass or plastic. Ferrules of glass, quartz, stainless steel, kovar, or ceramic.
  - Semiconductor:
    - Recommended for underfilling of flip chips or SMDs on PCB; can also be used for COB glob top process using a DAM/FILL method; can resist 85/85 moisture soaks, as well as Tcycles and Tshocks