

Product Information Sheet

MATERIAL ID:
EPO-TEK® 302-3M-Black
Date: 10/2009

Per:
Rev: II

Material Description:

A two component, room temperature curing, optically opaque epoxy used for electro-optics, medical, fiber optic, circuit assembly, and semiconductor applications. The epoxy is good for adhesive joining, sealing, potting, or as a coating.

Number of Components:

Two

Mix Ratio by weight:

100:45

Cure Schedule (minimum)

65°C/3 Hours - 23°C/24 Hours

Specific Gravity:

--- Part A: 1.20 Part B: 0.96

Pot Life:

1 Hour

Shelf Life:

One year at room temperature

NOTE: Container(s) should be kept closed when not in use. Filled systems should be stirred thoroughly before mixing and prior to use.

- TOTAL MASS SHOULD NOT EXCEED 25 GRAMS -

MATERIAL CHARACTERISTICS: *To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: varies as required*
 * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:	
*Color (before cure): Part A: Black Part B: Clear/Yellow Tint	Weight Loss: @ 200°C: @ 250°C: 0.77 % @ 300°C: 1.22 %
*Consistency: Pourable liquid	Operating Temp: Continuous: - 55°C to + 175°C Intermittent: - 55°C to + 250°C
*Viscosity (23°C): @ 20 rpm 800 - 1600 cPs	Storage Modulus @ 23°C: 251,532 psi
Thixotropic Index: N/A	Ion Content: Cl ⁻ : 42 ppm NH ₄ ⁺ : 1 ppm Na ⁺ : 10 ppm K ⁺ : 4 ppm
*Glass Transition Temp: ≥ 55 °C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	*Particle Size: ≤ 20 microns
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 / 3,400 psi	
Degradation Temp: 351 °C	

ELECTRICAL AND THERMAL PROPERTIES:	
Thermal Conductivity: N/A Volume Resistivity @ 23°C: ≥ 5 x 10 ¹² Ohm-cm	Dielectric Constant (1KHz): 3.41 Dissipation Factor (1KHz): 0.011

OPTICAL PROPERTIES @ 23°C:	
Spectral Transmission: < 10 % @ 900 nm < 20 % @ 1320 nm < 45 % @ 2500 nm	Index of Refraction: N/A