

Product Information Sheet

MATERIAL ID:

EPO-TEK® 930-1

Date: 08/2005

Per:

Rev: III

Material Description:

A two part, thermally conductive, electrically insulating epoxy. It can be used for heat sinking semiconductor devices, hybrid microelectronics, optics or medical devices. It is a lower viscosity and smaller particle size alternative to EPO-TEK® 930.

Number of Components:

Two

Mix Ratio by weight:

100:4

Cure Schedule (minimum)

150°C/10 Minutes - 100°C/4 Hours - 80°C/6 Hours

Specific Gravity:

--- Part A: 1.40 Part B: 1.03

Pot Life:

1 Day

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

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: 150°C/1 hour*
 * denotes test on lot acceptance basis

| PHYSICAL PROPERTIES: | | | |
|--|---|--------------------------------|-------------------|
| *Color (before cure): | Part A: White Part B: Amber | Weight Loss: | |
| *Consistency: | Smooth paste | @ 200°C: | 0.09 % |
| *Viscosity (23°C): | | @ 250°C: | 0.50 % |
| @ 5 rpm | 60,000 - 80,000 cPs | @ 300°C: | 1.31 % |
| Thixotropic Index: | 3.8 | Operating Temp: | |
| *Glass Transition Temp: | ≥ 70 °C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min) | Continuous: | - 55°C to + 200°C |
| Coefficient of Thermal Expansion (CTE): | | Intermittent: | - 55°C to + 300°C |
| Below Tg: | 28 x 10 ⁻⁶ in/in°C | Storage Modulus @ 23°C: | 793,194 psi |
| Above Tg: | 96 x 10 ⁻⁶ in/in°C | Ion Content: | |
| Shore D Hardness: | 82 | Cl ⁻ : | |
| Lap Shear @ 23°C: | 1,636 psi | NH ₄ ⁺ : | |
| Die Shear @ 23°C: | ≥ 10 Kg / 3,400 psi | Na ⁺ : | |
| Degradation Temp: | 415 °C | K ⁺ : | |
| | | *Particle Size: | ≤ 20 microns |

| ELECTRICAL AND THERMAL PROPERTIES: | | | |
|---|-----------------------------|------------------------------------|-------|
| Thermal Conductivity: | 1.07 W/mK | Dielectric Constant (1KHz): | 3.99 |
| Volume Resistivity @ 23°C: | ≥ 1x10 ¹³ Ohm-cm | Dissipation Factor (1KHz): | 0.004 |

| OPTICAL PROPERTIES @ 23°C: | | | |
|-----------------------------------|-----|-----------------------------|-----|
| Spectral Transmission: | N/A | Index of Refraction: | N/A |