

Product Information Sheet

MATERIAL ID:

EPO-TEK[®] 301-1

Date: 10/2006

Per:

Rev: II

Material Description:

A two component, room temperature curing, optical grade epoxy, designed for optics, medical, and opto-electronic packaging of semiconductor devices, components, and electronics. It is a lower viscosity version of EPO-TEK[®] 301.

Number of Components:

Two

Mix Ratio by weight:

20:5

Cure Schedule (minimum)

65°C/1 Hour - 23°C/24 Hours

Specific Gravity:

--- Part A: 1.14 Part B: 0.87

Pot Life:

1 - 2 Hours

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: 65°C/2 hours*
 * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:

*Color (before cure):	Part A: Clear/Colorless	Part B: Clear/Colorless
*Consistency:	Pourable liquid	Die Shear @ 23°C: ≥ 5 Kg / 1,700 psi
*Viscosity (23°C):		Degradation Temp: 390 °C
@ 100 rpm	80 - 100 cPs	Weight Loss:
Thixotropic Index:	N/A	@ 200°C: 0.44 %
*Glass Transition Temp:	≥ 65 °C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	@ 250°C: 0.84 %
Coefficient of Thermal Expansion (CTE):		@ 300°C: 1.59 %
Below Tg:	54 x 10 ⁻⁶ in/in°C	Operating Temp:
Above Tg:	175 x 10 ⁻⁶ in/in°C	Continuous: - 55°C to + 200°C
Shore D Hardness:	80	Intermittent: - 55°C to + 300°C
Lap Shear @ 23°C:	1,100 psi	Storage Modulus @ 23°C: 224,700 psi
		*Particle Size: N/A

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	N/A	Dielectric Constant (1KHz):	4.26
*Volume Resistivity @ 23°C:	≥ 3 x 10 ¹³ Ohm-cm	Dissipation Factor (1KHz):	0.021

OPTICAL PROPERTIES @ 23°C:

Spectral Transmission:	>96 % @ 400-1600 nm >92 % @ 1600-2000 nm	Refractive Index (Uncured):	1.5168 @ 589 nm
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