

Product Information Sheet

MATERIAL ID:

EPO-TEK® TM112

Date: 07/2007

Per:

Rev: II

Material Description:

A single component, thermally conductive and electrically insulating epoxy-adhesive. It was designed for high temperature hybrid micro-electronic packaging. It may be used for die attach, heat sinking, or ceramic substrate attach. Its low modulus allows for low-stress adhesive applications.

Number of Components:

Single

Mix Ratio by weight:

N/A

Cure Schedule (minimum)

200°C/1 Hour

Specific Gravity:

1.47 --- Part A: Part B:

Pot Life:

1 Day

Shelf Life:

One year at -40°C

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: 200°C/1 hour*
 * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:

*Color (before cure):	Tan	Weight Loss:	
*Consistency:	Slightly viscous paste	@ 200°C:	0.08 %
*Viscosity (23°C):		@ 250°C:	0.43 %
@ 20 rpm	13,000 - 19,000 cPs	@ 300°C:	0.96 %
Thixotropic Index:	4.1	Operating Temp:	
*Glass Transition Temp:	≥ 90 °C (Dynamic Cure 20—220°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	Continuous:	- 55°C to + 250°C
Coefficient of Thermal Expansion (CTE):		Intermittent:	- 55°C to + 350°C
Below Tg:	52 x 10 ⁻⁶ in/in°C	Storage Modulus @ 23°C:	285,405 psi
Above Tg:	127 x 10 ⁻⁶ in/in°C	Ion Content:	
Shore D Hardness:	60	Cl⁻:	279 ppm
Lap Shear @ 23°C:	1,648 psi	NH₄⁺:	6 ppm
Die Shear @ 23°C:	≥ 20 Kg / 6,800 psi	Na⁺:	39 ppm
Degradation Temp:	435 °C	K⁺:	7 ppm
		*Particle Size:	≤ 20 microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	0.48 W/mK	Dielectric Constant (1KHz):	4.14
Volume Resistivity @ 23°C:	≥ 1.5 x 10 ¹² Ohm-cm	Dissipation Factor (1KHz):	0.043

OPTICAL PROPERTIES @ 23°C:

Spectral Transmission:	N/A	Index of Refraction:	N/A
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