

Preliminary Product Information Sheet

MATERIAL ID: EPO-TEK® EK2000

Date: Aug 2012

Rev: III

Material Description: A two component, silver-filled adhesive that exhibits exceptional thermal and electrical conductivity along with a shiny silver appearance making it ideal for the demanding requirements of high power LED die attach applications. Other benefits include low viscosity and high thixotropy making it suitable for a wide range of application techniques. It is a two component version of EPO-TEK® EK1000.

Number of Components: Two
Mix Ratio by Weight: 1 : 1
Cure Schedule (minimum): 200°C/30 Minutes
Recommended Cure: 150°C/1 Hour + 200°C/1 Hour (post-cure)
Specific Gravity: Part A: 3.82 Part B: 3.88
Pot Life: 2 Weeks **Dry Time:** < 1 Day
Shelf Life: One year refrigerated upon arrival

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:

PHYSICAL PROPERTIES:			
Color (before cure):	Part A: Silver	Part B: Silver	
Consistency	Smooth thixotropic paste		
Viscosity (23°C): @ 100 rpm	1,686 cPs		
Thixotropic Index:	3.6		
Glass Transition Temp:	104 °C		
Coefficient of Thermal Expansion (CTE):			
Below Tg:	38 x 10 ⁻⁶ in/in°C		
Above Tg:	94 x 10 ⁻⁶ in/in°C		
Shore D Hardness:	66		
Lap Shear @ 23°C:	1,010 psi		
Die Shear @ 23°C - initial	>10 Kg		3,400 psi
Die Shear @ 23°C - after 1000 hrs 85C/85%R	>5 Kg		1,700 psi
Degradation Temp:	357 °C		
Weight Loss:			
@ 200°C	0.19 %		
@ 250°C	0.94 %		
@ 300°C	1.70 %		
Operating Temp:			
Continuous:	- 55°C to		200 °C
Intermittent:	- 55°C to		300 °C
Storage Modulus:	273,528 psi		
Ion Content:			
Cl:	< 10 ppm	NA ⁺ :	2 ppm
NH ₄ ⁺ :	6 ppm	K ⁺ :	0 ppm
Particle Size:	≤ 45 microns		

ELECTRICAL AND THERMAL PROPERTIES:	
Thermal Conductivity (150°C/1 Hr)	12.6 W/mK
Thermal Conductivity (150°C/1 Hour + 200°C/1 Hour):	26.3
Volume Resistivity:	≤ 0.00009 Ohm-cm

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

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