



## Preliminary Product Information Sheet

*(Note: These are typical properties to be used as a guide only, not a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results.)*

**MATERIAL ID:**

**EPO-TEK<sup>®</sup> EK1000**

**Date:** Jun 2010

**Per:** FWK

**Rev:** III

**Material Description:**

A single 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.

**Number of Components:**

Single

**Mix Ratio:**

N/A

**Cure Schedule (minimum)**

200°C/30 Minutes

**Specific Gravity:**

3.34 --- Part A: Part B:

**Pot Life:**

2 Weeks **Dry Time:** 20 Hours

**Shelf Life:**

One year @ -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 (typical)\*:

<b>PHYSICAL PROPERTIES:</b>	
<b>Color (before cure):</b>	Silver
<b>Consistency:</b>	Smooth thixotropic paste
<b>Viscosity (23°C):</b>	
@ 1 rpm	47,923 cps
@ 10 rpm	13,312 cps
@ 100 rpm	2,232 cps
<b>Thixotropic Index:</b>	3.6
<b>Glass Transition Temp:</b>	98 °C
<b>Coefficient of Thermal Expansion (CTE):</b>	
Below Tg:-	38 x 10 <sup>-6</sup> in/in°C
Above Tg:	94 x 10 <sup>-6</sup> in/in°C
<b>Shore D:</b>	66
<b>Lap Shear:</b>	
<b>Die Shear:</b>	
<b>Initial</b>	10.1 Kg
<b>After 1000hrs 85C/85%RH</b>	7.3 Kg
<b>Degradation Temp:</b>	357 °C
<b>Weight Loss:</b>	
@ 200°C:	0.19 %
@ 250°C:	0.94 %
@ 300°C:	1.70 %
<b>Operating Temp:</b>	
<b>Continuous:</b>	-55°C to 150°C
<b>Intermittent:</b>	-55°C to 250°C
<b>Storage Modulus @ 23°C:</b>	273,528 psi
<b>Ion Content:</b>	
<b>Cl<sup>-</sup>:</b>	< 10 ppm
<b>NH<sub>4</sub><sup>+</sup>:</b>	6 ppm
<b>Na<sup>+</sup>:</b>	2 ppm
<b>K<sup>+</sup>:</b>	0 ppm
<b>Particle Size:</b>	< 45 microns
<b>ELECTRICAL AND THERMAL PROPERTIES:</b>	
<b>Thermal Conductivity:</b>	12.6 W/mK
<b>Volume Resistivity:</b>	0.00003 Ohm-cm
<b>Dielectric Constant (1KHz):</b>	
<b>Dissipation Factor (1KHz):</b>	
<b>OPTICAL PROPERTIES:</b>	
<b>Spectral Transmission:</b>	N/A
<b>Index of Refraction:</b>	N/A

*The data above is INITIAL only - it may be changed at anytime, for any reason without notice to anyone. It is provided only as a guide for evaluation/consideration.*

\*These material characteristics are typical properties that are based on a limited number of samples/batches. All properties are based on the cure indicated above. Some properties may vary as manufactured quantities are scaled up to commercialized production levels.

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