

## Product Information Sheet

### EPO-TEK® EK2000

**Date:** July 2015  
**Material Description:**

**Rev:** IV

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  
**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- Bulk:** One year refrigerated upon arrival

**Minimum Alternative Cure(s):**  
*may not achieve performance properties below:*  
 200°C / 30 Minutes

**NOTES:**

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity & others) may vary from those stated below when syringe packaging and/or post-processing is required.

**MATERIAL CHARACTERISTICS:** *Cure condition: 150°C/1 Hour + 200°C/1 Hour (post-cure)*

*\*Testing on lot acceptance basis Data below is not guaranteed. To be used as a guide only, not as a specification.  
 Different batches, conditions and applications yield differing results.*

**PHYSICAL PROPERTIES:**

<b>* Color (before cure):</b>	Part A: Silver Part B: Silver
<b>* Consistency:</b>	Smooth thixotropic paste
<b>* Viscosity (23°C) @ 100 rpm:</b>	1,800 - 3,600 cPs
<b>Thixotropic Index:</b>	3.6
<b>* Glass Transition Temp:</b>	≥ 80 °C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min)
<b>Coefficient of Thermal Expansion (CTE):</b>	
<b>Below Tg:</b>	38 x 10 <sup>-6</sup> in/in°C
<b>Above Tg:</b>	94 x 10 <sup>-6</sup> in/in°C
<b>Shore D Hardness:</b>	66
<b>Lap Shear @ 23°C:</b>	1,010 psi
<b>Die Shear @ 23°C initial:</b>	≥ 10 Kg 3,400 psi
<b>Die Shear @ 23°C after 1000 hrs 85°C/85%R:</b>	≥ 5 Kg 1,700 psi
<b>Degradation Temp:</b>	357 °C
<b>Weight Loss:</b>	
<b>@ 200°C</b>	0.19 %
<b>@ 250°C</b>	0.94 %
<b>@ 300°C</b>	1.70 %
<b>Suggested Operating Temperature:</b>	< 300 °C (Intermittent)
<b>Storage Modulus:</b>	273,528 psi
<b>Ion Content:</b>	
<b>Cl:</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

**ELECTRICAL AND THERMAL PROPERTIES:**

<b>Thermal Conductivity (150°C/1 Hour):</b>	12.6 W/mK
<b>Thermal Conductivity (150°C/1 Hour+200°C/1 Hour):</b>	26.3 W/mK
<b>Thermal Conductivity (125°C/2.5Hours+150°C/36 Minutes+200°C/15 Minutes):</b>	35.5 W/mK
<b>* Volume Resistivity @ 23°C:</b>	≤ 0.00009 Ohm-cm

**This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.**