



## Product Information Sheet

### EPO-TEK® EK1000-MP

**Date:** September 2017 **Recommended Cure:** 200°C / 1 Hour  
**Rev:** III  
**No. of Components:** Single  
**Mix Ratio by Weight:** N/A  
**Specific Gravity:** 3.34  
**Pot Life:** 2 Weeks **Dry Time:** < 1 Day  
**Shelf Life- Bulk:** One year at -40°C

#### 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) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.

**Product 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. Complies with the requirements of MIL-STD 883/Method 5011. Other benefits include low viscosity and high thixotropy making it suitable for a wide range of application techniques.

**Typical Properties:** Cure condition: varies as required Different batches, conditions & applications yield differing results.  
Data below is not guaranteed. To be used as a guide only, not as a specification. \* denotes test on lot acceptance basis

PHYSICAL PROPERTIES:			
* Pot Life - MIL-STD 883/5011:	Pass (< 10% change after 1 hour)		
* Color (before cure):	Silver		
* Consistency:	Smooth paste		
* Viscosity (23°C) @ 100 rpm:	1,800 - 3,600	cPs	
Thixotropic Index:	3.6		
* Glass Transition Temp:	≥ 80	°C (Dynamic Cure: 20-300°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	38	x 10 <sup>-6</sup> in/in°C	
Above Tg:	94	x 10 <sup>-6</sup> in/in°C	
Shore D Hardness:	66		
Lap Shear @ 23°C:	1,010	psi	
* Die Shear @ 23°C (initial):	≥ 10	Kg	3,556 psi
Die Shear @ 23°C (after 1000 hrs 85C/85%RH):	≥ 5	Kg	1,778 psi
Degradation Temp:	357	°C	
Weight Loss:			
* @ 200°C:	0.19	%	
@ 250°C:	0.94	%	
@ 300°C:	1.70	%	
Suggested Operating Temperature:	< 300	°C (Intermittent)	
Storage Modulus:	273,528	psi	
* Ion Content:	Cl <sup>-</sup> : < 200 ppm	Na <sup>+</sup> : < 50 ppm	
	NH <sub>4</sub> <sup>+</sup> : 5 ppm	K <sup>+</sup> : < 50 ppm	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity (150°C/1 Hr):	12.6	W/mK
Thermal Conductivity @ 23°C (150°C/1 Hr + 200°C/1 Hr):	26.3	W/mK
* Volume Resistivity	≤ 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.

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