

Product Information Sheet

MATERIAL ID:

EPO-TEK® ED1003

Date: Aug 2010

Rev: VI

Material Description:

A single component, electrically conductive adhesive designed for high power LED die attach applications. Its combination of high thermal conductivity, shiny silver appearance and low outgassing are ideal for the demanding requirements of high brightness LED's. Other features include a long pot-life, low viscosity and high thixotropic index making it suitable for a wide range of application methods wafer level stamping and syringe dispensing.

Number of Components:

Single

Mix Ratio by Weight:

N/A

Cure Schedule (minimum):

150°C/1 Hour

Specific Gravity:

4.45

Pot Life:

28 Days

Dry Time:

3 Days

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. Syringes should be rolled 3 hours 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: 150°C/1 Hour

* denotes test on lot acceptance basis

PHYSICAL PROPERTIES:

* Color (before cure):	Silver		
* Consistency	Smooth thixotropic paste		
* Viscosity (23°C): @ 100 rpm	2,300 - 4,300 cPs		
Thixotropic Index:	4.0		
Glass Transition Temp:	169 °C		
Coefficient of Thermal Expansion (CTE):			
Below Tg:	41 x 10 ⁻⁶ in/in°C		
Above Tg:	x 10 ⁻⁶ in/in°C		
Shore D Hardness:	49		
Lap Shear @ 23°C:	660 psi		
Die Shear:	Initial	> 8 Kg	> 2720 psi
	After 1000hrs 85C/85% RH	> 5 Kg	> 1700 psi
Degradation Temp:	326 °C		
Weight Loss:			
	@ 200°C	< 0.05 %	
	@ 250°C	0.23 %	
	@ 300°C	0.76 %	
Operating Temp:			
Continuous:	- 55°C to	150 °C	
Intermittent:	- 55°C to	250 °C	
Storage Modulus:	736,792 psi		
Ion Content:	Cl:	< 10 ppm	NA ⁺ : 6 ppm
	NH ₄ ⁺ :	5 ppm	K ⁺ : 4 ppm
* Particle Size:	< 20 microns		

PROPERTIES:

Thermal Conductivity:	8.46 W/mK
* Volume Resistivity @ 23°C:	0.0001 Ohm-cm

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