

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® ED1021 (formerly 77-190-2)**

Date: 05/2009

Per: JD

Rev: III

Material Description:

A single component, silver-filled epoxy designed for low power semiconductor LED die attach applications. Unique features include its ability to achieve high thermal conductivity values at low cure temperatures and a very shiny silver appearance which enhances overall LED brightness. Other benefits include long pot-life, low viscosity and high thixotropy making it ideal for wafer level stamping as well as syringe dispensing.

Number of Components: Single

Mix Ratio: N/A

Cure Schedule (minimum) 125°C/1 Hour - 150°C/30 Minutes

Specific Gravity: 2.8 --- Part A: Part B:

Pot Life: 3 Months

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)*:

PHYSICAL PROPERTIES:	
Color (before cure): Silver	Weight Loss:
Consistency: Smooth thixotropic paste	@ 200°C: 0.35 %
Viscosity (23°C):	@ 250°C: 0.41 %
@ 1 rpm 37,282 cps	@ 300°C: 0.56 %
@ 10 rpm 8,782 cps	Operating Temp:
@ 100 rpm 1,819 cps	Continuous: -55°C to 200°C
Thixotropic Index: 4.2	Intermittent: -55°C to 300°C
Glass Transition Temp: 48 °C	Storage Modulus @ 23°C: 25,850 psi
Coefficient of Thermal Expansion (CTE):	Ion Content:
Below Tg:- 52 x 10 ⁻⁶ in/in°C	Cl ⁻ : < 10 ppm
Above Tg: 184 x 10 ⁻⁶ in/in°C	NH ₄ ⁺ : 9 ppm
Shore D: 82	Na ⁺ : 3 ppm
Lap Shear: psi	K ⁺ : 1 ppm
Die Shear:	Particle Size: < 20 microns
Initial 12.4 Kg	
After 1000hrs 85C/85%RH 12.0 Kg	
Degradation Temp: 403 °C	
ELECTRICAL AND THERMAL PROPERTIES:	
Thermal Conductivity: 3.3 W/mK	Dielectric Constant (1KHz):
Volume Resistivity: 0.0002 Ohm-cm	Dissipation Factor (1KHz):
OPTICAL PROPERTIES:	
Spectral Transmission: N/A	Index of Refraction: 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.