

**Date:** Sep 2013  
**Rev:** V  
**No. of Components:** Single  
**Mix Ratio by Weight:** N/A  
**Specific Gravity:** 1.17  
**Pot Life:** N/A  
**Shelf Life:** One year at room temperature

**Recommended Cure:**  
 100mW/cm<sup>2</sup> @ 240-365 nm for >2 minutes,  
 depending on thickness - under an F-type Mercury lamp

*NOTE: Container(s) should be kept closed when not in use. Filled systems should be stirred thoroughly before mixing and prior to use.*

**Product Description:** EPO-TEK<sup>®</sup> OG142 is a single component, UV curable epoxy, designed for adhesive, sealing, and encapsulating applications found in semiconductor, electro-optics, fiber optics, medical and scientific/OEM industries. It is a clear and colorless, high Tg epoxy.

**Typical Properties:**

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

**PHYSICAL PROPERTIES:**

* <b>Color (before cure):</b>	Clear/Colorless
* <b>Consistency</b>	Pourable liquid
* <b>Viscosity (23°C): @ 20 rpm</b>	9,000-15,000 cPs
<b>Thixotropic Index:</b>	N/A
* <b>Glass Transition Temp:</b>	≥ 95 °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>	56 x 10 <sup>-6</sup> in/in°C
<b>Above Tg:</b>	109 x 10 <sup>-6</sup> in/in°C
<b>Shore D Hardness:</b>	86
<b>Lap Shear @ 23°C:</b>	
<b>Die Shear @ 23°C:</b>	≥ 4 Kg    1,360 psi
<b>Degradation Temp:</b>	421 °C
<b>Weight Loss:</b>	
<b>@ 200°C</b>	0.20 %
<b>@ 250°C</b>	0.49 %
<b>@ 300°C</b>	1.06 %
<b>OperatingTemp:</b>	
<b>: Continuous:</b>	- 55°C to 200 °C
<b>Intermittent:</b>	- 55°C to 300 °C
<b>Storage Modulus:</b>	558,079 psi
<b>Particle Size:</b>	N/A

**OPTICAL PROPERTIES @ 23°C:**

<b>Spectral Transmission:</b>	≥ 97% @ 660 - 1,640 nm
	≥92% @ 440 - 620 nm
<b>Refractive Index (uncured):</b>	1.5649 @ 589 nm
<b>Index of Refraction (cured):</b>	1.5809 @ 589 nm

Epoxy and Adhesives for Demanding Applications™

**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.**

## EPO-TEK<sup>®</sup> OG142 Advantages & Suggested Application Notes:

- Semiconductor:

- ◇ Medium viscosity glob top encapsulant over IC's and wire bonds. It can be potted into cavities, or around die that utilize a dam or ring.

- Optics:

- ◇ Adhesion to all types of glasses, Lexan polycarbonate, and many more plastics and laminates.
- ◇ Adhesive in the beam-pathway; capable of transmitting light from 400 to 2000 nm range.
- ◇ Encapsulant over LED devices and IR-LEDs.
- ◇ Bonding beam splitter cubes and prisms together.

- LCD:

- ◇ Primary gasket seal around LCD/Display's glass "sandwich" before the vacuum transfer filling method of VAN-LC.
- ◇ A plug seal after the LC process, whereby it does not harm the LC itself.

- OLED's:

- ◇ Encapsulation over OLED microdisplay, as well as adhesive for glass lid-attach.

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