EPO-TEK® OG116-31

Technical Data Sheet
For Reference Only
UV Cure Optical Epoxy

Date: Sep 2013
Rev: V
No. of Components: Single
Mix Ratio by Weight: N/A
Specific Gravity: 1.20
Pot Life: N/A
Shelf Life: One year at room temperature

Recommended Cure:
100mW/cm^2 @ 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. Thermal post-cure beneficial - contact techserv@epotek.com for recommendations.

Product Description: EPO-TEK® OG116-31 is a single component, UV curable epoxy adhesive and encapsulant, designed for PCB and circuit assembly applications found in semiconductor, computer, medical, and scientific/OEM industries.

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.*

PHYSCIAL PROPERTIES:			
* **Color (before cure):**		Cloudy White	
* **Consistency**		Viscous liquid	
* **Viscosity (23°C): @ 10 rpm**		20,000-30,000	**cPs**
Thixotropic Index:		1.3	
* **Glass Transition Temp:**		≥ 115	**°C** (Dynamic Cure:20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min)
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	41 x 10^{-6}	**in/in°C**
	Above Tg:	170 x 10^{-6}	**in/in°C**
Shore D Hardness:		83	
Die Shear @ 23°C:		≥ 10 **Kg**	3,400 **psi**
Degradation Temp:		409	**°C**
Weight Loss:	**@ 200°C**	0.31	**%**
	@ 250°C	0.68	**%**
	@ 300°C	1.18	**%**
OperatingTemp: : Continuous:		- 55**°C to** 200**°C**	
	Intermittent:	- 55**°C to** 300**°C**	
Storage Modulus:		263,581	**psi**
* **Particle Size:**		≤ 20	**microns**

OPTICAL PROPERTIES @ 23°C:		
Spectral Transmission:	≥ 96% @ 660-1640	**nm**
	≥ 92% @ 500	**nm**
Refractive Index (uncured):	1.5665 @	**589 nm**
Refractive Index (cured):	1.5842 @	**589 nm**

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EPO-TEK® OG116-31 Advantages & Suggested Application Notes:

- Viscosity/rheology adapted to high volume syringe needle dispensing with no tailing.
- Complies with USP Class VI biocompatibility standards.
- Versatility in cure. Product responds to a broad range of UV light, and secondary thermal post-curing.
- Suggested applications:

◊ Semiconductor: COB glob top covering IC's and wire bonds; glob top dam; encapsulating and sealing; adhesion to FR4, Kapton, silicon.

◊ Fiber Optic: making fiber optic pigtails; active alignment of optics; adhesion to many types of glass, metals, ceramics and plastics.

◊ Opto-electronic:

- Perimeter/main seal for LCD's, compatible with VAN liquid crystal for LCoS devices.
- Adhesive technology described in Technical Paper # 55 - http://www.epotek.com/technical-papers.asp

- High Tg and low outgassing are indicative of its high temperature performance.

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