EPO-TEK® OG142-112

Technical Data Sheet
For Reference Only
UV Cure Optical Epoxy

Date: June 2017 **Rev:** VIII
No. of Components: Single
Mix Ratio by Weight: N/A
Specific Gravity: 1.18
Pot Life: N/A
Shelf Life: One year refrigerated

Recommended Cure	
Iron-Doped Mercury Flood Lamp *100 mW/cm² @ 240-365 nm*	**> 30 sec.**
Alternative Cures*	
Iron-Doped Mercury Spot Lamp	> 90 sec.
365nm LED Flood Lamp	> 90 sec.
Pulsed Mercury Lamp	> 90 sec.
UV Cure is complete after 24 hours from UV Exposure	
* Contact Technical Services for application-specific variations	

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 Products 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..
- Thermal post-cure beneficial - contact techserv@epotek.com for recommendations.

Product Description: EPO-TEK® OG142-112 is a single component, low viscosity epoxy for adhesive sealing and encapsulating fiber optic and opto-electronic packaging applications.

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

PHYSICAL PROPERTIES:

* **Color (before cure):**	Clear/Colorless		
* **Consistency:**	Pourable liquid		
* **Viscosity (23°C) @ 100 rpm:**	1,200 - 1,700	cPs	
Thixotropic Index:	N/A		
* **Glass Transition Temp:**	≥ 90	°C	(Dynamic Cure:20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min)
Coefficient of Thermal Expansion (CTE):			
Below Tg:	55	x 10^{-6} in/in°C	
Above Tg:	158	x 10^{-6} in/in°C	
Shore D Hardness:	83		
Die Shear:			
UV Cure:	≥ 20	Kg	7,112 psi
UV Cure + 23°C/24 Hours:	28.1	Kg	9,992.4 psi
Degradation Temp:	384	°C	
Weight Loss: **@ 200°C**	0.27	**%**	
@ 250°C	0.81	**%**	
@ 300°C	1.75	**%**	
Suggested Operating Temperature:	< 300	°C	(Intermittent)
Storage Modulus:	592,522	psi	

OPTICAL PROPERTIES @ 23°C:

Spectral Transmission:	≥ 97% @ 500-1,660	nm
Refractive Index (uncured):	1.5374 @ 589	nm
Refractive Index (cured):	1.5560 @ 589	nm

EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com

EPO-TEK® OG142-112 Advantages & Suggested Application Notes:

- Semiconductor: glob top “fill” encapsulant over IC’s and wire bonds. It can be potted into cavities or around die that utilize a dam or ring.

- Fiber Optic:

◊ Securing fibers into V-grooves; mounting glass cover slip over v-groove arrays; adhesive for fiber/ lens arrays.
◊ Adhesive for the PLC device onto optical bench.
◊ Fiber splicing, coupling and joining. Active alignment of optics into package.

- 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.
◊ Bonding beam splitter cubes and prisms together.
◊ Adhesion to micro molded lenses.

- Potting:

◊ Sealing and weather-proofing the solar ribbon connections to the environment via glass framed CIGS PV modules.

EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com