Manufacturer:
Epoxy Technology

Product Name:
EPO-TEK® OG142-112 Low Viscosity Epoxy, UV Cure (3cc Syringe)

Manufacturer Part Number:
OG142-112-3CC

EPOXY TECHNOLOGY

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..

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

Epoxies and Adhesives for Demanding Applications™

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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.