EPO-TEK® 330

Technical Data Sheet
For Reference Only
Low Viscosity Optical Epoxy

Date:	February 2021	
Rev:	VII	
No. of Components:	Two	
Mix Ratio by Weight:	10 : 1	
Specific Gravity:	Part A: 1.15	Part B: 1.02
Pot Life:	6 Hours	
Shelf Life- Bulk:	One year at room temperature	

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
150°C / 1 Minute
120°C / 5 Minutes
100°C / 10 Minutes

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 product 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.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.
- *TOTAL MASS SHOULD NOT EXCEED 25 GRAMS*

Product Description: EPO-TEK® 330 is a two component, high-temperature grade, electrically and thermally insulating epoxy for semiconductor, electronics, and fiber optics applications.

Typical Properties: Cure condition: 150°C / 1 Hour Different batches, conditions & applications yield differing results.
Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:			
* Color (before cure):	Part A: Clear/Colorless	Part B: Amber	
* Consistency:	Pourable liquid		
* Viscosity (23°C) @ 100 rpm:	350 - 550	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:	65	x 10^{-6} in/in°C	
Above Tg:	162	x 10^{-6} in/in°C	
Shore D Hardness:	87		
Lap Shear @ 23°C:	> 2,000	psi	
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	369	°C	
Weight Loss:			
@ 200°C:	0.68	%	
@ 250°C:	1.06	%	
@ 300°C:	1.77	%	
Suggested Operating Temperature:	< 300	°C (Intermittent)	
Storage Modulus:	304,703	psi	
Particle Size:	N/A		

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	N/A	
Volume Resistivity @ 23°C:	≥ 2 x 10^{13}	Ohm-cm
Dielectric Constant (1KHz):	3.74	
Dissipation Factor (1KHz):	0.011	

OPTICAL PROPERTIES @ 23°C:		
Spectral Transmission:	> 97% @ 700 – 1600	nm
	> 88% @ 600	nm
	> 51% @ 500	nm
Refractive Index (uncured):	1.5345 @ 589	nm

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EPO-TEK® 330 Advantages & Suggested Application Notes:

- Built in color change from clear to amber when cured properly. The color change can be used for in-line inspection of epoxy joints and adhesive fillet.
- Unfilled epoxy resin allows for % transmission in the VIS and NIR.
- Low viscosity allows for wicking and capillary action
- Suggested Applications:
  - Semiconductor: capillary flow underfill for Flip Chip mounted die
  - Fiber Optic: polarizing maintaining fibers (PMF) found in gyroscope coils; fiber termination into ferrule.
- Featured inside Technical Paper #11 titled "*Significance of Glass Transition Temperature on Epoxy Resins for Fiber Optic Applications* - http://www.epotek.com/technical-papers.asp

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