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EPO-TEK® 360

Technical Data Sheet
For Reference Only
Low Viscosity Optical Epoxy

Date:	February 2021	
Rev:	VII	
No. of Components:	Two	
Mix Ratio by Weight:	100 : 10	
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
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® 360 is a two component, high-temperature grade 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:	39	x 10^{-6} in/in°C
Above Tg:	175	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:	375	°C
Weight Loss:		
@ 200°C:	0.08	%
@ 250°C:	0.25	%
@ 300°C:	1.06	%
Suggested Operating Temperature:	< 300	°C (Intermittent)
Storage Modulus:	322,012	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

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.

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EPO-TEK® 360 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 to be realized.
- 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.
  - Electronics: impregnating copper coil windings found in motors or SMD inductor coils; adhesion to ferrite cores.
- 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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