

Epoxy Technology EPO-TEK® 302-3M Optically Transparent Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Product Description: EPO-TEK® 302-3M is a two component epoxy used for optical, medical, fiber optic, and semiconductor applications. The epoxy is good for adhesive joining, sealing, potting, or as a coating. **Advantages & Application Notes:** Low viscosity, clear and colorless epoxy is well suited for potting applications, and for transmitting VIS or NIR light in opto-circuits. Excellent water, chemical, and solvent resistant properties including 10% nitric acid, acetone, hexane, and dichloromethane. **Suggested Applications:** Fiber Optic/Optical: Potting and encapsulation; lens and prism bonding for Scientific / OEM instruments; LED encapsulant. Transmission in the VIS/NIR range from 350 – 1550 nm. Can be used in the optical pathway. Potting or sealing the fiber into the snout of the opto-package. Adhesive for V-groove, fiber arrays or lens arrays. Bonding optical fibers into ferrules. Fibers of glass or plastic. Ferrules of glass, quartz, stainless steel, kovar, or ceramic. Semiconductor: Recommended for underfilling of flip chips or SMDs on PCB; can also be used for COB glob top process using a DAM/FILL method; can resist 85/85 moisture soaks, as well as Tcycles and Tshocks. Medical: Wicking into fiber optic bundles for endoscopes or light guides; very good autoclave resistance. Adhesion to stainless steel metal, ceramic, titanium and most plastics. USP Class VI bio-compatible. Passes NASA low outgassing standard ASTM E595 with proper cure This product has been tested and satisfies low halogen requirements. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-302-3M-Optically-Transparent-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.960 g/cc	0.960 g/cc	Part B
	1.20 g/cc	1.20 g/cc	Part A
Viscosity	800 - 1600 cP	800 - 1600 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Tensile Modulus	1.73 GPa	252 ksi	Storage
Shear Strength	>= 13.8 MPa	>= 2000 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	56.0 µm/m-°C	31.1 µin/in-°F	Below Tg
	193 µm/m-°C	107 µin/in-°F	Above Tg
Maximum Service Temperature, Air	175 °C	347 °F	Continuous

Thermal Properties	250 °C Metric	482 °F English	Intermittent Comments
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 55.0 °C	>= 131 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp 10–200°C @ 20°C/Min
Decomposition Temperature	351 °C	664 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.5446	1.5446	uncured
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 95 %	>= 95 %	Spectral
	@Wavelength 460 - 1620 nm	@Wavelength 460 - 1620 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	
Dielectric Constant	3.39	3.39	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.0061	0.0061	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	10 ppm	10 ppm	
Ionic Impurities - K (Potassium)	4.0 ppm	4.0 ppm	
Ionic Impurities - Cl (Chloride)	42 ppm	42 ppm	

Processing Properties	Metric	English	Comments
Cure Time	180 min	3.00 hour	
	@Temperature 65.0 °C	@Temperature 149 °F	
	1440 min	24.0 hour	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Pot Life	60 min	60 min	
	12.0 Month	12.0 Month	

Shelf Life	Metric	English	Comments
------------	--------	---------	----------

Descriptive Properties	Value	Comments
Color	Clear/Colorless	Part A
	Clear/Colorless	Part B
Consistency	Pourable liquid	
Ionic Impurities NH4	1 ppm	
Mix Ratio By Weight	100:45	
Number of Components	Two	
Weight Loss	0.77%	250°C
	1.22%	300°C

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China