

Epoxy Technology EPO-TEK® 301-2 Optically Transparent Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Product Description: EPO-TEK® 301-2 is a two component optical, medical, and semiconductor grade epoxy resin, with low viscosity, long pot-life, and good handling characteristics. **Advantages & Application Notes:** Suggested for LCD optical lamination and sealing of glass plates. The product can resist yellowing over 17 days of continuous UV light exposure. Suitable for LED encapsulation. Ease of use: potting and casting, encapsulation and adhesive. **Semiconductor applications:** underfill for flip chips, glob top encapsulation over wire bonds, spin coating at wafer level including wafer level packaging. **Compliant adhesive** that will be resistant to impact or vibrations. Low stress adhesive for bonding optics inside OEM / Scientific instruments. **Fiber optic adhesive:** bundling fibers, terminating fiber into ferrule, adhesive for mounting optics inside fiber components, bonding glass cover slip over V-groove; spectral transmission of visible and IR light. **BIOCOMPATIBLE and NON-TOXIC;** complies with USP Class VI biocompatibility standards for medical devices and implantation applications. Adhesion to glass, quartz, metals, wood and most plastics is very good. May also be used for impregnating wooden or porous objects for artifact restoration. Capable of cryogenic cooling applications. NASA approved, low outgassing epoxy. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-301-2-Optically-Transparent-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.890 g/cc	0.890 g/cc	Part B
	1.02 g/cc	1.02 g/cc	Part A
Viscosity	225 - 425 cP	225 - 425 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Tensile Modulus	2.06 GPa	299 ksi	Storage
Shear Strength	>= 13.8 MPa	>= 2000 psi	Lap
	>= 35.2 MPa	>= 5100 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	61.0 µm/m-°C	33.9 µin/in-°F	Below Tg
	180 µm/m-°C	100 µin/in-°F	Above Tg
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	300 °C	572 °F	Intermittent

Thermal Properties	Metric	English	Comments
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 80.0 °C	>= 176 °F	Dynamic Cure 20—200°C /ISO 25 Min; Ramp 10—200°C @ 20°C/Min
Decomposition Temperature	360 °C	680 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.5318	1.5318	uncured
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 94 %	>= 94 %	Spectral
	@Wavelength 320 nm	@Wavelength 320 nm	
	>= 98 %	>= 98 %	Spectral
	@Wavelength 1200 - 1600 nm	@Wavelength 1200 - 1600 nm	
	>= 99 %	>= 99 %	Spectral
	@Wavelength 400 - 1200 nm	@Wavelength 400 - 1200 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 2.00e+12 ohm-cm	>= 2.00e+12 ohm-cm	
Dielectric Constant	3.8	3.8	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.012	0.012	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	104 ppm	104 ppm	
Ionic Impurities - Cl (Chloride)	61 ppm	61 ppm	

Processing Properties	Metric	English	Comments
Cure Time	180 min	3.00 hour	
	@Temperature 80.0 °C	@Temperature 176 °F	
	2880 min	48.0 hour	
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Processing Properties	Metric	English	Comments
Shelf Life	12.0 Month	12.0 Month	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Clear/Colorless	Part A
	Clear/Colorless	Part B
Consistency	Pourable liquid	
Mix Ratio By Weight	100:35	
Number of Components	Two	
Weight Loss	0.01%	200°C
	0.46%	250°C
	2.19%	300°C

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