

Epoxy Technology EPO-TEK® 330 Low Viscosity, Optical Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Product Description: EPO-TEK® 330 is a two component, high-temperature grade, electrically and thermally insulating epoxy for semiconductor, electronics, fiber optics and medical applications. **Advantages & 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. Medical: impregnation into fiber optic light guides and endoscopes; resists autoclave, ETO, or gamma sterilization. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-330-Low-Viscosity-Optical-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.02 g/cc	1.02 g/cc	Part B
	1.15 g/cc	1.15 g/cc	Part A
Viscosity	350 - 550 cP	350 - 550 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	87	87	
Tensile Modulus	2.10 GPa	305 ksi	Storage
Shear Strength	>= 13.8 MPa	>= 2000 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	39.0 µm/m-°C	21.7 µin/in-°F	Below Tg
	175 µm/m-°C	97.2 µin/in-°F	Above Tg
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	300 °C	572 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 90.0 °C	>= 194 °F	Dynamic Cure 20–200°C /ISO 25 Min;

Thermal Properties	Metric	English	Ramp 10--200 °C @ 20 °C/Min Comments
Decomposition Temperature	369 °C	696 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.5345	1.5345	
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	<= 51 %	<= 51 %	Spectral
	@Wavelength 500 nm	@Wavelength 500 nm	
	<= 88 %	<= 88 %	Spectral
	@Wavelength 600 nm	@Wavelength 600 nm	
	<= 97 %	<= 97 %	Spectral
	@Wavelength 700 - 1600 nm	@Wavelength 700 - 1600 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 2.00e+13 ohm-cm	>= 2.00e+13 ohm-cm	
Dielectric Constant	3.74	3.74	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.011	0.011	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	1.00 min	0.0167 hour	Minimum Bond Line
	@Temperature 150 °C	@Temperature 302 °F	
	5.00 min	0.0833 hour	Minimum Bond Line
	@Temperature 120 °C	@Temperature 248 °F	
	10.0 min	0.167 hour	Minimum Bond Line
	@Temperature 100 °C	@Temperature 212 °F	
	30.0 min	0.500 hour	Minimum Bond Line
	@Temperature 80.0 °C	@Temperature 176 °F	
Pot Life	360 min	360 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Processing Properties	Metric	English	Comments
Descriptive Properties		Value	Comments
Color		Amber	Part B
		Clear/Colorless	Part A
Consistency		Pourable liquid	
Mix Ratio By Weight		10:1	
Number of Components		Two	
Weight Loss		0.68%	200°C
		1.06%	250°C
		1.77%	300°C

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