

Epoxy Technology EPO-TEK® 305 Spectrally Transparent Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Product Description: EPO-TEK® 305 is a two component, semi-rigid, optical grade epoxy for semiconductor packaging of fiber optics, optoelectronics and medical devices. It is an electrically and thermally insulating epoxy. **Advantages & Application Notes:** Capable of transmitting light in the UV range. %Transmission from 248 to 400 nm may be realized. Tg and Shore D values are indicative of a somewhat "semi flexible or semi rigid" epoxy. It can be used for low stress applications in optics. Low viscosity, water-like epoxy formulation. This allows for application by pouring, dip coating, brushing, or microdispensing methods. Versatility in curing from 23°C to 80°C range. This allows many types of low cost plastic substrate or housings to be used. **Suggested applications:** Optics: Index matching epoxy for adhesive and coating applications with Scientific / OEM instruments and sensor devices LED potting and encapsulation; LCD glass-glass or glass-PET laminations Fiber Optics: potting or sealing the fiber into the snout of the opto-package in order to provide stress relief. PCB / General: low stress potting of electronics as a clear encapsulant, COB glob top encapsulant. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-305-Spectrally-Transparent-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.870 g/cc	0.870 g/cc	Part B
	1.25 g/cc	1.25 g/cc	Part A
Viscosity	150 - 250 cP	150 - 250 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	66	66	
Tensile Modulus	0.692 GPa	100 ksi	Storage
Shear Strength	13.0 MPa	1880 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	31.0 µm/m-°C	17.2 µin/in-°F	Below Tg
	148 µm/m-°C	82.2 µin/in-°F	Above Tg
Maximum Service Temperature, Air	100 °C	212 °F	Continuous
	200 °C	392 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous

Thermal Properties	-55.0 °C Metric	-67.0 °F English	Intermittent Comments
Glass Transition Temp, Tg	>= 35.0 °C	>= 95.0 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp 10–200°C @ 20°C/Min
Decomposition Temperature	270 °C	518 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.4763	1.4763	uncured
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 91 %	>= 91 %	Spectral
	@Wavelength 250 nm	@Wavelength 250 nm	
	>= 97 %	>= 97 %	Spectral
	@Wavelength 300 nm	@Wavelength 300 nm	
	>= 98 %	>= 98 %	Spectral
	@Wavelength 400 - 1600 nm	@Wavelength 400 - 1600 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 2.00e+13 ohm-cm	<= 2.00e+13 ohm-cm	
Dielectric Constant	4.46	4.46	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.026	0.026	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	60.0 min	1.00 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	
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

Descriptive Properties	Value Clear/Colorless	Comments Part B
Consistency	Pourable liquid	
Mix Ratio By Weight	100:2.8	
Number of Components	Two	
Weight Loss	1.22%	200°C
	3.99%	250°C

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