

Epoxy Technology EPO-TEK® 302 Fast Setting, Optical Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Product Description: EPO-TEK® 302 is a two component, fast-gelling, room temperature curing epoxy, designed for electronic, optical, medical, and general applications. **Advantages & Application Notes:** Due to its versatility, it may be used to adhere, seal, pot or encapsulate. **Allows for % transmission in VIS and NIR range.** It can be used as an adhesive in the optical pathway of light. Convenient and easy to use 1:1 mix ratio allows for hand, meter mix, or specialty packaging. **Suggested applications:** **Field Assembly:** mix and cure in the field. Fast gelling and curing in 2-3 hours is accomplished. **Electronics:** rapid prototyping of parts with fast curing epoxy – no need for oven cycle times. **Optics:** active alignment of optics such as lenses, prisms, diodes, filters, etc. to opto-circuit. **Fiber Optics:** “field curing” or field assembly of connectors and couplers; also suggested for fiber optic splicing. **Medical:** adhesion to most metals, plastics, ceramics, and glasses found in tubing, substrates or housing. **General:** arts and crafts repair, restoration, and hobbyists. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-302-Fast-Setting-Optical-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.900 g/cc	0.900 g/cc	Part B
	1.20 g/cc	1.20 g/cc	Part A
Viscosity	5000 - 10000 cP	5000 - 10000 cP	20 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	73	73	
Tensile Modulus	1.06 GPa	154 ksi	Storage
Shear Strength	>= 11.7 MPa	>= 1700 psi	Die
	12.11 MPa	1756 psi	Lap

Thermal Properties	Metric	English	Comments
CTE, linear	52.0 µm/m-°C	28.9 µin/in-°F	Below Tg
	191 µm/m-°C	106 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	>= 40.0 °C	>= 104 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp 10–200°C @ 20°C/Min
Decomposition Temperature	261 °C	502 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.5442	1.5442	uncured
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 75 %	>= 75 %	Spectral
	@Wavelength 340 - 420 nm	@Wavelength 340 - 420 nm	
	>= 85 %	>= 85 %	Spectral
	@Wavelength 440 - 900 nm	@Wavelength 440 - 900 nm	
	>= 88 %	>= 88 %	Spectral
	@Wavelength 900 - 1600 nm	@Wavelength 900 - 1600 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 2.00e+13 ohm-cm	>= 2.00e+13 ohm-cm	
Dielectric Constant	2.95	2.95	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.010	0.010	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	120 min	2.00 hour	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Pot Life	10 min	10 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
	Clear/Colorless	Part B

Descriptive Properties	Value	Comments
Consistency	Pourable liquid	
Mix Ratio By Weight	1:1	
Number of Components	Two	
Weight Loss	2.68%	200°C
	8.39%	250°C

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