

Epoxy Technology EPO-TEK® 301-1 Optical Grade Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Material Description: A two component, room temperature curing, optical grade epoxy, designed for optics, medical, and opto-electronic packaging of semiconductor devices, components, and electronics. It is a lower viscosity version of EPO-TEK® 301. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-301-1-Optical-Grade-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.870 g/cc	0.870 g/cc	Part B
	1.14 g/cc	1.14 g/cc	Part A
Viscosity	80 - 100 cP	80 - 100 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Tensile Modulus	1.549 GPa	224.7 ksi	Storage
Shear Strength	7.58 MPa	1100 psi	Lap
	>= 11.7 MPa	>= 1700 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	54.0 µm/m-°C	30.0 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	>= 65.0 °C	>= 149 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp 10–200°C @ 20°C/Min
Decomposition Temperature	390 °C	734 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
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Optical Properties Refractive Index	1.5169 Metric	1.5169 English	Comments uncured
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 92 %	>= 92 %	Spectral
	@Wavelength 1600 - 2000 nm	@Wavelength 1600 - 2000 nm	
	>= 96 %	>= 96 %	Spectral
	@Wavelength 400 - 1600 nm	@Wavelength 400 - 1600 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 3.00e+13 ohm-cm	>= 3.00e+13 ohm-cm	
Dielectric Constant	4.26	4.26	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.021	0.021	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	120 min	2.00 hour	
	@Temperature 65.0 °C	@Temperature 149 °F	
Pot Life	60 - 120 min	60 - 120 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
Consistency	Pourable liquid	
Mix Ratio By Weight	20:5	
Number of Components	Two	
Weight Loss	0.44%	200°C
	0.84%	250°C
	1.59%	300°C

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