

Epoxy Technology EPO-TEK® 377 High Temperature Epoxy

Category : Polymer , Thermoset , Epoxy , Epoxy, High Temperature

Material Notes:

Product Description: EPO TEK®377 is a two component, high Tg, fiber optic grade epoxy adhesive. It is well suited for semiconductor, medical and optical applications.**Advantages & Application Notes:** Low viscosity epoxy with excellent handling characteristics. It can be used for encapsulating or potting. It may be applied by hand, pouring, spin coating, brushing, dipping, or automated dispensers.Complies with USP Class VI biocompatibility standards.Passes NASA low outgassing standard ASTM E595 with proper cure**Suggested Medical Applications / Scientific OEM:**Potting fiber ferrules for endoscopesOutstanding high temperature properties at 300°C and excellent solvent, chemical and moisture resistance, including autoclave, ETO, and gamma radiation**Suggested Semiconductor Grade epoxy**Spin coating at wafer level for MEMS fabrication of pressure sensors and accelerometersWafer-to-wafer bonding in CSPCapillary underfill of flip chip packaged die**Suggested Optical grade epoxy, opto-electronic packaging**Transmission in NIR from 700 – 900 nm >95%Glass seal, hermetic seal of glass plates in LCD fabricationHermetic seal of IR-filter window to aluminum cap of TO-Can in hybrid packaged IR sensors.**Suggested Industrial:** resist salt water, hydraulic fluids, motor oil, alcohol, 10% nitric acid, 10% sulfuric acid, 10% ammonia solution and most solvents.**Information Provided by Epoxy Technology**

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-377-High-Temperature-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	Part A
	1.22 g/cc	1.22 g/cc	Part B
Viscosity	150 - 300 cP	150 - 300 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	67	67	
Tensile Modulus	2.58 GPa	374 ksi	Storage
Shear Strength	10.04 MPa	1456 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	57.0 µm/m-°C	31.7 µin/in-°F	Below Tg
	210 µm/m-°C	117 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	>= 95.0 °C	>= 203 °F	Dynamic Cure 20—200°C /ISO 25 Min; Ramp 10—200°C @ 20°C/Min
Decomposition Temperature	375 °C	707 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.5195	1.5195	
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 95 %	>= 95 %	Spectral
	@Wavelength 1000 - 1500 nm	@Wavelength 1000 - 1500 nm	
	>= 99 %	>= 99 %	Spectral
	@Wavelength 600 nm	@Wavelength 600 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	
Dielectric Constant	3.36	3.36	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.0050	0.0050	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	15 ppm	15 ppm	
Ionic Impurities - K (Potassium)	3.0 ppm	3.0 ppm	
Ionic Impurities - Cl (Chloride)	26 ppm	26 ppm	

Processing Properties	Metric	English	Comments
Cure Time	60.0 min	1.00 hour	Minimum Bond Line
	@Temperature 150 °C	@Temperature 302 °F	
Pot Life	1440 min	1440 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Amber	Part B
	Clear/Colorless	Part A
Consistency	Pourable liquid	
Ionic Impurities NH4	22 ppm	
Mix Ratio By Weight	1:1	
Number of Components	Two	
Weight Loss	0.06%	200°C
	0.17%	250°C
	0.5%	300°C

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