

## Epoxy Technology EPO-TEK® 375 High Temperature Epoxy

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

### Material Notes:

**Product Description:** EPO-TEK®375 is a two component, high temperature epoxy designed for semiconductor, hybrid, fiber optic, and medical applications. Also available in a single component frozen syringe.  
**Advantages & Application Notes:** Reasonable pot-life that allows for low temperature curing to be realized. It has an amber color change upon cure.  
**Semiconductor suggested applications:** wafer-wafer bonding of CSP; fabrication of MEMs devices; flip chip underfill.  
**Hybrid suggested applications:** providing near hermetic seals and UHV seals in sensor devices and resisting high temperature packaging. Down-hole petrochemical fiber optic sensors resisting >200°C field conditions.  
**Fiber optic adhesive suggested applications:** Sealing fiber into ferrules, transmitting light in the optical pathway from 800- 1550 nm range. Fiber component packaging, adhesive for active alignment of optics, environmental seal of opto-package, V-groove arrays.  
**Medical suggested applications:** Potting fiber optic bundles into ferrules for light guides and endoscopes; capable of resisting several sterilization techniques including ETO, gamma, ION beam, H2O2 plasma, and >200 autoclave steam cycles; excellent adhesion to surfaces including stainless steel, diamond, titanium, brass, ceramics, glass and most plastics. Certified to USP Class VI Biocompatibility Standards for medical implants; adhesive for catheter devices including stents and guide wires.  
**Electronics Assembly suggested applications:** Used as dielectric layer in the fabrication of capacitors; laminating PZT ferroelectrics found in ultrasound or ink-jetting devices. Impregnating and insulating copper coil windings in motors and inductor coils. Bonding ferrite cores and magnets. Structural grade epoxy found in hard-disk drive devices; bonding of stainless steel metals, kapton, and magnets.  
 Information Provided by Epoxy Technology

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Epoxy-Technology-EPO-TEK-375-High-Temperature-Epoxy.php](http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-375-High-Temperature-Epoxy.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.00 g/cc	1.00 g/cc	Part B
	1.20 g/cc	1.20 g/cc	Part A
Viscosity	3000 - 5000 cP	3000 - 5000 cP	50 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	88	88	
Tensile Modulus	2.34 GPa	339 ksi	Storage
Shear Strength	>= 13.8 MPa	>= 2000 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	48.0 µm/m-°C	26.7 µin/in-°F	Below Tg
	192 µm/m-°C	107 µin/in-°F	Above Tg

Thermal Properties	Metric	English	Comments
Temperature, Air	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	>= 100 °C	>= 212 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp 10–200°C @ 20°C/Min
Decomposition Temperature	421 °C	790 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Refractive Index	1.5692	1.5692	
	@Wavelength 589 nm	@Wavelength 589 nm	
Transmission, Visible	>= 94 %	>= 94 %	Spectral
	@Wavelength 600 - 790 nm	@Wavelength 600 - 790 nm	
	>= 98 %	>= 98 %	Spectral
	@Wavelength 800 - 1500 nm	@Wavelength 800 - 1500 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	
Dielectric Constant	3.34	3.34	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.0040	0.0040	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	5.00 min	0.0833 hour	Minimum Bond Line
	@Temperature 150 °C	@Temperature 302 °F	
	20.0 min	0.333 hour	Minimum Bond Line
	@Temperature 120 °C	@Temperature 248 °F	
	60.0 min	1.00 hour	Minimum Bond Line
	@Temperature 100 °C	@Temperature 212 °F	
	90.0 min	1.50 hour	Minimum Bond Line

Processing Properties	@Temperature 80.0 °C Metric	@Temperature 176 °F English	Comments
Pot Life	240 min	240 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	
Mix Ratio By Weight	10:1	
Number of Components	Two	
Weight Loss	0.06%	200°C
	0.16%	250°C
	0.49%	300°C

## Contact Songhan Plastic Technology Co.,Ltd.

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