

## Epoxy Technology EPO-TEK® OE188 High Temperature Silica-Filled Epoxy

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

### Material Notes:

**Product Description:** EPO-TEK® OE188 is a low CTE, designed for semiconductor and fiber optic applications. **Advantages & Application Notes:** Paste-like viscosity allows for application by dispensing, or hand methods such as toothpick, spatula or pin transfer. Color change upon cure – off-white to amber-brown - allows easy visual inspection. The CTE value below the Tg keeps potential stress to a minimum. **Suggested applications:** Fiber Optic Packaging Sealing fiber into the snout, ferrule, or feed-through of the opto-package. Mounting optics, such as lenses, diodes, prisms, onto the substrate or "optical bench." Adhesive for building the optical bench to the correct Z-height. "Toughened" adhesive to prevent fiber from the "piston effect". **Semiconductor** As underfill of flip chip devices and SMDs like BGAs, capacitors and resistors. **Medical** As an alternative to EPO-TEK® 353ND for moisture resistance. Capable of short cure cycles at low temperature, such as 80°C. Information Provided by Epoxy Technology

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Epoxy-Technology-EPO-TEK-OE188-High-Temperature-Silica-Filled-Epoxy.php](http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-OE188-High-Temperature-Silica-Filled-Epoxy.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.02 g/cc	1.02 g/cc	Part B
	1.55 g/cc	1.55 g/cc	Part A
Particle Size	<= 45 µm	<= 45 µm	
Viscosity	20000 - 30000 cP	20000 - 30000 cP	10 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	91	91	
Tensile Modulus	5.397 GPa	782.8 ksi	Storage
Shear Strength	10.92 MPa	1584 psi	Lap
	>= 35.2 MPa	>= 5100 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	19.0 µm/m-°C	10.6 µin/in-°F	Below Tg
	68.0 µm/m-°C	37.8 µin/in-°F	Above Tg
Maximum Service Temperature, Air	225 °C	437 °F	Continuous
	325 °C	617 °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	>= 90.0 °C	>= 194 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp 10–200°C @ 20°C/Min
Decomposition Temperature	417 °C	783 °F	Degradation Temperature

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 7.00e+12 ohm-cm	>= 7.00e+12 ohm-cm	
Dielectric Constant	3.56	3.56	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.0030	0.0030	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	9.0 ppm	9.0 ppm	
Ionic Impurities - Cl (Chloride)	188 ppm	188 ppm	

Processing Properties	Metric	English	Comments
Cure Time	1.00 min	0.0167 hour	minimum
	@Temperature 150 °C	@Temperature 302 °F	
	5.00 min	0.0833 hour	minimum
	@Temperature 120 °C	@Temperature 248 °F	
10.0 min	@Temperature 100 °C	0.167 hour	minimum
		@Temperature 212 °F	
30.0 min	@Temperature 80.0 °C	0.500 hour	minimum
		@Temperature 176 °F	
Pot Life	90 min	90 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
	Off-White	Part A
Consistency	Smooth paste	

Descriptive Properties	Value	Comments
Ionic Impurities NH4	304 ppm	
Mix Ratio By Weight	20:1	
Number of Components	Two	
Thixotropic Index	1.1	
Weight Loss	0.78%	200°C
	1.9%	300°C

## Contact Songhan Plastic Technology Co.,Ltd.

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