

Epoxy Technology EPO-TEK® OE121 Black Epoxy Adhesive

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

Material Description: A two component, low temperature curing epoxy adhesive designed for semiconductor flip chip underfill. It is color coded black for visual ID during the underfilling process. It may also be used for adhesive, potting, sealing, and encapsulation applications found within the electronics, medical, and optical industries. It is a black version of EPO-TEK® OE121. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-OE121-Black-Epoxy-Adhesive.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.960 g/cc	0.960 g/cc	Part B
	1.18 g/cc	1.18 g/cc	Part A
Particle Size	<= 20 µm	<= 20 µm	
Viscosity	300 - 500 cP	300 - 500 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	81	81	
Tensile Modulus	1.71 GPa	249 ksi	Storage
Shear Strength	11.83 MPa	1716 psi	Lap
	35.2 MPa	5100 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	43.0 µm/m-°C	23.9 µin/in-°F	Below Tg
	158 µm/m-°C	87.8 µin/in-°F	Above Tg
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	275 °C	527 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 55.0 °C	>= 131 °F	Dynamic Cure 20—200°C /ISO 25 Min; Ramp 10—200°C @ 20°C/Min
Decomposition Temperature	350 °C	662 °F	Degradation Temperature

Thermal Properties	Metric	English	Comments
Optical Properties	Metric	English	Comments
Transmission, Visible	<= 1.0 %	<= 1.0 %	Spectral
	@Wavelength 340 - 1260 nm	@Wavelength 340 - 1260 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	
Dielectric Constant	3.67	3.67	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.012	0.012	
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	16 ppm	16 ppm	
Ionic Impurities - K (Potassium)	1.0 ppm	1.0 ppm	
Ionic Impurities - Cl (Chloride)	62 ppm	62 ppm	

Processing Properties	Metric	English	Comments
Cure Time	60.0 min	1.00 hour	minimum
	@Temperature 90.0 °C	@Temperature 194 °F	
	180 min	3.00 hour	minimum
	@Temperature 80.0 °C	@Temperature 176 °F	
	2880 min	48.0 hour	minimum
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Pot Life	300 min	300 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Black	Part A
	Clear/Colorless	Part B
Consistency	Pourable liquid	

Descriptive Properties	Value	Comments
Mix Ratio By Weight	100:35	
Number of Components	Two	
Weight Loss	1.2%	200°C
	1.71%	250°C
	3.91%	300°C

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