Epoxy Technology EPO-TEK® T7139 Glob Top Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

Product Description: EPO-TEK® T7139 is a two component, electrically insulating, encapsulating epoxy designed for semiconductor glob top applications and package assembly.Advantages & Application Notes: A pot life of at least one day is mass production friendly and convenient for consecutive manufacturing shifts.Its thixotropic nature allows for dispensing “domes or hemispheres" directly over the IC without the need for using a dam or cavity to control flow.Suggested Applications:Semiconductor:Glob top encapsulant for COB die attach.Plastic semiconductor package filling instead of traditional epoxy transfer molding compound.Electronic/PCB: general protection of SMDs.Opto-electronics: black and opaque epoxy for adhesive and sealing applications while blocking IR and VIS light.In some cases, it is advantageous to pre-warm the epoxy < 50°C in order to decrease its thixotropic nature, while increasing capillary and flow rate.Low CTE makes it ideal for keeping stresses to a minimum.Information Provided by Epoxy Technology

Order this product through the following link:
http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-T7139-Glob-Top-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	Part A
	1.34 g/cc	1.34 g/cc	Part B
Particle Size	<= 50 µm	<= 50 µm	
Viscosity	5000 - 7000 cP @Temperature 23.0 °C	5000 - 7000 cP @Temperature 73.4 °F	50 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	86	86	
Tensile Modulus	4.13 GPa	599 ksi	Storage
Shear Strength	13.8 MPa	2000 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	30.0 µm/m-°C	16.7 µin/in-°F	Below Tg
	76.0 µm/m-°C	42.2 µin/in-°F	Above Tg
Thermal Conductivity	0.430 W/m-K	2.98 BTU-in/hr-ft²-°F	
Maximum Service Temperature, Air	250 °C	482 °F	Continuous
	350 °C	662 °F	Intermittent

Thermal Properties	Metric	English	Comments
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
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	438 °C	820 °F	Degradation Temperature

Optical Properties	Metric	English	Comments
Transmission, Visible	<= 0.010 % @Wavelength 400 nm	<= 0.010 % @Wavelength 400 nm	
	<= 1.0 % @Wavelength 900 nm	<= 1.0 % @Wavelength 900 nm	
	<= 5.0 % @Wavelength 2000 nm	<= 5.0 % @Wavelength 2000 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 3.00e+12 ohm-cm	>= 3.00e+12 ohm-cm	
Dielectric Constant	3.39 @Frequency 1000 Hz	3.39 @Frequency 1000 Hz	
Dissipation Factor	0.0060 @Frequency 1000 Hz	0.0060 @Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	30.0 min @Temperature 150 °C	0.500 hour @Temperature 302 °F	Minimum Bond Line
	60.0 min @Temperature 125 °C	1.00 hour @Temperature 257 °F	Minimum Bond Line
Pot Life	1440 min	1440 min	
Shelf Life	12.0 Month @Temperature 25.0 °C	12.0 Month @Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Black	Part A
	Tan	Part B

Descriptive Properties	Value	Comments
Consistency	Smooth paste	
Mix Ratio By Weight	10:1	
Number of Components	Two	
Thixotropic Index	2.5	
Weight Loss	0.19%	200°C
	0.34%	250°C
	0.48%	300°C

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