

Lord Adhesives Thermosetâ„ç ME-455-1 Epoxy Board Level Encapsulant

Category : Polymer , Thermoset , Epoxy , Epoxy Encapsulant, Unreinforced

Material Notes:

LORD Thermosetâ„ç ME-455-1 encapsulant is a low viscosity, one-component, semiconductor grade epoxy designed for the encapsulation of wire-bonded or flip chip die in PPGA, BGA, MCM and other cavity packages. It is formulated with high purity resins, fillers and additives to provide the ionic purity levels required for use in high-end microelectronic applications and minimize the chances of ion-induced corrosion in these devices. Thermoset ME-455-1 encapsulant offers good adhesion to silicon, laminate, ceramic, solder mask and metal surfaces. It can be used in demanding high-end, consumer and automotive applications. All information provided by Lord.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lord-Adhesives-Thermoset-ME-455-1-Epoxy-Board-Level-Encapsulant.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.69 g/cc	1.69 g/cc	
Brookfield Viscosity	3460 - 11580 cP	3460 - 11580 cP	Spindle 14 @ 10rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	92 - 98	92 - 98	
Modulus of Elasticity	4.00 GPa	580 ksi	DMA

Thermal Properties	Metric	English	Comments
CTE, linear	21.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	11.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	Alpha 1; TMA
	69.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	38.3 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	Alpha 2; TMA
Glass Transition Temp, Tg	123 $\text{Å}^\circ\text{C}$	253 $\text{Å}^\circ\text{F}$	TMA

Component Elements Properties	Metric	English	Comments
Potassium, K	0.00010 %	0.00010 %	
Sodium, Na	0.00050 %	0.00050 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	
	@Temperature 25.0 $\text{Å}^\circ\text{C}$	@Temperature 77.0 $\text{Å}^\circ\text{F}$	
Dielectric Constant	3.37	3.37	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Electrical Properties	Metric	English	Comments
Dissipation Factor	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Cure Time	30.0 min @Temperature 150 Â°C	0.500 hour @Temperature 302 Â°F	
Pot Life	2160 min @Temperature 25.0 Â°C	2160 min @Temperature 77.0 Â°F	
Gel Time	>= 4.00 min @Temperature 150 Â°C	>= 4.00 min @Temperature 302 Â°F	
Shelf Life	6.00 Month @Temperature -40.0 Â°C	6.00 Month @Temperature -40.0 Â°F	

Descriptive Properties	Value	Comments
Appearance	Black	
Chloride (%)	0.0005	
Consistency	Liquid	

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