ELANTAS
Electrical Insulation

Technical Data Sheet

Electronic & Engineering Materials

Epoxylite® E 813-9 Hi Temp

Two-Component Epoxy Potting Compound

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Epoxylite ® E 813-9 Hi Temp Epoxy

Product Description

Epoxylite® E 813-9 Hi Temp Epoxy is a heat-cured, two-component system consisting of a viscous liquid resin and a finely divided powder hardener. It is provided in pre-measured kits.

Areas of Application

Potting and sealing of electrical and electronic components requiring resistance to high temperatures

Features and Benefits

- Excellent electrical and physical properties up to 260°C / 500°F
- Withstands temperatures in excess of 316°C / 600°F for short periods
- Excellent adhesion to metals, ceramics and most plastics
- Resistant to acids, alkalis and solvents.

Application Methods

- Bench casting
- Vacuum casting

Transportation / Storage

Store below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for six (6) months from the date of shipment. Failure to store the product as recommended above may lead to deterioration in product performance.

Mix individual components thoroughly before use.

Avoid exposure to moisture and humidity. Blanket unused material with nitrogen.

Health / Safety

Refer to the Material Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		Epoxylite® E 813-9 Hi Temp Resin	**Epoxylite® C 813-9 Hi Temp Hardener**	
Form	25°C / 77°F	30,000 – 60,000	Powder	
Flash Point	ASTM D93	> 94 > 201	> 94 > 201	°C °F
Mix Ratio	Parts by weight	100	39	

Application

Best results will be obtained by warming the Resin to 65 – 85°C / 150 – 185°F before addition of the Hardener. This will lower the viscosity and facilitate release of bubbles.

Mix the Hardener into the warm Resin with mechanical agitation ratio until homogeneous (approximately three minutes). Use immediately as the pot life of the warm mixture is relatively short. Do not use less than the pre-packaged amounts.

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Curing Schedule

Cure as follows:

16 hours at 93°C / 200°F – or –
4 hours at 121°C / 250°F – or –
1 hour at 177°C / 350°F – or –
30 minutes at 204°C / 400°F

Higher temperatures cures will exhibit higher shrinkage and should be avoided if this is a critical concern.

A post-cure of one hour at 204°C / 400°F should be used when the highest possible heat resistance is required.

Typical Mechanical Properties

Property	Conditions	Value	Units
Linear Shrinkage	ASTM D2566	2	%
Thermal Conductivity		0.3	w/m·K
Hardness	Shore D	90 – 95	
Glass Transition Temp.	DSC	200	°C
Coefficient of Thermal Expansion	Below Tg	45	ppm / °C
Weight Loss	168 hours at 180°C / 356°F	0.3	%

Typical Electrical Properties

Property	Conditions	Value	Units
Dielectric Strength	25°C / 77°F – 125 mils	630	volts/mil
Volume Resistivity	ASTM D257 – 180°C / 77°F	> 1 x 10^{12}	ohm-cm
Dielectric Constant	60 Hz – 180°C / 356°F	4.75	
Dissipation Factor	60 Hz – 180°C / 356°F	0.09	

The above properties are typical values and are not intended for specification use.