

Technical Data Sheet

Electronic & Engineering Materials

Epoxylite[®] E 8822 Hi Temp

Two-Component Epoxy Adhesive

ELANTAS PDG, Inc.
5200 North Second Street
St. Louis, MO 63147
USA
Tel +1 314 621-5700
Fax +1 314 436-1030
info.elantas.pdg@altana.com
www.elantas.com

Epoxylite® E 8822 Hi Temp Epoxy

Product Description

Epoxylite® E 8822 Hi Temp Epoxy is a heat-cured, two-component system consisting of a mineral-filled paste resin and a thixotropic liquid hardener. It is provided in pre-measured kits.

Areas of Application

Cementing applications requiring high thermal resistance

Features and Benefits

- Maintains excellent electrical and physical properties to at least 260°C / 500°F
- Mineral-filled for enhanced thermal conductivity
- Excellent adhesion to metals, ceramics and most plastics
- Resistant to acids, alkalis and solvents.

Application Methods

- Brush or spatula
- Syringe

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 three (3) months from the date of shipment.

Failure to store the product as recommended above may lead to deterioration in product performance.

This product is sensitive to moisture and atmospheric humidity. Containers, once opened, should be used immediately or blanketed with dry nitrogen before resealing.

Mix individual components thoroughly before use.

Health / Safety

Refer to the Safety Data Sheet.

See ELANTAS PDG Technical Bulletin *TI-100 Handling Precautions for Epoxy Resins* for additional information.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		Epoxylite® E 8822 Hi Temp Resin	Epoxylite® C 8822 Hi Temp Hardener	
Viscosity	25°C / 77°F	400,000 - 800,000	150,000 – 250,000	cP
Weight per Gallon	25°C / 77°F	13.6 – 14.0	12.1 – 12.5	pounds
Flash Point	ASTM D93	> 94 > 201	> 94 > 201	°C °F
Mix Ratio	Parts by weight	100	35	

Typical Properties of Mixed Material

Property	Conditions	Value	Units
Sunshine Gel Time	125°C / 257°F	5 – 10	minutes
Viscosity	25°C / 77°F	200,000 – 300,000	cP

Epoxylite® E 8822 Hi Temp Epoxy

Regulatory Information

Property	Test Method	Value	Units
RoHS Compliance	Epoxylite® E 8822 Hi Temp Resin and Epoxylite® C 8822 Hi Temp Hardener comply with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 (RoHS 2.0) as amended 31 March 2015.		

Mixing / 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 until homogeneous (approximately three minutes). Pot life of the mixture is about 16 hours at room temperature, less at elevated temperature.

Mixed material that is not used immediately must be stored in a container free of air or blanketed with nitrogen. Pot life can be extended with refrigeration (5°C / 41°F) to several days or with freezing (-40°C / -40°F) to several months.

Refrigerated or frozen containers should be thawed to 16°C / 60°F or higher before opening to avoid moisture condensation.

NOTE: Proper surface preparation is critical to obtaining optimum product performance. See ELANTAS PDG Technical Bulletin *TI-3000 Surface Preparation Recommendations*.

Epoxylite® E 8822 Hi Temp Epoxy is highly adhesive. Surfaces that may come into accidental contact with it during processing should be pretreated with a suitable release agent.

Curing Schedule

Cure as follows:

16 hours at 60°C / 140°F – or – 2 hours at 150°C / 302°F – or – 1 hour at 177°C / 350°F

A cure of 4 hours at 177°C / 350°F should be used when the highest possible heat and chemical resistance are required.

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

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application.

EpoxyLite® E 8822 Hi Temp Epoxy

Typical Electrical Properties – Specimens cured 4 hours at 177°C / 350°F

Property	Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	25°C / 77°F – 50 mils	460	volts / mil
Dielectric Strength	ASTM D149	25°C / 77°F – 50 mils After 24 hours in water	370	volts / mil
Dissipation Factor	ASTM D150	1 kHz - 25°C / 77°F	0.02	
		1 kHz - 100°C / 212°F	0.02	
		1 kHz - 150°C / 302°F	0.03	
		1 kHz - 200°C / 392°F	0.04	
Dielectric Constant	ASTM D150	1 kHz - 25°C / 77°F	3.9	
		1 kHz - 100°C / 212°F	4.2	
		1 kHz - 150°C / 302°F	4.6	
		1 kHz - 200°C / 392°F	5.0	
Volume Resistivity	ASTM D257	25°C / 77°F	5.7 x 10 ¹⁶	ohm-cm

Typical Mechanical Properties – Specimens cured 4 hours at 177°C / 350°F

Property	Method	Conditions	Value	Units
Shore Hardness	ASTM D2240	25°C / 77°F	D 95	
Glass Transition Temp. (T _g)	ASTM E831	TMA	140	°C
Coefficient of Thermal Expansion	ASTM E831	Below T _g	60	ppm / °C
		Above T _g	125	ppm / °C
Lap Shear Strength Aluminum to aluminum	ASTM D1002	25°C / 77°F 260°C / 500°F	> 1,500 > 500	psi psi

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

ELANTAS PDG, Inc. warrants the chemical composition of its products within stated tolerances, but does not guarantee that a product will be appropriate for any particular application. Any recommendation, performance of tests or suggestion is offered merely as a guide and is not a substitute for a thorough evaluation by the user. No representative of ELANTAS PDG, Inc. has the authority to offer a warranty that a product will perform satisfactorily in manufacturing a product and no such representation should be relied upon.

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