

Technical Data Sheet

Secondary Insulation

Epoxylite[®] E 577

Single-Component Epoxy VPI Resin

EpoxyLite® E 577

Product Description

EpoxyLite® E 577 is a single-component, heat-cured, epoxy resin system designed for use with uncatalyzed tapes.

Areas of Application

Impregnation of high voltage motors and generators up to 13.8 kV

Features and Benefits

- The industry standard for the high voltage power generation industry
- Offers thermal ratings up to 200°C
- Chemical-resistant for operation in corrosive environments
- Excellent stability
- No separate catalyst required

Application Methods

- Vacuum-Pressure Impregnation
- Vacuum Impregnation
- Dip-and-Bake

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 twelve (12) months from the date of shipment.

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

Usable life may be extended by refrigerated storage at 5°C / 41°F.

For best results, VPI storage tanks should have a replenishment rate of 10% or more per month and employ cooling systems to maintain the resin at 20°C / 68°F or below.

Mix product thoroughly before use

See Process Guide PG-101 for tank maintenance instructions

Health / Safety

Refer to the Material Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	Units
Viscosity – 20 rpm	25°C / 77°F	1000 - 3000	cP
Sunshine Gel Time	150°C / 302°F	10 - 20	minutes
Weight per Gallon	25°C / 77°F	9.5 – 9.8	pounds
Flash Point	ASTM D93	> 94 > 201	°C °F

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Application / Curing Schedule

Preheat units, as necessary, to remove moisture and set tapes. Allow units to cool to 38 – 49°C / 110 – 120°F before immersion to promote good penetration while not overheating the resin. High voltage units may require a unit temperature as high as 65°C / 149°F for optimum penetration.

Cure treated units for 8 hours at 163°C / 325°F (12 hours for 13.8 kV service)

Cure schedule is based on time after unit reaches specified temperature

Typical Mechanical Properties

Property	Conditions	Value	Units
Hardness	Shore D – 25°C / 77°F	85	
Helical Coil Bond Strength ASTM D2519 over MW 35	25°C / 77°F 150°C / 302°F	59 5	pounds pounds
Glass Transition Temp.		128	°C
Coefficient of Thermal Expansion	Below Tg Above Tg	52 203	ppm / °C ppm / °C

Typical Electrical Properties

Property	Conditions	Value	Units
Dielectric Strength	ASTM D149 – 0.3 mils	4100	volts/mil
Dielectric Strength	ASTM D149 – 0.3 mils After 24 hours in water	3600	volts/mil
Volume Resistivity	ASTM D257 – 25°C / 77°F	$> 1 \times 10^{16}$	ohm-cm
Dissipation Factor ASTM D150	1 kHz – 25°C / 77°F 1 kHz – 100°C / 212°F 1 kHz – 150°C / 302°F 1 kHz – 200°C / 392°F	0.004 0.06 0.01 0.40	
Dielectric Constant ASTM D150	1 kHz – 25°C / 77°F 1 kHz – 100°C / 212°F 1 kHz – 150°C / 302°F 1 kHz – 200°C / 392°F	3.2 3.3 3.5 4.6	

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Underwriters Laboratories Recognition (ELANTAS File E75225)

Wire Construction	Helical Coil	Twisted Pair
NEMA MW35	Class 155	Class 200

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.