

Technical Data Sheet



E 468-2FC

Single-component Epoxy Impregnating Resin

ELANTAS Malaysia Sdn. Bhd.

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Product Description

E 468-2FC is a single component, heat-cured, 100% solids epoxy impregnating resin. It is a high dielectric compound that reduces core noise and wire vibration.

Features and Benefits

- Flexible for excellent noise suppression
- No catalyst required
- High flash point
- UL recognized insulation systems up to Class 240
- UL certified system under file E75225

Areas of Application

The preferred applications for E 468-2FC series are via conventional dip and bake / VPI application for:

- Stators
- Transformers
- Coils

Processing

The following cure schedule is recommended for conventional dip and bake

- Preheat the unit to 135°C.
- Dry for 2 - 3 hours.
- Cool units down to 32 °C
- Place cooled transformers into ambient temperature 468-2FC. Cover the tops of the laminations by approximately 2-3 inches.
- Leave transformers in resin until bubbling stops, about 10-15 minutes.
- Remove transformers from resin. Allow transformers to drain over process tank for approximately 10 minutes.
- Cure transformers for 4 hours at 135° C or 3 hours at 150 °C, one the largest part reaches cure temperature.**

Please note **DO NOT PLACE** transformers heated over 60°C into the resin. Heating the resin over 60°C will shorten the shelf life of the material.

The following cure schedule is recommended for conventional VPI:

- Place transformers into empty vacuum chamber.
- Pull dry vacuum for approximately 10 minutes once the Hastings vacuum gauge registers 2-5mm of mercury *
- Flood vacuum chamber with pre-vacuumed E 468-2FC from holding tank.
- Cover the tops of the laminations by about 2-3 inches.
- Re-establish the vacuum to 2-5 mm of mercury *. Hold vacuum for approximately 10 minutes.
- Break vacuum. Transfer resin from the process tank to the holding tank.
- Allow transformers to drain over process tank for about 10 minutes.
- Cure transformers for 4 hours at 135°C or 3 hours at 150 °C. once the largest part reaches cure temperature. **

* Vacuum pull down time will vary on the sizenof the system and the size of the vacuumpump.

** Time to reach cure temperature will vary depending upon the size of the transformers and the efficiency of the oven to recover temperature through recirculation cycle.

Packaging

Elantas Malaysia manufactured E 468-2FC resin is currently sold in 18 kg & 200kg containers for ease of use.

Health & Safety

Refer to Elantas Malaysia Material Safety Data Sheet (SDS) for E 468-2FC

Shelf life

This resin should be stored at below 25 °C 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 (6) months from the date of shipment.



Properties of component as supplied

Property	Conditions	Value	Units
Viscosity Brookfield	25 °C	300 - 1000	cPs
Sunshine Gel time	135 °C	10 - 20	min
Flash point	ASTM D93	> 94	°C

Cured Resin Properties - Cured at 150 °C for 3 hours

MECHANICAL PROPERTIES	Conditions	Value	Units
Hardness	ASTM D2240 Shore D - 25°C	55	
Glass transition temperature	ASTM E831; TMA	38	°C
Coefficient of thermal expansion	ASTM E831; Below Tg	150	Ppm/ °C
	ASTM E831; Above Tg	250	Ppm/ °C

ELECTRICAL PROPERTIES	Conditions	Value	Units
Dielectric Strength	ASTM D149 - 0.25 mils; @25 °C	6400	Volts/mils
	ASTM D149 - 0.25 mils; @25 °C After 24 hours in water	5400	Volts/mils
Volume resistivity	ASTM D257 - 1kHz - 25°C	5.1 x 10 ¹⁵	Ohm-cm
Dielectric Constant	ASTM D150 1kHz - 25°C	3.0	
Dissipation factor	ASTM D150 1kHz - 25°C	0.02	

UL recognized insulation systems - ELANTAS File E87039

Thermal Class	System
Class 130	DASH 2: B-1, B-2, B-2Z, B-2Z1, B-5, B-8, B-10, B-11, B-13, B-14, B-19, BR-1, BR-2, PDG 12, PDG 116
Class 155	DASH 2: F-1, F-3, F4, F-4A, PDG 117
Class 180	DASH 2: H-1, H-2, H-3, H-4, H-5, H-8, HR-1, HR-2., HR-3, HR-4, PDG 14, PDG 180 High Voltage
Class 200	DASH 2: N-1, N-2, N-3, N-4, N-6, N-2HV, PDG 10, MEGA IV
Class 220	DASH 2: R-1,R-2, R-3, R-5, HC-1, HV-2, PDG 8, PDG 220-1 PDG 220 High Voltage, PDG 15
Class 240	DASH 2: S-1

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