

Technical Data Sheet



E 471-5LL FR Potting Part B

C 471-5LL Hardener Part A

Two component Epoxy potting compound

ELANTAS Malaysia Sdn. Bhd.
(1011068-A)

Lot 15, Jalan Pengaara U1/48,
Temasya Industrial Park,
40150
Shah Alam,
Selangor Darul Ehsan,
MALAYSIA

Tel: +60355698878

Fax: +60355696577

www.elantas.com

Product Description

E 471-5LL FR Potting Part B and C 471-5LL Hardener Part A is a dual component, ambient cure epoxy resin system for potting, casting, and conformal coating applications.

The mixture has low viscosity for optimum flow and penetration of wound components. It cures with low exotherm in large bulk and is crack resistant producing a tough, resilient product with good thermal conductivity (rate of thermal transfer). The cure cycle can be accelerated by heat after allowing the material to gel first at room temperature.

Since it is 100% solids, no solvent fumes are present during the cure process whether at ambient or elevated temperatures.

Features and Benefits

- Low stress, low exotherm cure
- UL 94 V0 listed-2.9mm
- Low shrinkage
- Long pot life

Areas of Application

The preferred applications for E 471-5LL are via conventional potting / encapsulation application for units such as conventional electric motors, linear motors and transformers. Its excellent thermal cycling characteristic ensure service performance in applications requiring large bulk castings.

Processing

The following process is recommended for conventional encapsulation:

1. Pretreatment

Ensure that all components are clean, dry and free from contaminants such as oil and fatty materials.

E 471-5LL contains filler materials that tend to settle within certain limits and depending on the storage condition. Therefore, thorough agitation of the resin part is required prior to the mixing process itself.

Hours

2. Application

Mix E 471-5LL with C 471-5LL. The processing time of this epoxy casting compound at room temperature is limited, as for all cold-hardening systems, and will be influenced by the starting temperature of the components and the exothermic reaction process.

These factors are, above all important for manual processing where care must be taken on the amount mixed.

3. Curing

Room temperature curing of this system occurs after 24-72 hours after pouring and will develop full properties after seven days. Alternatively the resin may be cured @ 80°C for 4 hours after it has gelled. Room temperature cure is recommended for minimal stress on components. Note must be made that the reaction cure speed increases as the amount of mixed material increases.

Packaging

Elantas Malaysia E 471-5LL resin & hardener are currently sold in a set mix ratio (by weight) of 6 kg & 0.9 kg (100:15) for ease of use.

Please note that this mix ratio must be adjusted if dosing through a meter mix dispenser or other measuring systems using volume.

Health & Safety

Refer to Elantas Malaysia Material Safety Data Sheet (SDS) for E 471-5LL and C 471-5LL

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 twelve (12) months from the date of shipment.

Fail to store this product as recommended above may lead to deterioration in product performance and invalidate shelf life.

Properties of component as supplied

Property	Conditions	Value		Units
		E 471-5LL FR Potting Part B	C 471-5LL Hardener Part A	
Color		Amber	Amber	
Viscosity Brookfield	25°C	15,000-30,000	10-20	cPs
Specific Gravity	25°C	1.6-1.7	0.92-0.98	g/cm ³
Flash point	ASTM D93	>94	90	°C
Mix Ratio	Parts by weight Parts by volume	100 100	15 26	

Properties of mixed material

Property	Conditions	Value	Units
Viscosity Brookfield	25°C	1500-3000	cPs
Sunshine Gel time	25°C-150 g	6-10	hrs

Cured Resin Properties

MECHANICAL PROPERTIES	Conditions	Value	Units
Tensile strength	ASTM D229	5700	Psi
Hardness	Shore D-25°C	80	
Elongation at break	ASTM D229	5	%
Glass transition temperature Tg	ASTM E831; TMA	50	°C
Coefficient of thermal expansion	ASTM E831 Below Tg Above Tg	40	Ppm/°C
		195	Ppm/°C
Thermal conductivity	ASTM E1530	0.5	w/m-K
Water absorption	168 hrs @25°C	0.4	%
Weight loss	168 hrs @25°C	0.5	%
ELECTRICAL PROPERTIES	Conditions	Value	Units
Dielectric Strength	ASTM D149-125 mils	510	Volts/mils
	ASTM D149-125 mils After 24 hrs in water	480	Volts/mils
Volume resistivity	ASTM D257-25°C	1.5 x 10 ¹⁴	Ohm-cm
Dielectric Constant	ASTM D150 1kHz-25°C	4.2	
Dissipation factor	ASTM D150 1kHz-25°C	0.03	

ELANTAS Malaysia Sdn. Bhd. 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 Malaysia Sdn. Bhd. 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.