

## Product Information

### E 471-5LL Range



Two Part Epoxy Casting Compound  
Electrical Insulation system  
Encapsulation / Potting

#### **ELANTAS ZHUHAI CO LTD.**

Fine Chemical Area  
Gaolan Port Economic Zone  
Zhuhai  
Guangdong  
P.R. China  
519050

Tel: +86 756 771 0411  
Fax: +86 756 771 0416

[www.elantas.com](http://www.elantas.com)

## Product Description

Ripley E471-5LL is a dual component, ambient cure epoxy resin system for potting, casting, and conformal coating applications.

E471-5LL generates minimal exotherm and shrinkage during the cure process. The long pot life and low viscosity makes this compound ideal for fine wire applications.

The cure cycle can be accelerated by heat after allowing the material to gel first, at room temperature. E471-5LL meets the requirements of UL94 V-0 and is self extinguishing.

There are U. L. recognized insulation systems for all temperature classes and constructions that feature this material.

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

E471-5LL, in combination with Hardener C471-5LL, results in hard moulding compounds with self-extinguishing properties (UL 94 V-0), a high thermal conductivity and permanent temperature resistance (thermal class B - 90°C) and is **UL listed under the Underwriters Laboratories File number E100866.**

## Areas of Application

The preferred applications for E471-5LL are via conventional potting / encapsulation application for units such as conventional electric motors, linear motors and transformers.

Its excellent thermal cycling characteristics 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.

E471-5LL contains filler materials that tend to settle within certain limits and depending on the storage conditions. Therefore, thorough agitation of the resin part is required prior to the mixing process itself.

## Processing continued

### 2. Application

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.

### Mix ratio

**By weight: 100 Parts E471-5LL to 15 parts C471-5LL**

**By volume: 4 Parts E471-5LL to 1 part C471-5LL**

### 3. Curing

Room temperature curing of this system occurs after 24 hours after pouring and full properties are reached after 5 days. If desired this resin can be force cured @ 65°C for 4-6 hours to accelerate the process.

Note must be made that the reaction cure speed increases as the amount of mixed material increases.

## Packaging

Elantas Zhuhai E471-5LL resin & hardener are currently sold in a set mix ratio (by weight) of 6kg & 0.9kg (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 (4:1)

## Health & Safety

Refer to Elantas Zhuhai Material Safety Data Sheet (MSDS) for E471-5LL resin and C471-5LL hardener.

## Shelf life

The resin and hardener component have an individual shelf life of 12 months in unopened containers stored below 25°C.

**Properties of component as supplied**

Property	E471-5LL resin	C471-5LL Hardener
COLOUR	Black opaque liquid	Clear, low viscosity liquid
VISCOSITY Brookfield viscometer	12500-25000 cps @ 25°C	20 - 40 cps @ 25°C
SPECIFIC GRAVITY @ 25°C	1.60 - 1.70 gcm <sup>-3</sup>	0.95 - 1.00 gcm <sup>-3</sup>

Mixed Property	
VISCOSITY Brookfield @ 25°C	2250 centipoise
SPECIFIC GRAVITY @ 25°C	1.45 - 1.55 gcm <sup>-3</sup>
GEL TIME @ 25°C (150g bulk)	8.5 hours

**Cure resin Performance**

HARDNESS, SHORE D	80
WATER ABSORPTION (168 HR)	0.38%
WATER ABSORPTION (24 HR BOIL)	1.15%
WEIGHT LOSS (168 HRS @ 135°C)	0.5%
FLEXURAL STRENGTH:	17400 psi
TENSILE STRENGTH:	9800 psi
ULTIMATE ELONGATION:	2.4%
THERMAL CONDUCTIVITY:	0.41 BTU/HR/FT <sup>2</sup> /FT/°F
THERMAL EXPANSION:	3.6 in/in/°C X 10 <sup>-5</sup>
DIELECTRIC STRENGTH:	510 volts/mil

*This information is presented in good faith to assist the customer in determining whether our products are suitable for his application. No Warranty or representation, however, is intended or made, nor is protection from any law or patent to be inferred and all patent rights are reserved.*