

EL171LF

A low viscosity, semi-rigid version of EL171H suitable for the potting and encapsulation of a wide variety of electrical and electronic devices

Application

- Potting of Electrical & Electronic devices
- Encapsulation of transformers
- Cable joints

Key Properties

- Low viscosity
- Room temperature curing
- Flame retardant to UL94 V-0 @ 6mm
- Adhesion to a wide variety of substrates

Description

- Basic Two-component polyurethane system
- Resin RL171LF
- Hardener HL171LF

Physical Data (approx. – values)	Resin	Hardener	Composite
Colour	Black	Amber	Black
Specific Gravity	1.57	1.23	1.50
Viscosity (mPas) @ 25°C	7000-12000	200-300	2000-3000

Cure Schedule (150ml)	Working Life	Gel Time	Light Handling	Full Cure
Temperature	(minutes)	(minutes)	(hours)	(hours)
RT*	10-20	35-55	24	72
60°C	-	15	2	32
80°C	-	10	1	12

*RT is defined as 20-25°C

The above are typical values and will vary depending on the cured mass and application. Hotter temperatures may be used for faster cure but will result in higher post cure shrinkage and higher cure exotherm. Experimentation and testing is suggested to avoid side effects. For maximum properties a post cure may be required – Contact our technical service department for advice.

Processing

Mix ratio by weight 5.11:1

Mix ratio by volume 4.01:1

Typical Properties	Result	Unit
Flammability	@ 6mm	UL94 V-0
Volume Resistivity	1.3×10^{13}	ohm.cm
Surface Resistivity	1.2×10^{12}	ohm
Electric Strength	26	kV/mm
Permittivity (ϵ)	4.6	1KHz
Loss Tangent (Tan δ)	0.04	1KHz
Hardness	60	Shore D
Heat Deflection Temperature	Flexible	
Operating Temperature	-40 - +130	°C (application & geometry dependent)
Comparative tracking index	>600	V
Thermal Conductivity	0.39	W/mK
Coefficient of Linear Expansion	75-100	ppm/°C
Tensile Strength	8.2	MPa
Elongation	88.6	%
Youngs Modulus	61.3	MPa
Tg	-2	°C

Approvals

RoHS compliant	Yes
UL94 V-0	E76072
REACH (SVHC concentration)	Refer to SDS

Packaging

EL171LF is available in Bulk, Twinpacks & Kits

Availability

Available through distribution and sales@robnor.co.uk

Twinpacks

EL171LF/BK/100	
EL171LF/BK/250	

Twinpacks are pre-weighed resin and hardener components contained in a tough flexible film, separated by a removable clip and rail. Once the clip and rail is removed the resin and hardener is thoroughly mixed within the bag and is immediately ready for use. Mixing will normally take ~ 2 minutes due to the viscosity; but pay special attention to the corners. Twinpacks are ideal for small to medium production runs, prototyping and on-site or field use. The twinpack weight/volume may also be tailored to a specific size on request.

For further details please visit www.robnor.co.uk

Bulk Materials

RL171LF/BK/7.5KG	HL171LF/NC/6KG
RL171LF/BK/25KG	HL171LF/NC/25KG

Both resin and hardener are supplied in 5kg, 25kg and 200ltr drums and fully evacuated and ready for use. Care should be taken to ensure when mixing the resins air is not entrained in the mixture. If this is unavoidable the mixed resin and hardener should be re-evacuated before dispensing. The bulk resin and hardener materials can be dispensed from suitable dispensing machinery, details provided by Fluid Research on request.

Kits & Sets

EL171LF/BK/30.5KGKIT	EL171LF/BK/4KGSET
	EL171LF/BK/10KGSET

Kits and Sets are provided in separate containers to the correct ratio.

In Kit form, pour the contents of the smaller container into the larger container and use it as a mixing vessel. Stir well using an appropriate mixer until homogeneous.

Note: Incomplete mixing will be characterised by erratic or partially incomplete cure even after extended time periods.

Cleaning

All equipment contaminated with mixed material should be cleaned before the material has hardened.

TS130 is a suitable non-flammable cleaning agent, although other solvents may be found suitable.

TS130 will also remove cured material provided it can be soaked for several hours.

Storage and Shelf Life

12 months at 25°C - Specialty packaging may be less.

Bulk containers should be inverted every two to three weeks to reduce the accumulation of the fillers on the bottom of the containers.

Isocyanates are sensitive to moisture and should be kept in their original container or in a volume tank under dry nitrogen blanketing.

Many isocyanates are prone to dimerization, the formation of a white precipitate. Products with minor amounts of this precipitate normally cure to full properties.

Storage at 20 +/- 5°C (60°F to 86°F) is recommended to ensure full shelf life.

Health and Safety

Please refer to RL/HL171LF Health and Safety data or our Technical Service Department for individual/specific advice.

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The results and information above do not constitute a specification and is given in good faith and without warranty. The information is derived from test/or extrapolations believed to be reliable and is quoted for guidance only. The product is offered for evaluation on the understanding the customer satisfies himself that the product is suitable for the intended application by proper evaluation and testing.

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