

## EL500F

A rigid, two-part, fast curing polyurethane adhesive

### Application

- Bonding
- Sealing
- Structural support

### Key Properties

- Fast-curing
- Hard
- Good adhesion to substrate

### Description

- Basic Two-component polyurethane system
- Resin RL500F
- Hardener HL500F

Physical Data (approx. – values)	Resin	Hardener	Mixed
Colour	Translucent Straw	Amber	Amber
Specific Gravity	1.07	1.24	1.15
Viscosity (mPas) @ 25°C	Thixotropic	Thixotropic	Thixotropic

Cure Schedule (150ml)	Working Life	Gel Time	Light Handling	Full Cure
Temperature	(minutes)	(minutes)	(minutes)	(hours)
10°C	3	4	15	12
RT	2	3	10	6
30°C	1	2	6	3

\*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 0.86:1  
Mix ratio by volume 1:1

### Approvals

RoHS compliant	Yes
UL94 V-0	No
REACH (SVHC concentration)	Refer to SDS

Typical Properties	Result	Unit
Hardness	85	Shore D
Tack Free (10g @ RT)	5-6	Minutes (geometry dependant)
Coefficient of Linear Expansion	100	ppm/C
Operating Temperature	-40 to +120	°C (Application and geometry dependant)
Thermal Conductivity	0.2	W/mK
Tensile Strength	22	MPa
Volume Resistivity	$1.5 \times 10^{13}$	ohm.cm
Electric Strength	15	kV/mm

### Lap Shear Strength

Aluminium/Aluminium	14 Kg/cm <sup>2</sup>
Stainless Steel/Stainless Steel	12 Kg/cm <sup>2</sup>

## Packaging

EL500F is available in Bulk, kits & sets. Cartridges depend on mix ratio

## Availability

Available through distribution and [sales@robnor.co.uk](mailto:sales@robnor.co.uk)

### Cartridge Mixing - Part Numbers

EL500F/NC/250TC	

It is essential for best results that the cartridge is 'balanced' before use to ensure correct mixing. Loading the cartridge into the gun before attaching the mixer element and pumping the gun to push a small amount of the contents forward will achieve this. Wipe the excess from the cartridge tip and add the static mixer. The cartridge is now ready for use.

Cartridges that are foil wrapped and desiccant packed should be stored horizontally

### Twinpacks - Part Numbers

Available on request	

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](http://www.robnor.co.uk)

### Bulk Materials - Part Numbers

RL500F/BN/5KG	HL500F/NC/5KG
RL500F/BN/20KG	HL500F/NC/20KG
RL500F/NC/20KG	

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.

### Adhesive Kits and Sets - Part Numbers

Available on request	

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

In Kit form, pour the small 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 soak for several hours.

## Storage and Shelf Life

24 months at 25 °C Specialty packaging may be less.

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/HL500F Health and Safety data or our Technical Service Department for individual/specific advice.

## Copyright & Warranty - Robnor Resins Limited

The results and information above does 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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