



*UPS 115 XL* Extended Life Metal Repair is a high performance multi purpose synthetic metal repair compound which has been specially developed for repairs requiring good mechanical strength combined with easy machining properties and where additional working time is essential during the application period, making the product ideal for use in warm environments.

The *UPS 115 XL* formulation contains a complex range of epoxy resins combined with a polyamino-amine curing system reinforced with a phosphor steel alloy to enhance the corrosion and chemical resistance.

#### Product Features

- Good application characteristics with good build characteristics.
- Designed for application by trowel or spatula to thicknesses up to 12mm.
- Outstanding cold weld capabilities.
- Excellent adhesion to correctly prepared metal surfaces.

#### Product Applications

Suitable for emergency repairs to part of planned maintenance to equipment such as worn or damaged pump shafts, cracked pump valve casings, scored hydraulic rams, worn bearing housings, damaged flanges, leaking tank seams, worn keyways and cracked engine blocks. The long working life of the material also makes it ideal for complex shimming operations.

**Before proceeding, please read the following information carefully to ensure the correct application procedure is fully understood.**

#### Surface Preparation

Heavy contamination due to oil or grease must first be removed using *UPS TAC 883 Universal Cleaner*. All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting.

Where grinding or needle gunning is used, the surface should be crossed-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surface. Where possible, abrasive blasting is the preferred surface preparation, especially in fluid flow repairs.

Surfaces should finally be carefully degreased with *UPS TAC 883*. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, the cleaner should be worked into the surface by brush and washed off using excess cleaner.

Parts (for example, threads or bearing surfaces) which must remain in position during application but must not adhere to *UPS 115 XL* must be

coated with *UPS TAC 872 Release Agent* prior to application of the *UPS 115 XL*.

When treating existing equipment, which may have become salt impregnated due to service conditions, surfaces should first be wet blasted then dry blasted and tested for presence of salts. This process should be repeated until all salts are removed.

#### Mixing

*UPS 115 XL* is a two pack product comprising a Base and Activator component which must be mixed together prior to use.

Measure one volume of Base component and one volume of Activator component into a clean mixing board or other suitable surface. The two components should then be thoroughly mixed until completely streak free.

The mixed material should be used within 60 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

#### Application

The mixed *UPS 115 XL* should be pressed firmly onto the prepared area, working the material into any cracks and surface defects, taking care not to trap air in deeply pitted areas.

When *UPS 115 XL* is being used to bond two surfaces together, both surfaces should be coated with the material. The two pieces should then be pressed firmly together and clamped in position until the product has set, any excess material squeezed out should be scraped away before the product begins to cure.

When required, a reinforcement tape (*UPS TBRT 4*) can be used to improve the mechanical properties, or to bridge large gaps. The reinforcing tape should be impregnated with the *UPS 115 XL* then stippled into the first layer of product applied to the repair. Further material should then be applied over the tape.

Once the *UPS 115 XL* has reached initial set the material can be separated from surface treated with *UPS TAC 872 Release Agent*.

Once the material has cured for a minimum of 12 hours at 20°C (68°F) sanding, grinding and machining etc. can be carried out using standard engineering facilities.

All equipment must be cleaned immediately after use, with *UPS TAC 883*.

**Physical Constraints**

<b>Volume Capacity</b>	392cc (23.94 cu ins) / kg
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<b>Mixing Ratio</b>	Base	Activator
By Weight	1.15	1
By Volume	1	1

<b>Colour</b>	Grey
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<b>Drying &amp; Cure Times at 20°C (68°F)</b>	
Useable Life	60 minutes
Initial Set	4 hours
Hard Dry for Machining	12 Hours
Full Mechanical Cure	5 Days

<b>Volume Solids</b>	100%
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<b>Film Thickness</b>	Up to 12mm
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<b>Shelf Life</b>	
Use within 5 years of manufacture date. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).	

<b>Maximum Operating Temperatures</b>	
Dry Heat	120°C (248°F)
Wet Heat	70°C (158°F)

**Physical Properties**

<b>Compressive Strength ASTM D 695</b>	70 Mpa (10000 psi)
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<b>Flexural Strength ASTM D 790</b>	56 Mpa (8000 psi)
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<b>Heat Distortion ASTM D 648</b>	60°C (140°F)
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<b>Tensile Shear Adhesion ASTM D 1002</b>	17.24 Mpa (2500 psi) (Abrasive Blasted Steel)
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<b>Corrosion Resistance ASTM B 117</b>	5000 Hours
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<b>Shore D Hardness ASTM D 2260</b>	85
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**Packaging**

*UPS 115 XL* is supplied in the following;

- 4 X 3kg
- 1 X 4kg

**Health And Safety**

As long as normal good practice is observed *UPS 115 XL* can be safely used. Protective gloves should be worn during use.

A fully detailed Material Safety Data Sheet is either included with the material or is available on request.

The information provided in this Technical Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of Unique Polymer Systems LTD. Users should determine the suitability of the product for their own particular purposes by their own tests.

Unique Polymer Systems LTD  
Unit 1 Bankside Industrial Estate  
Little Marcle Road  
Ledbury  
Herefordshire  
HR8 2DR  
United Kingdom