



resimac Ltd. 

512 UCEN 90 XL

Resists high strength acids and alkalis at immersion temperatures up to 60°C (140°F) with a solvent free, high build epoxy novolac formulation and extended working time.

- Resists high strength acids and alkalis in immersion
- Withstands chemical exposure at temperatures up to 60°C (140°F)
- Extended working time ideal for large scale or complex applications
- Solvent free epoxy novolac applied by roller or airless spray

2025 Product Sheet



Typical Applications

512 UCEN 90 XL is a solvent free, high build epoxy novolac coating formulated for long term protection of steel and concrete in harsh chemical environments. It withstands immersion in aggressive acids and alkalis, including 98% sulphuric acid and 36% hydrochloric acid, at temperatures up to 60°C (140°F).

- Chemical containment
- Chemical drains & channels
- Internal pipe surfaces
- Tank lining
- Process vessels
- Sumps

Cure times

Usable Life		Min overcoating time		Max overcoating time		Water/sea water immersion		A post cure is required to achieve full mechanical properties – for example, 6 hours at 60°C (140°F). For further guidance, please contact the Resimac Technical Department.
10°C/50°F	90 mins	10°C/50°F	16 hours	10°C/50°F	24 hours	10°C/50°F	8 days	
20°C/68°F	45 mins	20°C/68°F	8 hours	20°C/68°F	24 hours	20°C/68°F	4 days	
30°C/86°F	22 mins	30°C/86°F	4 hours	30°C/86°F	12 hours	30°C/86°F	2 days	
40°C/104°F	11 mins	40°C/104°F	2 hours	40°C/104°F	6 hours	40°C/104°F	1 day	

Please note: 512 UCEN 90 XL should be applied in 2 coats at 500 microns (20mil) wet film thickness per coat. The coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.

Characteristics

Appearance

Base	Highly structured thixotropic liquid
Activator	Amber liquid
Mixed	Thixotropic liquid

Solids Content

100%

Volume Capacity

710cc/kg

Sag Resistance

Nil at 500 microns

Density

Base	1.41
Activator	1.05
Mixed	1.33

Mixing Ratio

By weight	4.35:1
By volume	3.25:1

Storage Life

5 years if unopened and stored in normal dry conditions, 15–30°C (59–86°F)

Mechanical Properties

Abrasion Resistance

Taber CS17 Wheels/1kg load
138mg loss/1000 cycles
0.15cc loss/1000 cycles

Compressive Strength

Tested to ASTM D 695
901kg/cm² (12800psi)

Corrosion Resistance

Tested to ASTM B117
Minimum 5000 hours

Flexural Strength

Tested to ASTM D790
810kg/cm² (11500psi)

Heat Resistance

Suitable for use in immersed conditions at temperatures up to 60°C (140°F). Resistant to dry heat up to 200°C (392°F) dependent on load.

Hardness

20°C (122°F)	ASTM D2240 Shore D: 86
100°C (212°F)	ASTM D2240 Shore D: 85
150°C (302°F)	ASTM D2240 Shore D: 72

Heat Distortion

20°C (122°F)	60°C (140°F)
100°C (212°F)	98°C (208°F)
150°C (302°F)	112°C (234°F)

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile 201kg/cm² (2855psi)

Coverage

4ltrs (1 US gallons) of fully mixed product will give the following coverage rates:

8m ² at 500 microns	85ft ² at 20mil
<i>16ltrs (4.2 US gallons)</i>	
32m ² at 500 microns	343ft ² at 20mil

Details & Legal

Quality

All Resimac Products are supplied under the scope of the company's fully documented quality system.

Warranty

Resimac warrants that the performance of the product supplied will conform to the typical descriptions quoted within this specification provided material is stored correctly and used according to the procedures detailed in this document.

Pack Sizes

This product is available in the following pack sizes:
4ltrs (1 US Gallons)
16ltrs (4 US Gallons)

Chemical Resistance

The product resists attack by a wide variety of inorganic acids, alkalis, salts and organic media including:

Acetic Acid 10%	50°C (122°F)
Ammonia Hydroxide 30%	75°C (167°F)
Benzene 100%	60°C (140°F)
Butanol 100%	50°C (122°F)
Chromic Acid 10%	75°C (167°F)
Ethanol 100%	60°C (140°F)
Hydrocarbons with steam	75°C (167°F)
Hydrobromic Acid 40%	50°C (122°F)
Hydrochloric Acid 36%	60°C (140°F)
Nitric Acid 10%	50°C (122°F)
Phosphoric Acid 75%	75°C (167°F)
Steam out	200°C (392°F)
Sulphuric Acid 98%	75°C (167°F)
Toluene 100%	60°C (140°F)
Xylene 100%	60°C (140°F)

Application Guide

A. Surface Preparation

Metallic Substrates:

- 1 All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
- 2 All surfaces must be abrasive blasted to ISO 8501/4 Standard SA2.5 (SSPC SP10/NACE 2) minimum blast profile of 75 microns (3mil) using an angular abrasive.
- 3 Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material.
- 4 All surfaces must be coated before gingering or oxidation occurs.

Existing Concrete:

- 1 The If the concrete surface is contaminated, pressure wash using clean water.
- 2 Once the concrete is dry, lightly abrasive blast or scarify taking care not to expose the aggregate.
- 3 Clean all dust and debris from the surface and prime with 503 SPEP (low viscosity epoxy primer).
- 4 Apply 503 SPEP at 150 microns (6mil) WFT, leave to cure for 3 hours 20°C (68°F) before overcoating.

Health & Safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn during the mixing and application of this product.

Before mixing and applying the material, please ensure you have read and fully understood all information.

New Concrete:

- 1** Allow new concrete to cure for a minimum of 21 days and treat to remove any surface laitance.
- 2** Check the moisture content of the concrete prior to coating (8% moisture content or below).
- 3** Lightly scarify the surface taking care not to expose the aggregate.
- 4** Clean all dust and debris from the surface and prime with 503 SPEP (low viscosity epoxy primer).
- 5** Apply 503 SPEP at 150 microns (6mil) WFT, leave to cure for 3 hours 20°C (68°F) before overcoating.

PLEASE NOTE: For salt contaminated surfaces the substrate must be pressure washed with clean water and checked for salt contamination, please refer to the surface preparation and pre-application guide for further information.

B. Product Preparation

Prior to mixing, please ensure the following:

- 1** The base component is at a temperature between 15-25°C (60-77°F).
- 2** The ambient & surface temperature is above 10°C (50°F).
- 3** The ambient & surface temperatures are not less than 3°C (6°F) above the dew point.

C. Mixing

Mix the complete unit of material (4ltrs/16ltrs):

- 1** Transfer the contents of the Activator unit into the Base container.
- 2** Using an electric paddle mixer, mix the 2 components until a uniform material free of any streaks is achieved.
- 3** From the commencement of mixing the whole of the material should be used within 45 minutes at 20°C (68°F).

D. Application

Brush or roller applications:

- 1 Pour the mixed material into a paint kettle or paint tray (this will maximise the usable life).
- 2 Using a 50mm (2") wide synthetic brush, stripe coat all edges, joints, corners and equipment with the mixed material.
- 3 The stripe coat must be approximately 100mm (4") wide, at 500 microns (20mil) wet film thickness.
- 4 Once the stripe coat has cured sufficiently and is capable of being overcoated, apply the 1st coat of mixed product to all surfaces at 500 microns (20mil) wet film thickness.

Once the 1st coat of material has cured sufficiently, approximately 8 hours at 20°C (68°F), apply a 2nd coat of material to all surfaces at 500 microns (20mil) wet film thickness.

Spray Applications:

- 1 Spray application should be carried out by airless spray using a 60:1 ratio pump with an attached hot water pump to heat the spray lines.
- 2 The temperature around the spray lines should be kept around 25–35°C (77–95°F).
- 3 Spray pressure of 3500psi and a tip size of 19–23 thou should be used.
- 4 Use as short a line as possible to maintain product temperature (maximum 8meters/26foot).
- 5 Circulate the product for a short time to achieve temperature equilibrium.
- 6 Apply the 1st coat of mixed product to all surfaces at 500 microns (20mil) wet film thickness.
- 7 Once the 1st coat of material has cured sufficiently, approximately 8 hours at 20°C (68°F), apply a 2nd coat of material to all surfaces at 500 microns (20mil) wet film thickness.

Quick Application Guide

Spray Applications:



Step 1

Ensure you have:

- 1 x base unit
- 1 x activator unit
- 1 x spatula
- 1 x slow speed drill & paddle
- 1 x spray equipment



Step 2

Pour the entire contents of the activator container into the base container.



Step 3

Mix thoroughly, taking to care to ensure any unmixed base component is scraped down from the edges of the container using a spatula. Continue mixing until a streak free, uniform material is achieved.



Step 4

Apply to the correctly prepared substrate at 500 microns using airless spray unit, minimum pump size 60:1. Heated/insulated lines are necessary to maintain a constant 30-35°C (86-95°F). Spray pressure 3600+psi, tip size 19-23 thou.



Step 5

Leave to cure for a minimum 8 hours at 20°C (68°F) before applying a 2nd coat of material at 500 microns wet film gauge.

Quick Application Guide

Brush or roller applications:



Step 1

Ensure you have:

- 1 x base unit
- 1 x activator unit
- 1 x spatula
- 1 x slow speed drill & paddle
- 1 x brush
- 1 x short pile roller
- 1 x container/roller tray



Step 2

Pour the entire contents of the activator container into the base container.



Step 3

Mix thoroughly, taking to care to ensure any unmixed base component is scraped down from the edges of the container using a spatula. Continue mixing until a streak free, uniform material is achieved.



Step 4

Once the material is fully mixed pour into a roller tray or clean receptacle, and apply the product to the substrate using a paintbrush or medium pile roller at 500 microns WFT.



Step 5

Allow to cure until touch dry and apply a 2nd coat of material at 500 microns WFT.

About Resimac

A UK based manufacturer of epoxy and polyurethane coatings and repair materials.

From our head office in the heart of rural North Yorkshire, England we supply our range of Epoxy, Polyurethane & Silicone coatings and repair materials to the Oil & Gas, Petrochemical, Marine, Paper & Pulp, Water, Power Generation & Chemical Industries.

Legal Notice

The data contained within this Product Specification is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Resimac accepts no liability arising out of the use of this information or the product described herein.

Information & Enquiries

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