



512 UCEN 90

Resists strong acids in immersion up to 75°C (167°F) with a solvent free, high build epoxy novolac formulation for chemical and corrosion protection.

- Resists aggressive acids and alkalis in immersion
- Chemical protection at elevated temperatures up to 75°C (167°F)
- Single coat, solvent free epoxy novolac formulation
- Applied using heated plural feed spray for high build coverage

2025 Product Sheet

Typical Applications

512 UCEN 90 is a high functionality, solvent free epoxy novolac coating developed for long term chemical and corrosion protection of steel and concrete structures. Applied in a single high build coat using heated plural feed spray equipment, the system resists aggressive media such as 98% sulphuric acid and 36% hydrochloric acid in immersion at temperatures up to 75°C (167°F).

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

Cure times

Usable Life		Min overcoating time		Max overcoating time		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	30 mins	10°C/50°F	6 hours	10°C/50°F	12 hours	
20°C/68°F	15 mins	20°C/68°F	4 hours	20°C/68°F	8 hours	
30°C/86°F	7 mins	30°C/86°F	3 hours	30°C/86°F	4 hours	
40°C/104°F	3.5 mins	40°C/104°F	1 hour	40°C/104°F	3 hours	

Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.

Characteristics

Appearance		Density	
Base	Highly structured thixotropic liquid	Base	1.40
Activator	Amber liquid	Activator	1.05
Mixed	Thixotropic liquid	Mixed	1.34
Solids Content		Mixing Ratio	
100%		By weight	5.34:1
		By volume	4:1
Volume Capacity		Storage Life	
746cc/kg		5 years if unopened and stored in normal dry conditions, 15–30°C (59–86°F)	
Sag Resistance			
Nil at 1000 microns			

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
592kg/cm² (8400psi)

Corrosion Resistance

Tested to ASTM B117
Minimum 5000 hours

Flexural Strength

Tested to ASTM D790
480kg/cm² (6800psi)

Hardness

Shore D to ASTM D2240	
20°C (68°F)	86
100°C (212°F)	84
150°C (302°F)	72

Adhesion

Tensile Shear to ASTM D1002 on
abrasive blasted mild steel with
75 micron profile 188kg/cm²
(2650psi)

Heat Distortion

Tested to ASTM D648 at
264psi fibre stress.

20°C (68°F)	62°C (154°F)
100°C (212°F)	98°C (208°F)
150°C (302°F)	112°C (234°F)

Heat Resistance

Suitable for use in immersed
conditions at temperatures up to
110°C (230°F). Resistant to dry heat up
to 170°C (338°F) dependent on load.

Coverage

16ltr (4 US gallon) of fully mixed product
will give the following coverage rates

16m ² at 1000 microns	364ft ² at 16mil
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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:
4ltr (1 US gallon)
16ltrs (4 US gallon)

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%	80°C (176°F)
Benzene 100%	60°C (140°F)
Butanol 100%	50°C (122°F)
Chromic Acid 10%	75°C (167°F)
De-ionised Water	110°C (230°F)
Ethanol 100%	60°C (140°F)
Hydrocarbons with steam	110°C (230°F)
Hydrobromic Acid 40%	50°C (122°F)
Hydrochloric Acid 36%	75°C (167°F)
Nitric Acid 10%	50°C (122°F)
Phosphoric Acid 75%	90°C (194°F)
Steam out	220°C (428°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: Abrasive blast cleaning

- 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.

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.

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.

Existing Concrete:

- 1 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.

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).

Apply 503 SPEP at 150 microns (6mil) WFT, leave to cure for 3 hours 20°C (68°F) before overcoating.

B. Product Preparation

Prior to mixing, please ensure the following:

- 1 The base component is at a temperature between 25°C (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 (4ltr/16ltrs):

- 1 This product must be mixed using a static mixer integrated into a plural component airless spray system.

D. Application

Spray Application:

- 1 Spray application should be carried out by heated plural feed spray rig.
- 2 The temperature of the base component should be kept around 55-65°C (131-149°F).
- 3 Spray pressure of 3600psi and a tip size of 19-23 thou should be used.
- 4 Using a 50mm (2") wide synthetic brush, stripe coat all edges, joints, corners and equipment with the mixed material.
- 5 The stripe coat must be approximately 100mm (4") wide, at 400 microns (16mil) wet film thickness.
- 6 Once the stripe coat has cured sufficiently and is capable of being overcoated, apply 512 UCEN 90 to all surfaces at 1000 microns (40mil) wet film thickness.

Quick Application Guide



Step 1

Ensure you have:

1 x base unit

1 x activator unit

1 x spatula

1 x spray equipment



Step 2

Recirculate base component, continually heating until a constant 60+C is achieved.



Step 3

Set spraying ratio to 4:1.
Ensure unit is fitted with minimum 32 element static mixer. Activator should be maintained at an ambient temperature.



Step 4

Apply to the correctly prepared substrate at 1000 microns spray pressure 3600+psi, tip size 19-23 thou.

PLEASE NOTE: Can only be sprayed through plural feed spray equipment. E.g. Graco XM. Ensure you have sufficient base and activator containers. Pour each part into the designated pump section.

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.

Approvals

Approved by BUREAU VERITAS for Surface Protection and Cold Repair Products applied to Marine Vessels. Certificate No: 55268/B0 BV. Expiry: 1st June 2029.

Information & Enquiries

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