resimac

511 UCEN

Solvent free epoxy novolac coating designed for chemical and corrosion protection of steel and concrete. Resists strong acids and alkalis, making it ideal for bunds, tanks, and containment areas.

- Resists high strength acids and alkalis, including 98% sulphuric acid
- High chemical resistance for long term protection
- Ideal for bund coatings & tank linings
- Hand or spray applied for versatile application

2025 Product Sheet

Typical Applications

511 UCEN is a high build, solvent free epoxy novolac coating formulated for extreme chemical resistance in aggressive environments. Engineered to protect steel and concrete structures, it withstands prolonged exposure to high strength acids and alkalis, including 98% sulphuric acid and 36% hydrochloric acid in immersion conditions.

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

Characteristics

Appearance

Base	Highly structured thixotropic liquid
Activator	Amber liquid
Mixed	Thixotropic liquid

Solids Content

100%

Volume Capacity

757cc/kg

Sag Resistance

Nil at 500microns

Density

Base	1.41
Activator	1.02
Mixed	1.32

Mixing Ratio

By weight	4:1
By volume	3:1

Storage Life

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

Cure times

Usable Life		Min overcoating time		Max overcoating time		Water/Seawater Immersion		Chemical Immersion	
10°C/50°F	50 mins	10°C/50°F	8 hours	10°C/50°F	24 hours	10°C/50°F	8 days	10°C/50°F	14 days
20°C/68°F	25 mins	20°C/68°F	4 hours	20°C/68°F	12 hours	20°C/68°F	4 days	20°C/68°F	7 days
30°C/86°F	12 mins	30°C/86°F	2 hours	30°C/86°F	6 hours	30°C/86°F	2 days	30°C/86°F	5 days
40°C/104°F	6 mins	40°C/104°F	1 hour	40°C/104°F	3 hours	40°C/104°F	1 day	40°C/104°F	3 days

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

Mechanical Properties

Abrasion Resistance

Taber CS17 Wheels/1kg load
138mg loss/1000 cycles
0.18cc loss/1000 cycles

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile:
208kg/cm² (2950psi)

Heat Distortion

Tested to ASTM D648 at 264psi fibre stress:

20°C (68°F)	52°C (125°F)
100°C (212°F)	75°C (167°F)

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) dependant on load

Hardness

Shore D to ASTM D2240: 85

Flexural Strength

Tested to ASTM D790
871kg/cm² (12300psi)

Corrosion Resistance

Tested to ASTM B117
Minimum 5000 hours

Compressive Strength

Tested to ASTM D 695
984kg/cm² (13950psi)

Details & Legal

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 (1.1 US gallon)
16ltrs (4.2 US gallon)

Coverage

The mixed product will give the following coverage rates:

4ltrs (1.1 US gallon)

10m²at 400microns	107ft² at 16mil
8m² at 500 microns	85ft² at 20mil

16ltrs (4.2 US gallon)

37.5m² at 400microns	402ft² at 16mil
32m² at 500 microns	343ft² at 20mil

Quality

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

Chemical Resistance

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

Acetic Acid 10%	30°C (86°F)
Ammonia Hydroxide 30%	45°C (113°F)
Benzene 100%	35°C (95°F)
Butanol 100%	40°C (104°F)
Chromic Acid 10%	40°C (104°F)
De-ionised Water	40°C (104°F)
Ethanol 100%	45°C (113°F)
Hydrobromic Acid 40%	30°C (86°F)
Hydrochloric Acid 36%	35°C (95°F)
Nitric Acid 10%	30°C (86°F)
Phosphoric Acid 75%	45°C (113°F)
Steam out	180°C (356°F)
Sulphuric Acid 98%	40°C (104°F)
Toluene 100%	40°C (104°F)
Sulphuric acid 20%	40°C (104°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.

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.

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 Preparation:

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.

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 5°C (41°F).
3. The ambient & surface temperatures are not less than 3°C (6°F) above the dew point.

Existing Concrete Preparation:

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.

C. Mixing

Mix the unit in full (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 25 minutes at 20°C (68°F).

PLEASE NOTE: Spray application should be carried out by airless spray using a 45:1 ratio pump with an attached hot water pump to heat the spray lines. The temperature around the spray lines should be kept around 25-35°C (77-95°F).

D. Application

Brush and roller application:

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 300-400 microns (12-16mil) 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 400-500 microns (16-20mil) wet film thickness.
5. Once the 1st coat of material has cured sufficiently, approximately 4 hours at 20°C (68°F), apply a 2nd coat of material to all surfaces at 400-500 microns (16-20mil) wet film thickness.

Quick Application Guide

Step 1

Ensure you have:
1 x base unit
1 x activator unit
1 x spatula
1 x slow speed drill and paddle
1 x medium pile roller
1 x brush

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 material is scraped down from the edges of the container using a spatula. Continue mixing until a streak free.

Step 4

Apply to the correctly prepared substrate using a brush or roller at 400-500 microns WFT.

Step 5

Allow to cure for minimum of 4 hours or until touch dry and then apply the 2nd coat at 400-500 microns WFT.

Quick Application Guide

Step 1

Ensure you have:
1 x base unit
1 x activator unit
1 x spatula
1 x slow speed drill and paddle

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 material is scraped down from the edges of the container using a spatula. Continue mixing until a streak free.

Step 4

Apply to the correctly prepared substrate at 400-500microns using airless spray unit, minimum pump size 60:1. Heated/insulated lines are necessary to maintain a constant 25-35°C (77-95°F) minimum temperature.

Step 5

Allow to cure for minimum of 4 hours or until touch dry and then apply the 2nd coat at 400-500 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.

Approvals

USDA compliant for incidental food contact. *Title 21, Food and Drugs, Chapter I, U.S. Code of Federal Regulations, FDA, Subchapter B – Food for Human Consumption, Section 175.300 (Resinous and Polymeric Coatings).*

Information & Enquiries

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