501 CRSG – Surface Tolerant Epoxy

A high build, epoxy coating designed for long term protection of steel and concrete structures, offering corrosion resistance and chemical protection.

- Mild chemical resistance
- High corrosion resistant for long term durability
- Ideal for bund lining and surface tolerant applications
- Cures at temperatures as low as 5°C (41°F)

2025 Product Sheet

Typical Applications

501 CRSG is a solvent free epoxy coating engineered to provide long term protection for steel and concrete structures exposed to corrosion and chemicals. Its surface-tolerant formulation allows application to mechanically prepared, hydro-blasted, or abrasive blast cleaned surfaces, curing at temperatures as low as 5°C (41°F), making it suitable for colder climates and damp conditions.

- Cold water lines
- Pipework
- Internal & external tank surfaces
- Structural steel
- Sheet & bearing piles
- Chemical intake areas
- Process equipment
- Chemical containment & bund areas
- Sumps

Characteristics

Appearance

Base	Highly structured thixotropic liquid
Activator	Amber liquid
Mixed	Thixotropic liquid

Solids Content

100%

Volume Capacity

641cc/kg

Sag Resistance

Nil at 400 microns

Density

Base	1.78
Activator	1.05
Mixed	1.56

Mixing Ratio

By weight	4:1
By volume	2.4:1

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	1 hour	10°C/50°F	8 hours	10°C/50°F	72 hours	10°C/50°F	6 days	10°C/50°F	10 days
20°C/68°F	30 mins	20°C/68°F	4 hours	20°C/68°F	36 hours	20°C/68°F	3 days	20°C/68°F	5 days
30°C/86°F	15 mins	30°C/86°F	2 hours	30°C/86°F	18 hours	30°C/86°F	36 hours	30°C/86°F	2.5 days
40°C/104°F	7.5 mins	40°C/104°F	1 hour	40°C/104°F	9 hours	40°C/104°F	18 hours	40°C/104°F	30 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.

Mechanical Properties

Abrasion Resistance

Taber CS17 Wheels/1 Kg load
138mg loss/1000 cycles
0.22cc loss/1000 cycles

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile:
194 kg/cm² (2750 psi)

Cathodic Disbandment

Tested to ISO 21809-3:2016
28 days - 1.5v - 3% NaCl

23°C (73°F)	2.3mm
65°C (149°F)	5.1mm
95°C (203°F)	7.7mm

Impact Resistance

Tested to ASTM G14 2.0 joules

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: 80

Flexural Strength

Tested to ASTM D790
522kg/cm² (7400psi)

Corrosion Resistance

Tested to ASTM B117
Minimum 5000 hours

Compressive Strength

Tested to ASTM D 695
649kg/cm² (9200psi)

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.

Quality

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

Pack Sizes

This product is available in the following pack sizes:
3.4ltrs (0.8 US gallon)
16ltrs (4.2 US gallon)

Chemical Resistance

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

Brine	40°C (104°F)
Crude Oil	40°C (104°F)
De-ionised Water	30°C (86°F)
Diesel	40°C (104°F)
Hydrochloric Acid 20%	40°C (104°F)
Naphtha	40°C (104°F)
Phosphoric Acid 30%	40°C (104°F)
Sodium Hydroxide 50%	40°C (104°F)
Sulphuric acid 20%	40°C (104°F)

Coverage

The mixed product will give the following coverage rates:
3.4ltrs (0.8 US gallon)
13.6m² at 250microns 146ft² at 10mil
16ltrs (4.2 US gallon)
64m² at 250microns 688ft² at 10mil

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.

Metallic Substrates: Mechanical abrasion

1. All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
2. All surfaces must be mechanically abraded using handheld grinders to ISO 8501/4 ST3 (SSPC SP3 ST3).
3. Once abraded, 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.

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

Metallic Substrates: Hydro-blasting

1. All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
2. All surfaces must be hydro-blasted using clean water at 12,000 psi (850bar) to NACE 5 (SSPC SP13 WJ3-WJ1).
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.

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.

   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.

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).

C. Mixing

Mix the unit in full (3.4ltrs/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 30 minutes at 20°C (68°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 250 microns (10mil) 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 250 microns (10mil) 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 250 microns (10mil) 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
(or) 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 to the required wet film thickness of 250 microns (verified using wet film thickness gauge).

Step 5

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

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.

Food Contact: 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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