

503 SPEP

A solvent free epoxy primer designed for sealing and strengthening concrete surfaces. Its penetrating formula ensures strong adhesion with Resimac topcoats and allows for easy application.

- Penetrates deeply into porous/cementitious substrates
- Ensures high mechanical adhesion with Resimac topcoats
- Cures at temperatures as low as 5°C (41°F)

2025 Product Sheet

Typical Applications

503 SPEP is a solvent free epoxy primer specifically formulated to seal and strengthen concrete and cementitious surfaces. Its thin, penetrating formula allows it to absorb deeply into porous materials, providing a solid foundation for Resimac chemical and corrosion topcoats. This primer is ideal for industrial applications where strong adhesion and long term durability are essential.

- Penetrating primer for concrete and cementitious surfaces
- Floors
- Internal & external tank surfaces
- Structural concrete

Cure times

Usable Life		Min overcoating time		Max overcoating time	
10°C/50°F	50 mins	10°C/50°F	6 hours	10°C/50°F	72 hours
20°C/68°F	25 mins	20°C/68°F	3 hours	20°C/68°F	36 hours
30°C/86°F	12.5 mins	30°C/86°F	1.5 hours	30°C/86°F	18 hours
40°C/104°F	6 mins	40°C/104°F	45 mins	40°C/104°F	9 hours

Characteristics

Appearance

Base	Pale straw liquid
Activator	Amber liquid
Mixed	Pale straw liquid

Solids Content

100%

Volume Capacity

926cc/kg

Sag Resistance

Nil at 150 microns

Density

Base	1.12
Activator	1.00
Mixed	1.08

Mixing Ratio

By weight	2.24:1
By volume	2:1

Storage Life

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

Coverage

4ltrs & 18ltrs of fully mixed product will give the following coverage rates

26.6m² at 150 microns	286ft² at 6mil
119m² at 150 microns	1280ft² at 6mil

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

Compressive Strength

Tested to ASTM D695
629kg/cm² (8945psi)

Flexural Strength

Tested to ASTM D790
371kg/cm² (5275psi)

Hardness

Shore D to ASTM D2240: 84

Heat Resistance

Suitable for use in immersed conditions at temperatures up to 60°C (140°F)
Resistant to dry heat up to 150°C (302°F) dependant on load

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile 201kg/cm² (2860psi) on rusted steel 167 kg/cm² (2375 psi)

Pull off Adhesion – Substrate cementitious ASTM D4541-17
Dry 525psi (cohesive in substrate)
37kg/cm²
Wet 475psi (cohesive in substrate)
33.4 kg/cm²

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.

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).

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:
4ltrs (1.1 US gallon)
18ltrs (4.75 US gallon)

Application Guide

A. Surface Preparation

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.

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.

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.

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.

D. Application

Step 1

Pour the mixed material into a paint kettle or paint tray (this will maximise the usable life).

Step 2

Using a 50mm (2") wide synthetic brush, stripe coat all edges, joints, corners and equipment with the mixed material. The stripe coat must be approximately 100mm (4") wide, at 150 microns (6mil) wet film thickness.

Step 3

Once the stripe coat has cured sufficiently and is capable of being overcoated, apply the mixed product to all surfaces at 150 microns (6mil) wet film thickness.

C. Mixing

Mix the complete unit of material (4ltrs/18ltrs):

- 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: Once cured the coated surface must have a semi gloss finish where there are signs of excessive porosity in the surface, the coating will have a dull finish. In such circumstances or where pinhole and weak spots are evident a second coat will be required.

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 50mm (2") wide
synthetic brush



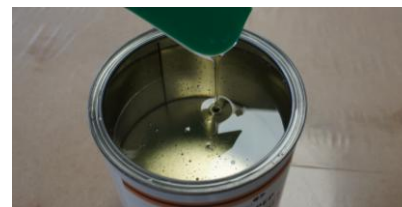
Step 2

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



Step 3

Mix thoroughly, taking to care
to ensure any unmixed 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 using a
brush or roller to the required
wet film thickness of 150
microns (verified using wet
film thickness gauge)



Step 5

Allow to cure for minimum of
3 hours. The primer should
have a uniform semi-gloss
finish, any dull patches are
caused by excessive porosity.
Any dull patches must be
overcoated with a 2nd coat
at 150 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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