resimac Ltd.

513 AREN

Solvent free, high build epoxy novolac coating reinforced with ceramic particles for abrasion and chemical resistance in high temperature immersion conditions.

- Resists high strength acids and alkalis in immersion
- High temperature chemical resistance up to 90°C (194°F)
- Reinforced with ceramic particles for abrasion protection
- Solvent free, sprayable epoxy novolac with extended working time

2025 Product Sheet

Typical Applications

513 AREN is a high build, solvent free epoxy novolac coating developed to protect steel and concrete from chemical attack and abrasive slurries at elevated temperatures. Reinforced with hardened ceramic particles, it withstands immersion in strong acids and alkalis, including sulphuric and hydrochloric acid, up to 90°C (194°F).

- Tank linings
- Process vessels
- Internal pipe surfaces
- Chemical drains and channels
- Sumps, pumps, and valves

Characteristics

Appearance

Base	Grey
Activator	Amber
Mixed	Mid grey, dark grey

Solids Content

100%

Volume Capacity

699cc/kg

Sag Resistance

Nil at 650 microns

Density

Base	1.55
Activator	1.05
Mixed	1.43

Mixing Ratio

By weight	5:1
By volume	3.5:1

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	90 mins	10°C/50°F	16 hours	10°C/50°F	48 hours	10°C/50°F	8 days	10°C/50°F	14 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	20°C/68°F	7 days
30°C/86°F	22 mins	30°C/86°F	4 hours	30°C/86°F	12 hours	30°C/86°F	3 days	30°C/86°F	5 days
40°C/104°F	11 mins	40°C/104°F	2 hours	40°C/104°F	6 hours	40°C/104°F	2 days	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
64mg loss/1000 cycles
0.08cc loss/1000 cycles

Compressive Strength
Tested to ASTM D 695
790kg/cm² (11235psi)

Corrosion Resistance
Tested to ASTM B117
Minimum 5000 hours

Flexural Strength
Tested to ASTM D790
820kg/cm² (11600psi)

Heat Resistance
Suitable for use in immersed conditions at temperatures up to 90°C (194°F) . Resistant to dry heat up to 200°C (392°F) dependent on load.

Tensile Shear Adhesion
Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile
196kg/cm² (2790psi)

Heat Distortion
Tested to ASTM D648 at 264psi fibre stress:

20°C (68°F) Cure	60°C (140°F)
100°C (212°F) Cure	98°C (208°F)
150°C (302°F) Cure	112°C (234°F)

Hardness

20°C (68°F)	86
100°C (212°F)	85
150°C (302°F)	72

Pack Sizes
This product is available in the following pack sizes:
4ltrs (1.05 US gallon)
16ltrs (4.2 US gallons)

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.

Coverage

4ltrs (1.05 US gallon) of fully mixed product will give the following coverage rates

8m² at 500 microns	85ft² at 20mil
16ltrs (4.2 US gallon)	
32m² at 500 microns	343ft² at 20mil

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)
Ethanol 100%	60°C (140°F)
Hydrocarbons with steam	90°C (194°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	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

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.

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.

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. All 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.

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.
5. 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

Step 1

Ensure you have:
1 x base unit
1 x activator unit
1 x spatula
1 x slow speed drill & paddle
1 x paint brush
(or) x 1 medium pile roller

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

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 8hrs at 20°C(68°F) 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

Information & Enquiries

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