

RESICHEM 513 AREN

Resichem 513 AREN is a high build solvent-free highly crosslinked epoxy novolac coating designed to provide outstanding abrasion, chemical and corrosion protection of steel and concrete structures at elevated temperatures.

Typical applications

Pipelines, chimneys process vessels, tanks, pumps, and valves.

Surface Preparation

1. Metallic Substrates

All oil and grease must be removed from the surface of the repair using an appropriate cleaner such as MEK.

For optimum performance, the surface should be abrasive blasted to **ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2)** and a minimum blast profile of 75 microns (3mil) using an angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material. All surfaces must be coated before gingering or oxidation occurs.

NOTE: For salt contaminated surfaces the area must be repeatedly water washed, preferably by power washing, until ingrained salts no longer come to the surface on drying. The surface should then be abrasive blast cleaned as above prior to cleaning and degreasing with MEK.

Where abrasive blast cleaning is not possible (excluding salt contaminated surfaces) the surface should be roughened by MBX, needle gun or grinding. Under these conditions adhesion levels will not be optimal although still satisfactory for many applications.

2. Concrete

Remove any contamination and lightly abrasive blast or scarify taking care not to expose the aggregate before application of Resichem 513 AREN . Allow new concrete to cure for a minimum of 21 days and likewise treat to remove any surface laitance before coating. For optimum results on damp concrete, condition with Resichem 505 Dampseal. Where the concrete is dry but highly porous, it is recommended to condition with Resichem 503 SPEP.

Mixing and Application

Warm the Base component to 15-25°C (60-77°F) before mixing and do not apply when the ambient or substrate temperature is below 8°C (46°F) or less than 3°C (5°F) above the dew point

Pour approximately half of the contents of the Activator unit into the Base container and mix carefully using a spatula. Once the two materials have been blended, add the remainder of the Activator ensuring that as much material is drained from the Activator container as possible. Mix the two components together until they are streak-free. The material, once fully mixed, has an application of time of up to 50 minutes at 20°C (68°F). This time will be extended at lower temperatures and shortened at higher ones.

Apply the mixed material onto the prepared surface by brush or applicator tool. This should be in two coats at a target thickness of 300-400 microns (12-16mil) per coat. Apply the second coat as soon as possible after the first coat is dry and not in excess of 6 hours. Where the maximum over-coating interval is exceeded, the first coat should be sweep blasted and cleaned prior to over-coating.

Where small volume mixes are required, the mixing ratio 5:1 by weight.

For plural spray application, in order to achieve atomisation when spraying, heat should be applied to both Base and Activator components as follows:

Base: 50-60°C (120°F-140°)

Activator: 35-40°C (95°F-105°F)

Dependent on the pump ratio, adjust the compressed air pressure to give a tip pressure of 4200psi at the tip. Spray using a 21-23 thou tip.

Spray apply the material in sufficient passes to achieve a minimum thickness of 600 microns (24mil) checking the film thickness regularly with a wet film thickness gauge and brushing out the test marks.

Coverage Rates

4ltrs (1.25 US gallons) of fully mixed product will give the following coverage rates –

11.44m² at 350 microns 123ft² at 14mil

16ltrs (4.2 US gallon) of fully mixed product will give the following coverage rates –

Brush or roller application 46m² at 350 microns 492ft² at 14mil

Spray application 26.6m² at 600 microns 286ft² at 24mil

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

Cure Times

At 20°C (68°F) the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:

Usable life	45-50 minutes
Movement without load or immersion	10 hours
Light loading	18 hours
Full loading/water immersion	4 days
Chemical Contact	7 days

For Optimum Performance

After an initial curing period of at least 12 hours at 20°C (68°F), raising the cure temperature progressively to 60 - 100°C (140-214°F) for up to 8 hours will result in improved mechanical, thermal and chemical resistance properties

Colour

Mixed material –Dark Grey

Base component –Dark Grey

Activator component – Amber

Over-coating times

Minimum - the applied material can be over-coated as soon as it is dimensionally stable.

Maximum - the over-coating time should not exceed 6 hours.

Where the maximum over-coating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.

Storage Life

5 years if unopened and stored in normal dry conditions (15-30°C/ 60-86°F)

Technical Data and Performance

Hardness Shore D ASTM D2240	85
Compressive Strength ASTM D695	790 kg/cm ² (11,235 psi)
Flexural Strength ASTM D790	820 kg/cm ² (11,660 psi)
Tensile Shear Adhesion(mild steel) ASTM D1002	196 kg/cm ² (2790 psi)

Please see Resichem 513 AREN Product Specification Sheet for further technical and performance data.

Health and Safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material Safety Data Sheet.

Legal Notice: The data contained within this Technical Data Sheet 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.