

RESICHEM 550 WR MEMBRANE

Resichem 550 WR Membrane is a single component water based acrylic waterproof coating. The product is a high performance waterproofing membrane with long term UV stability.

Typical applications

The product is supplied ready to use and is ideal for water proofing roofs, tank bases and fibreglass structures

Characteristics

Appearance

Single Component:

Thixotropic
acrylic
emulsion

Mixing Ratio

Single Component

Density

1.25

Solids content

60%

Sag Resistance

Nil at 750 microns

Coverage

Brush or roller applications:

The material can be applied in a range of thicknesses dependent on the application.

300 microns WFT

3.33m² per ltr

500 microns WFT

2m² per ltr

750 microns WFT

1.33m² per ltr

Cure Times

The applied material should be allowed to harden for the times indicated below before being subjected to the conditions indicated:

Touch Dry

10°C	2-4 hours
20°C	1-2 hours
30°C	30-60 minutes
40°C	15-30 minutes

Minimum overcoating time

10°C	6-8 hours
20°C	3-4 hours
30°C	1.5-2 hours
40°C	45-60 minutes

Maximum overcoating time

Indefinite

Storage life

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

Mechanical Properties

Elongation

Tested to ASTM D412
160%

Tensile Strength

Tested to ASTM D412
42kg/cm² (600psi)

Direct Pull Adhesion

Tested to ASTM D4541
28kg/cm² (400psi)

Water

Permeability

Tested to ASTM D1653
2 x 10⁴ perm.cm

Vapour

Heat Resistance

Resistant to dry heat up to 120°C dependent on load.

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 the Technical Data Sheet for the material.

Health and 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 the detailed Material Safety Data Sheet

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.

RESICHEM 550 WR Membrane – water based acrylic roof coating

Resichem 550 WR Membrane is a single component water based acrylic waterproof coating. The product is supplied ready to use and is ideal for water proofing roofs and fibreglass structures. The product has been developed using a complex range of acrylic resins, fillers and polymers which combine to provide a high performance waterproofing membrane with long term UV stability.

- UV stable membrane for roofs and GRP structures
- Seamless & flexible waterproofing system
- Single component

Typical applications

Suitable for emergency repairs or part of planned maintenance to equipment such as -
Roofs fibreglass structures

Surface Preparation

Resichem WR membrane is ready for use on flat roofs, pitched roofs, weathered asphalt, bituminous surfaces, concrete, brickwork, fibreglass, felt, metal, plywood and wooden substrates.

All surfaces have to be cleaned appropriately and must be free from mould, moss, algae, dust and debris. The surface of the roof must be pressure washed at a minimum 2000psi. The roof surface must be dried off using squeegees or allowed to dry overnight.

1. **Concrete and porous surfaces**

All surfaces must be primed using RESICHEM 503 SPEP a low viscosity epoxy primer applied at a wet film thickness of 150 microns (6mil).

2. **Plywood and wooden surfaces**

All surfaces must be primed using RESICHEM 503 SPEP a low viscosity epoxy primer applied at a wet film thickness of 150 microns (6mil).

3. **Bituminous or asphalt surfaces**

All surfaces must be primed using RESICHEM 559 BP Primer a low viscosity solvent based acrylic primer applied at a wet film thickness of 100 microns (4mil).

4. **Mineral Felt surfaces**

All surfaces must be primed using RESICHEM 559 BP Primer a low viscosity solvent based acrylic primer applied at a wet film thickness of 100 microns (4mil).

5. **Metal surfaces**

All surfaces must be primed using RESICHEM 506 Aluprime a low viscosity solvent based epoxy primer applied at a wet film thickness of 150 microns (6mil) .

Mixing

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.

Once these 3 checks have been met, please proceed with mixing the product.

1. 550 WR Membrane is a single component material.
2. Agitate the product using an electric paddle mixer to ensure you have a consistent mix of acrylic emulsion.

Application

Brush or roller applications

1. Apply the 1st coat of material using a medium pile roller at a wet film thickness of 500 microns (20mil).
2. Allow the coating to cure for a minimum 3-4 hours at 20°C.
3. Apply the 2nd coat of material using medium pile roller at a wet film thickness of 500 microns (20mil).

Reinforcement of 550 WR Membrane,

If required a 100gm glass fibre chop strand mat can be embedded into the first coat of material, please contact the Resimac Technical Department on info@resimac.co.uk or call +44 (0) 1845 577498 to receive a full system recommendation.

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Coverage Rates

20ltrs (5.3 US gallon) of fully mixed product will give the following coverage rates –
40m² at 500 microns 429ft² at 20mil

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

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:

Touch Dry	1-2 hours
Minimum overcoating time	3-4 hours
Maximum overcoating time	Indefinite

Pack Sizes

This product is available in the following pack sizes –
20ltrs (5.3 US Gallon).

Colour

Single component – White or Light grey

Over-coating times

Minimum - approximately 3-4 hours at (20°C (68°F)).
Maximum – indefinite

Storage Life

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

Other Technical Documents

Safety Data Sheets	-	Single component material
Product Specification Sheet	-	Technical Performance Information

Health and Safety

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

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RESICHEM 550 WR Membrane – water based acrylic tank base coating

Resichem 550 WR Membrane is a single component water based acrylic waterproof coating. The product is supplied ready to use and has been designed to seal tank bases from moisture ingress and further corrosion. The product has been developed using a complex range of acrylic resins, fillers and polymers which combine to provide a high performance waterproofing membrane with long term UV stability.

- UV stable membrane
- Seamless & flexible waterproofing system
- Single component

Typical applications

This product has been designed to be used as part of the Resimac Tank Base Sealing system.

Surface Preparation

1. For the best results all steel surfaces should be abrasive blast cleaned to SA2.5 with a 75 micron (3mil) profile.
2. Concrete surfaces must be lightly abrasive blast cleaned with care taken to not expose the aggregate.
3. If abrasive blast cleaning is not possible the minimum surface preparation allowable is mechanical abrasion using an MBX Bristle Blaster to **ISO 8501/4 ST3 (SSPC SP3 ST3)**.

Once all surfaces have been mechanically abraded or abrasive blast cleaned all dust and debris must be cleaned from the coating surface.

1. All surfaces (steel & concrete) must be primed using Resichem 506 Aluprime applied at a wet film thickness of 150 microns (6mil).
2. The surface must be left to cure for a minimum 6 hours (20°C) before applying 550 WR Membrane.

Mixing

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.

Once these 2 checks have been met, please proceed with mixing the product.

1. 550 WR Membrane is a single component material.
2. Agitate the product using an electric paddle mixer to ensure you have a consistent mix of acrylic emulsion.

Application

Brush or roller applications

1. Apply the 1st coat of material using a medium pile roller at a wet film thickness of 750 microns (30mil).
2. While the resin is still wet embed 806 Flextech Reinforcement mesh into the surface, then back roll the surface to embed the fabric.
3. Allow the coated surface to cure for a minimum of 3-4 hours (20°C).
4. Apply the 2nd coat of material using medium pile roller at a wet film thickness of 300-500 microns (12-20mil).

Please contact the Resimac Technical Department on info@resimac.co.uk or call +44 (0) 1845 577498 to receive a full system recommendation.

Coverage Rates

20ltrs (5.3 US gallon) of fully mixed product will give the following coverage rates –

26.6m ² at 750 microns	285ft ² at 30mil
40m ² at 500 microns	430ft ² at 20mil

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

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:

Touch Dry	1-2 hours
Minimum overcoating time	3-4 hours
Maximum overcoating time	Indefinite

Pack Sizes

This product is available in the following pack sizes – 20ltrs (5.3 US Gallon).

Colour

Single component – White or Light grey

Over-coating times

Minimum - approximately 3-4 hours at 20°C (68°F).

Maximum – indefinite

Storage Life

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

Other Technical Documents

Safety Data Sheets	-	Single component material
Product Specification Sheet	-	Technical Performance Information

Health and Safety

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

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Resichem 550 WR Membrane

Resichem 550 WR Membrane is a water based acrylic membrane designed to give long term flexible waterproof protection to roofs, gutters, tank bases, tank roofs and GRP structures. The coating can be applied to a wide range of surfaces including mineral felt, concrete, GRP, metal and cement based sheeting. Once cured it will give a seamless, UV stable, flexible finish to any roof surface.

Features of the product include

High build capability in a single coat
Excellent flexibility and elongation
Versatile application, brush, roller or spray

Benefits to the user include –

Cost effective solution
Long term waterproofing protection
10-15 years protection on roof surfaces

Typical Applications include –

Wide range of roof surfaces, gutters, tank bases, tank roofs, GRP Structures



3000m² flat concrete roof coated with 2 x coats of 550 WR Membrane



Tank base primed with 506 Aluprime and coated with 550 WR Membrane and Flextech reinforcement sheet



2000m² corrugated metal roof coated with 2 x coats of 550 WR Membrane





Tank Base Sealing— flexible membrane system

Introduction to Tank Base Sealing

Corrosion at the base of storage tanks is a common problem within all industries. As a result of rain or condensation, moisture can accumulate at the base of the tank leading to corrosion pitting, loss of wall thickness, leakage or ultimate tank failure. The cost of remedial work to overcome tank damage can be extremely high and the environmental impact of leakage can have even more serious consequences.

The Resimac Tank Base Sealing system is a cost effective and convenient way of mitigating against such problems. This involves the use of a flexible and UV resistant polymer composite to encapsulate and waterproof the circumference of the tank base whilst allowing any residual moisture under the tank to permeate through the polymer's micro-porous structure. The system is durable and tough, and combined with its high adhesion values will ensure long term asset protection.

Key Markets for this material—

Oil & Gas

Power

Chemical

Petrochemical



Surface Preparation for Tank Base Sealing System

All surfaces should be clean, dry and free from surface contaminants including, oil, chemicals and rust.

Surface preparation on the metallic tank base surface must be carried out by abrasive blast cleaning to a surface cleanliness standard of SA2.5, using angled grit or if this is not possible by using handheld mechanical grinders with coarse pads to a surface cleanliness standard of ST3.

Once the surface has been cleaned and washed down with an appropriate solvent such as MEK, any corrosion pitting must be filled. For small patches of corrosion use 101 Metal Repair Paste or for larger areas use 302 Epoxy Repair Cement.

Surface preparation on the concrete plinth can be carried out using handheld mechanical grinders, all loose material or deteriorated paint surfaces must be removed. Any moss or lichen on the concrete base should be treated with a proprietary fungicidal wash according to the manufacturer's instructions.

Any gaps between the tank and the concrete base should first be filled and sealed using expanding foam or backer rod. Mask the area to be treated around the circumference of the base of the tank and the circumference of the concrete plinth. The area to be treated will be typically 500-600mm, 300mm up the vertical tank wall surface and 300mm on the concrete plinth.

Application

Prime all surfaces with Resichem 506 Aluprime, apply the primer using a brush or medium pile roller at 100-150 microns wet film thickness. Once the primer coat of 506 Aluprime has cured apply a layer of 75 mm wide duct tape to act as a bond breaker over the joint between the tank and the concrete plinth.

Apply Resichem 550 WR Membrane to all primed surfaces using a medium pile roller at 750-1000microns wet film thickness. While the coating is still wet embed 806 reinforcement mesh into the surface of the coating. Force the sheet into the contours and carefully brush out any creases to give a smooth finish. Where the sheet is being joined allow a 25mm overlap.

Remove the masking tape while the coating is still wet and allow to dry/cure. Replace the masking tape and apply a second coat of the same 550 WR Membrane to encapsulate the tank base sealing system, ensure that the profile of the reinforcing sheet is completely covered.

Resimac Laboratory Testing

Elongation	ASTM D412	160%
Tensile Strength	ASTM D412	42kg/ cm ² (600psi)
Direct Pull Adhesion	ASTM 4541	28kg/ cm ² (400psi)
Corrosion Resistance	ASTM B117	Minimum 5000hrs
Water Vapour Permeability	ASTM E96-95	1 x 10 ⁴ perm.cm
Tear Strength	ASTM D624	Reinforced 17.3kg/cm ²
Ozone Resistance	ASTM D1149	160hrs/ 110ppm No Cracking

Resimac System

Surface Preparation	Mechanical SSPC-SP-13 ASTM D4258 Abrade with coarse discs	Abrasive Clean SSPC-SP-13 ASTM D4258 Angled grit
Design Life	Mechanical up to 10 years	Abrasive Clean 10-15 years

Surface Preparation

Ideal surface preparation for this type of application is abrasive blast cleaning.

However mechanical abrasion using handheld grinders is suitable.

The design life of the system will be affected by the level of surface preparation performed



Surface rebuilding & filling

Steel surfaces must be filled using 101 metal repair paste or for larger areas 302 Epoxy Repair Cement

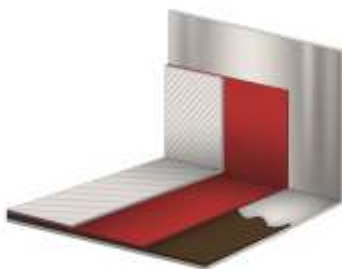
Concrete surfaces must be filled using 570 Concrete Patch Repair XF



Priming

Both steel and concrete surfaces must be primed using Resichem 506 Aluprime

Depending on the porosity of the concrete 2 coats of Resichem 506 Aluprime may be required

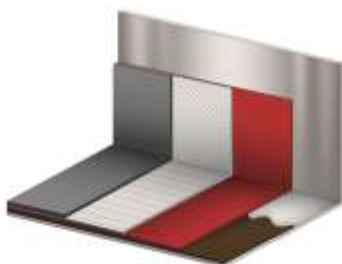


Embedment Coat

Once the primer layer has cured apply by brush or roller Resichem 550 WR membrane at a wet film thickness of 750-1000 microns

While the resin is still wet embed polyester mesh into the resin surface

Leave to cure for 2-3 hours



Encapsulation Coat

Once the embedment coat layer has cured apply by brush or roller Resichem 550 WR membrane at a wet film thickness of 400-500 microns

Leave to cure for 4-6 hours

Global Projects

Oil Refinery — Taiwan



PROJECT

Taiwanese oil refinery identified corrosion issues at the base of 13 tanks on their site



Reason for Choosing Resimac

The Resimac Contractor proposed using the Resimac tank base sealing system

The system once cured will stop any further ingress of moisture while allowing the coated surfaces to breath

Application Details

Steel and concrete surfaces were abraded using handheld mechanical grinders

All surfaces were primed with Resichem 506 Aluprime applied in 2 x coats

A coat of 550 WR Membrane was applied at 750 –1000 microns WFT and then 806 Reinforcement mesh was embedded into the surface

Once the system had cured a final coat of 550 WR Membrane was applied to the repair surface



Product Description

	<p>Metal surface rebuilding & filling</p> <p>101 Metal Repair Paste—This material can be used for smaller surface areas and defects. The product is a 2 component high build epoxy repair paste that can fill corrosion pitting and defects up to 25mm in depth</p> <p>302 Epoxy Repair Cement—is a lower viscosity solvent free epoxy repair paste ideal for larger surface areas and should be applied by trowel at thicknesses up to 20mm</p>
	<p>Concrete surface rebuilding & filling</p> <p>570 Concrete Patch Repair XF —is a 3 component epoxy repair screed designed for rapid repairs to concrete surfaces.</p> <p>The product can be applied at thicknesses up to 80mm and will be hard dry within 2 hours (20°C).</p>
	<p>Priming of Steel and concrete surfaces</p> <p>Resichem 506 Aluprime —is a 2 component solvent based epoxy coating that has been designed to be applied to mechanically prepared surfaces.</p> <p>The mixed product is applied by brush or medium pile roller at wet film thicknesses of 100-150 microns</p>
	<p>Embedment and encapsulation coat</p> <p>Resichem 550 WR Membrane —is a single component water based acrylic membrane. It can be applied by brush or roller to primed steel and concrete surfaces.</p> <p>Once cured the coating gives a tough and flexible finish to tank bases eradicating any further moisture ingress</p>
	<p>Reinforcement mesh</p> <p>806 Reinforcement mesh —is a polyester technical fabric which gives excellent flexural and tensile strength to 550 WR Membrane when used in an embedment system</p>

Product Curing Times

	10 °C			20 °C			30 °C			40 °C		
	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry
101	60mins	4hrs	16hrs	30mins	2hrs	8hrs	15mins	1hrs	4hrs	7.5mins	30mins	2hrs
302	1hrs	4hrs	48hrs	30mins	2hrs	24hrs	15mins	1hrs	12hrs	7.5mins	30mins	6hrs
506	4hrs	16hrs	48hrs	2hrs	8hrs	24hrs	1hr	4hrs	12hrs	30mins	4hrs	12hrs
550	N/A	4hrs	8hrs	Single Comp	2hrs	4hrs	N/A	1hrs	2hrs	N/A	30mins	2hrs
570	40mins	2hrs	4hrs	20mins	1hrs	2hrs	10mins	30mins	1hrs	5mins	15mins	1hrs

Resimac Technical Support and Expertise



Formed in 2009 and based in the North of England, Resimac manufactures a wide range of solvent free epoxy and polyurethane coatings and engineering materials for the Marine, Chemical, Water, Power, Oil and Gas Industries.



We are able to offer expert technical advice onsite or online 24 hours a day, 7 days a week in over 45 countries worldwide.



Contact us direct by email, telephone or by visiting our website.

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With over 50 contractors worldwide we are able to offer fast and effective solutions in many of the worlds major industrial areas.

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CUI Prevention

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HVAC Repair & Linings

Pipe Repair & Pipe Wrapping

Plate bonding

Pump & Process System Repairs

Roof & Gutters

Rudders & Bow Thrusters

Tank Base Sealing

Transformer Repairs

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