RESICHEM 512 UCEN 90

Resichem 512 UCEN 90 is a high build solvent-free high functionality epoxy novolac coating designed to provide outstanding chemical and corrosion protection of steel and concrete structures at elevated temperatures.

Typical applications

Chimneys, chemical containment and bund areas, tanks, pumps, chemical drains and channels and pipework.

Characteristics

Appearance

Base:	Red/Grey Paste
Activator:	Amber liquid
Mixed:	Red/Grey thixotropic liquid

Mixing Ratio

By weight:	5.34:1
By volume:	4:1

Density

Base:	1.40
Activator:	1.05
Mixed:	1.34

Solids content

100%

Sag Resistance

Nil at 500 microns

Useable Life

12°C	50 minutes
20°C	30 minutes
30°C	15 minutes

Coverage

Apply the mixed material onto the prepared surface by brush or roller. This should be in two coats at a target thickness of 250 microns per coat using a practical coverage rate of 3.5 sq metres per litre per coat. On rough concrete surfaces the coverage rate of the first layer in particular will be significantly reduced.

For spray application use sufficient passes to achieve a minimum thickness of 500 microns, checking the film thickness regularly with a wet film thickness gauge and brushing out the test marks. As a guide, 1 litre of material should be sufficient to cover 1.6 sq metres allowing for wastage.

Cure Times

At 20**°C** 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:

Movement without load or immersion	6 hours
Light loading	12 hours
Full loading/water immersion	4 days
Chemical Contact	7 days

NOTE:
Resichem 512 UCEN 90 has been formulated to optimise resistance to mineral acids up to 90°C immersion temperature. Exposure to mineral acids will result in the formation of a black protective lacquer. In addition, after an initial curing period of at least 12 hours at 20°C, raising the cure temperature progressively to 60 - 80°C for up to 8 hours will result in improved mechanical, thermal and chemical resistance properties.

Storage life

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

Mechanical Properties

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile

188 kg/cm² (2650 psi)

Compressive strength

Tested to ASTM D 695
592kg/cm² (8,400 psi)

Corrosion Resistance

Tested to ASTM B117

> 1000 hours

Flexural Strength

Tested to ASTM D790
480 kg/cm² (6,800 psi)

Hardness

Shore D to ASTM D2240

20°C	86
100°C	84
150°C	72

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Heat Distortion

Tested to ASTM D648 at 264psi fibre stress.

20°C Cure	62°C
100°C Cure	98°C
150°C Cure	112°C

Heat Resistance

Suitable for use in immersed conditions at temperatures up to 90°C dependant on chemical contact and dry conditions up to 170°C dependant on service.

Chemical Resistance

Resichem 512 UCEN 90 (postcured) offers excellent resistance to the following chemicals when tested at the temperatures indicated:

98% Sulphuric Acid	75°C
75% Sulphuric Acid	90°C
50% Sulphuric Acid	90°C
25% Sulphuric Acid	90°C
36% Hydrochloric Acid	50°C
10% Hydrochloric Acid	50°C
40% Phosphoric Acid	60°C
20% Phosphoric Acid	60°C
5% Nitric Acid	50°C
40% Sodium hydroxide	90°C
20% Sodium Chloride	90°C

In addition the product offers excellent resistance to the following chemicals when tested at 20°C:

Ammonium hydroxide	30%
Butanol	100%
Benzene	100%
Cyclohexane	100%
Diethanolamine	100%
Ethanol	100%
Ethylene glycol	100%
Hexane	100%
Hexanol	100%
Methyl diethanolamine	100%
Propylene glycol	100%
Octane	100%
Xylene	100%

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.

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