UNICOAT SS

SODIUM SILICATE CHEMICAL CONCRETE HARDENER



Product Features

UNICOAT SS is an advanced water-based sodium silicate solution engineered to soak deep into the capillary pores of concrete structures. Once applied, it triggers a chemical reaction with free lime and active compounds inside the concrete matrix, creating a permanent, insoluble crystalline structure that hardens and densifies the substrate from within. This internal crystallization seals microscopic pores, increases surface wear resistance, and eliminates dusting from loose particles on fragile or porous concrete.

Unlike topical sealers that leave a film on top, **UNICOAT SS** works entirely below the surface. It preserves the concrete's original natural look and texture while delivering a dust-proof, abrasion-resistant, and low-maintenance finish built for heavy daily use and vehicular traffic.

Advantages

- **Harder surface:** hardens the concrete and raises its compressive strength
- **Less dust:** greatly reduces dusting on the finished surface
- **Longer life:** better resistance to abrasion and wear
- **Safe to handle:** non-toxic, but alkaline (see handling precautions)

Fields of Application

Concrete Floors	Concrete roads & Pavements
Walls & Slabs	Concrete pipes
Bridges	Basement walls

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Physical Properties

Material	:	Sodium Silicate
Appearance	:	Clear To Cloudy Liquid
Specific Gravity	:	Approx 1.4 g/ml
Typical Coverage	:	840 m² / 28 kg of **UNICOAT SS** diluted with 56 kg of water
Packaging	:	28kg pail & 300kg drum
Shelf Life	:	24 months in an unopened container
Storage Conditions	:	Store in a cool, dry area. Protect from frost, direct sunlight, and excessive heat

Technical Properties

	Compressive Strength of mortar, N/mm²	
Curing Age (Days)	Untreated with UNICOAT SS	Treated with UNICOAT SS
32	29.3	34.4
64	34.5	39.1
108	35.0	42.5
225	43.0	54.5

- Comparison data of compressive strength of 1:3 mortar cube with and without treated with **UNICOAT SS** using rebound hammer.

	Weight Loss / g	
No. of Cycle	Untreated with UNICOAT SS	Treated with UNICOAT SS
500	3.89	1.46
1000	8.35	2.82
1500	13.43	3.90
2000	17.47	5.16

- Comparison data of abrasion resistant of 1:3 mortar cube with and without treated with UNICOAT SS after 500 days ageing using wheel H-22 @ 1kg load.

This technical data sheet is given in good faith and does not guarantee the application work.
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Mixing & Coverage

UNICOAT SS must be diluted with water at a ratio of 28 kg of **UNICOAT SS** to 56 kg of water. This mixture gives a total coverage of 840 m². Ensure that the mix is homogeneous prior to application.

Actual coverage depends on the profile and porosity of the concrete surface.

Health & Safety

Although **UNICOAT** SS is a non-toxic liquid, its alkaline nature requires wearing protective clothing, gloves, goggles, and safety boots during handling and application.

Avoid skin and eye contact. In case of contact, immediately rinse the affected area with clean water and seek medical advice.

Apply to old concrete, or to new concrete that has cured for at least 14 days. Do not use on natural stone. Avoid contact with wood, glass or metal surfaces, as the hardener may cause discolouration.

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Installation Procedures

1 Surface Preparation | 2 Mixing & Stir | 3 Application

Installation Procedures

Step 1

SURFACE PREPARATION

Substrates intended for treatment with **UNICOAT SS** must have undergone at least 14 days of curing. It is essential that all surfaces are completely free of grease, wax, oil, paint, dust, and any loose adhering materials prior to starting the process. While the product can be used on damp surfaces, you must ensure there is no standing water present before the application begins.

Additionally, any surrounding wood, glass, or metal surfaces should be protected with tape or covering sheets to prevent potential discolouration caused by accidental contact with the hardener.

Step 2

MIXING & STIR

UNICOAT SS must be diluted with water at a ratio of 28 kg of **UNICOAT SS** to 56 kg of water. This mixture gives a total coverage of 840 m². Ensure that the mix is homogeneous prior to application.

It should be noted that the actual consumption rate may vary depending on the specific profile and surface porosity of the concrete substrate being treated.

Step 3

APPLICATION

UNICOAT SS is a versatile treatment that can be applied using a spray, roller, broom, or other similar equipment. For proper results, a minimum of two coats should be applied using the recommended dilution ratio. After the first coat is laid down, it must be allowed to dry for a period of at least 2 hours.

Once the final application is complete, the treated area must remain undisturbed and should not be stepped on until it is fully dry, which typically requires at least 24 hours. Any tools used during the procedure can be easily cleaned with water.

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