

# Sethard S100

Liquid surface hardener, dust proofer and curing aid for concrete surfaces



## DESCRIPTION

Sethard S100 is a liquid surface hardener, dust proofer and curing aid designed for application to concrete, mortar, plaster, terrazzo, and other cementitious floors. Sethard S100 is based on water-based sodium silicate treatment which penetrates deep in the surface resulting in the densification of the concrete.

Sethard S100 reacts chemically with the concrete to produce clear, dense, durable and abrasion-resistant surfaces.

Sethard S100 penetrates the concrete surface neutralizing the alkalis and driving them to the surface to be washed away during application and stopping the efflorescence and lime or alkalis leach.

## APPLICATIONS

Sethard S100 is recommended for new and old cementitious surfaces, such as concrete floors and granolithic paving. It should not be used to renovate concrete which is already disintegrating.

Typical applications include

- » Factories.
- » Warehouses.
- » Garages.
- » Cold stores.
- » Food processing plants.
- » Industrial Plants.
- » Shopping Malls.
- » Parking lots and driveways.

## ADVANTAGES

- » Densification of the concrete surface, as it penetrates deep and reacts to form crystals that fill the pores of the concrete.
- » Significantly improves the abrasion resistance and hardness of the concrete surface.
- » Contributes to the enhancement of the compressive strength of concrete at all ages.
- » Increases water retention, which aids in the curing process of concrete.
- » Provides a clear finish that does not affect the natural look of the original masonry or concrete surface.
- » Ensures proper bonding of subsequent coatings to the concrete surface since it eliminates surface concrete salts.
- » Enhances the ease of cleaning and removing oils, greases and other surface contaminants.
- » Controls hairline cracks in new concrete.

## TECHNICAL PROPERTIES:

Colour:	Clear liquid
Specific gravity:	1.20 ± 0.05
Solids by weight:	25 ± 1%
Abrasion resistance: (1000 g, 250 cycle) ASTM D4060, H22 wheel:	> 63% enhancement compared to untreated concrete
Compressive Strength: ASTM C39	> 20% enhancement compared to untreated concrete
Water retention: ASTM C156	> 30% enhancement compared to untreated concrete
UV resistance, 50 hr exposure	No changes observed
VOC:	< 10 g/ltr (comply with LEED)

- » Equipment can be cleaned with water only; thinners are not required.
- » Compatible with most types of coatings since it is silicone free.
- » Acts as a dust proofer, as it reacts with the salts in the concrete surfaces preventing the release of concrete dust through the pores on the surface.
- » Nontoxic, noncombustible and nonflammable.
- » Complies with LEED requirements for VOC.

## METHOD OF USE

### SUBSTRATE PREPARATION

The substrate must be clean, dry, structurally sound, dense and free from oil, grease, dust and other contaminants. A clean surface will ensure maximum penetration of Sethard S100 into the concrete surface.

Surfaces contaminated by oil or grease should be treated with suitable chemical de-greaser then washed with clean water.

Areas deeply contaminated by oils or grease, should be treated by hot compressed air. All contamination and laitance must be removed before Sethard S100 application to allow for effective penetration.



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## New Concrete Surfaces

Sethard S100 may be applied on newly laid concrete immediately after final trowelling, when the surface is firm enough to walk on and before temperature cracking begins using a low-pressure sprayer.

Apply one coat of Sethard S100 at the rate of 4 - 7 m<sup>2</sup>/ litres without producing puddles. If surfaces dry immediately, apply more materials as the surfaces should remain wet for 30 - 40 minutes, working it in the concrete surface with a soft bristle broom.

## Old Concrete Surfaces

Sethard S100 can be applied to cured concrete of any age. Apply one coat of Sethard S100 using a lowpressure sprayer. Use soft bristle broom to evenly spread Sethard S100 and ensure uniform wetting. If surfaces dry immediately, apply more materials as the surfaces should remain wet for 30 – 40 minutes.

## Notes:

- » *An additional coat of Sethard S100 may be required for highly porous or soft concrete.*
- » *Ensure to keep the surface wet with Sethard S100 for a minimum of 30 minutes.*
- » *6 – 12 months after treatment, a natural wax-like sheen caused by the hardening and sealing effects of Sethard S100 will appear on smooth steel troweled concrete surfaces and will last the lifetime of the surface.*

## REMARKS

- » Coverage may vary with the application method, surface conditions, and porosity.
- » Sethard S100 is not a surface retarder. Do not apply during the final trowelling operations as discolouration may occur.
- » Sethard S100's minimum application temperature is 5°C and the maximum is 50°C.
- » Do not apply Sethard S100 over areas previously treated with curing or sealing agents before cleaning them mechanically.
- » Where the natural appearance of the surface is to be preserved, all treated surfaces must be flushed with clean water to clean all alkali, lime and other impurities that are forced to the surface.
- » Do not use Sethard S100 for lightweight blocks or extremely porous masonry that contains actual air voids or holes.
- » Dusting or erosion problems caused by over troweling, carbonation or insufficient water cement ratio cannot be solved using the regular Sethard S100 coverage rates. However, in some cases additional coverage rates may solve the problem.

- » Do not use airless sprayers for application, only low pressure sprayers can be used.
- » Application of Sethard S100 does not prevent significant salt migration in case of excessive moisture and extreme hydrostatic pressure from beneath the slab.
- » The formation and enhancement of the sheen can be accelerated by burnishing after curing as well as by the abrasion from routine cleaning using a floor scrubber with abrasive type brushes and use of the floor.
- » Concrete mixes containing chloride may cause heavy salt deposits on the surface and produce unpredictable effects on the concrete colour.

## MAINTENANCE

Scrub the floor on a regular basis. The abrasion polishes the floor and gives it a glossy sheen. The densification process will be accelerated if there is plenty of water and regular detergent scrubbing.

To clean the floor, use a detergent with a pH of 8.5 – 10.5 that is free of acids, sulfates, and hydroxides. The appearance of the surface will be dulled if you use an acidic cleanser or sweeping agents.

Clean up spills as soon as possible. If left in touch with the floor, very concentrated acid can etch the surface. If coloured foods like mustard and grape juice aren't removed immediately, they can leave a stain.

Keep a good oil emulsifier on hand to clean oil, grease, or fats. It is not necessary or suggested to wax or coat with other products.

## OVERCOATING

Surfaces treated with Sethard S100 may be overcoated provided that proper surface preparation and cleaning is carried out. For specific cases, contact DCP Technical Department for advice.

It is recommended to perform site trials to confirm that the desired properties are achieved.

## CLEANING

Tools and equipment can be cleaned with clean cold water.

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## **PACKAGING**

Sethard S100 is available in 25 litre jerrycan and 200 litre drums.

## **COVERAGE**

The coverage is 4 - 7 m<sup>2</sup>/ litre per coat. Where two coats are required to ensure maximum densification; the second coat should be applied after 2 - 3 hours of applying the first coat.

## **STORAGE**

Store in a dry area out of direct sunlight at temperatures between 5°C and 35°C.

## **SHELF LIFE**

Sethard S100 has a shelf life of 12 months from date of manufacture if stored in proper conditions and unopened packs.

If these conditions are exceeded, contact DCP Technical Department for advice.

## **CAUTIONS**

### **HEALTH AND SAFETY**

Sethard S100 should not come in contact with skin and eyes, however, any accidental splashes to the eyes must be rinsed with clean water and seek medical advice. Suitable protective gloves and goggles should be worn.

For further information, refer to the Material Safety Data Sheet.

## **FIRE**

Sethard S100 is nonflammable.



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- » Protective coatings.
- » Sealants.
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- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.



**Note:**

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