BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor® CureHard-24

Sodium silicate liquid surface hardener and dust proofer for concrete

DESCRIPTION

Sikafloor® CureHard-24 is a high volume solids, one-part, clear, sodium silicate-based liquid used to harden and densify fresh or hardened concrete.

USES

Sikafloor® CureHard-24 may only be used by experienced professionals.

Sikafloor® CureHard-24 is used for:
- Hardening and densifying concrete surfaces where a hard surface with light to moderate abrasion resistance is required
- Dust-proofing prefabricated concrete elements

Sikafloor® CureHard-24 is used on the following substrates:
- Horizontal old or new concrete surfaces
- Prefabricated concrete elements

Sikafloor® CureHard-24 is used for the following areas:
- Industrial buildings
- Commercial and public buildings

Sikafloor® CureHard-24 is used for interior and exterior applications.

FEATURES

- Treated concrete has reduced dust emissions when compared to the same concrete untreated
- Treated concrete has increased abrasion resistence when compared to the same concrete untreated
- Seals concrete surfaces
- Very good yellowing resistance
- One-part ready to use
- Easy to apply
- High gloss with regular cleaning
- Odourless

SUSTAINABILITY

- Contributes towards satisfying Materials and Resources (MR) Credit: Building Product Disclosure and Optimization — Material Ingredients under LEED® v4 — 1 point
- Environmental Product Declaration (EPD) in accordance with EN 15804. EPD independently verified by Institut für Bauen und Umwelt e.V. (IBU)

CERTIFICATES AND TEST REPORTS

- CE marking and declaration of performance based on EN 1504-2:2004 Products and systems for the protection and repair of concrete structures — Surface protection systems for concrete — Impregnation

PRODUCT INFORMATION

Composition	Sodium silicate water dilution
Packaging	5 and 20L containers 200L drum 1,000L tanker
Appearance and colour	Clear liquid
Shelf life	24 months from date of production

Storage conditions	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +40 °C. Always refer to the packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.	
Density	1.22 ± 0.03 kg/L (at +20 °C)	(EN ISO 2811-1)
Solid content by mass	24 %	

TECHNICAL INFORMATION

Abrasion resistance	Abrasion tests conducted on samples of C(0.70) concrete according to EN 1766:2000.		
	Sample treated with Sikafloor® CureHard-24	1350 mg (H22 / 1000 g / 1000 cycles)	(EN ISO 5470-1)
	Untreated sample	270 mg (H22 / 1000 g / 1000 cycles)	
	81.5 % increase in abrasion resistance compared to untreated sample.		
Resistance to impact	60 Nm (class III: ≥ 20 Nm) Applied to a sample MC(0.40) concrete according to EN 1766:2000		(EN ISO 6272-1)
Tensile adhesion strength	4.8 N/mm²		(EN 1542)
	Applied to a sample MC(0.70) concrete according to EN 1766:2000		
Penetration depth	5.5 mm Applied to a sample MC(0.70) concrete according to EN 1766:2000		(EN 1504-2)
Water absorption	$w = 0.03\ kg \cdot m^{-2} \cdot h^{-0.5}$ (on a substrate $w > 1\ kg \cdot m^{-2} \cdot h^{-0.5}$)		(EN 1062-3)

APPLICATION INFORMATION

Consumption	0.15–0.25 L/m² per coat (4–7 m²/L per coat) on power trowelled concrete Note: Consumption data is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply the Product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.	
Material temperature	Maximum	+35 °C
	Maximum	+5 °C
Ambient air temperature	Maximum	+35 °C
	Minimum	+5 °C
Relative air humidity	Maximum	100 %
Substrate temperature	Maximum	+35 °C
	Minimum	+5 °C
Waiting time to overcoating	+5 °C and 50 % r.h.	3.5 hours
	+10 °C and 50 % r.h.	3 hours
	+20 °C and 50 % r.h.	2 hours
	+30 °C and 50 % r.h.	1.5 hours
	Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.	

Applied product ready for use

Temperature	Full cure
+10 °C	6 hours
+20 °C	5 hours
+30 °C	4 hours

Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.

Drying time

Touch-dry, at +20 °C	2 hours
Maximum sealing and hardening, at +20 °C	7 days

Strength development and the curing period are dependant on the following factors:
- Concrete composition
- Fresh concrete temperature
- Ambient conditions
- Concrete dimensions

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

Surface permeability development
Note: The chemical reaction between the Product and the concrete causes the rate of surface permeability to decrease gradually.
Treated substrate performance enhancement
Note: Performance enhancement of the treated substrate will vary greatly depending on the age, cement content, humidity content, porosity and penetration of the Product.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Unsuitable substrate conditions for application
Note: The Product will not compensate for poor substrates with low cement content.
Note: It is not intended for substrates which are lightweight, extremely porous, or have worn surfaces with exposed aggregates.
Note: It will not hide serious staining or excessive wear.

FRESH CONCRETE ≥ 7 DAYS
The fresh concrete curing period must be long enough for the surface to achieve structural strength and impermeability sufficient to provide the required concrete durability and corrosion protection of the steel reinforcement.
HARDENED OR OLD CONCRETE
Cementitious substrates must be structurally sound, clean, dry and free of contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.
If in doubt apply a test area first.

SUBSTRATE PREPARATION

IMPORTANT
Poor penetration and adhesion due to existing surface treatments
Concrete surfaces with existing applications of curing agents, membrane-forming sealers, or asphalt will affect the Product's penetration depth and performance.
1. Completely remove any existing surface treatments from the concrete prior to application.

FRESH CONCRETE
1. Finish the concrete using power floating, manual floating or tamping techniques.
2. Cure the concrete for at least 7 days with water-spray, blankets or plastic sheets.

HARDENED OR OLD CONCRETE
1. Clean the concrete surface with water using high-pressure cleaners or ride-on cleaning machines.
2. Allow the cleaned substrate to completely dry.
3. Completely remove all dust, dirt, loose and friable material from all surfaces with a brush or vacuum cleaner.

APPLICATION

IMPORTANT

Damage to non-concrete substrates due to etching

If left in contact with glass, aluminium, or highly polished finishes, the Product can etch the surface.

1. Immediately wash off overspray with water from surfaces that are not to be treated.

Hot weather working above +25 °C

Note: In hot weather conditions, gelling may occur before material has penetrated sufficiently.

1. Store the Product in a cool place prior to use.
2. Apply additional material to keep the surface wet during the scrubbing application process.

Cold weather working below +10 °C

Note: At low temperatures the product may thicken and be difficult to spray.

1. Observe the recommended storage and application temperatures.

Exposing the treated surface to moisture after application

Note: Exposure to moisture before the Product has fully reacted with the concrete surface can cause efflorescence. Efflorescence can only be removed from the surface mechanically.

1. Protect the treated concrete surface from moisture for at least 3 days after application.

Preconditions

The spraying equipment has been thoroughly cleaned to remove any residue of previous membranes.

1. IMPORTANT Do not use sprayers that have previously been used to spray silicones or release agents. Apply the Product in a continuous film using a high-volume, low-pressure spray unit. Note Touch up any dry spots on the surface where necessary.
2. Scrub material into the surface with a soft bristle broom or floor-scrubbing machine for a minimum of 30 minutes, until the material begins to gel and becomes slippery. Note Gelification time may be increased at low temperatures (below +10 °C), high humidity (from 80 % to 100 %) or wind-free conditions.
3. Wet the material slightly with a water spray and rework it into the surface for another 10 to 20 minutes.
4. IMPORTANT Dried residue or excess material will leave white stains that can only be removed mechanically. After about 20 minutes, when the material has returned to a gel, rinse the floor and remove any excess material using a squeegee, wet vacuum or mop.
5. On porous, rough-textured or brush-finished surfaces, a second coat is required. Note Apply the second coat after the first one is dry and tack-free.
6. For large surfaces, ride-on cleaning machines can be used to place, brush in and remove the excess material from the surface.
7. After cure abrade the surface mechanically prior the application of a subsequent coating system. Note Use light to heavy shot blasting depending on the depth of the Product penetration.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be removed mechanically.

MAINTENANCE INSTRUCTIONS

Surface gloss development

Note: Gloss of the treated surface gradually increases between 30 to 90 days after application, depending on cleaning frequency.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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