

## PRODUCT DATA SHEET

# Sikafloor® CureHard-24

1-part sodium silicate clear surface hardener, dust proofer and densifier for concrete

### DESCRIPTION

Sikafloor® CureHard-24 is a high solids, one part, clear sodium silicate based liquid to harden and densify fresh or hardened concrete. Sikafloor® CureHard-24 reacts to bind the free cement within the concrete substrate to improve the mechanical performance.

### USES

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

- Horizontal old or new concrete surfaces, where a hard surface with light to moderate abrasion resistance is required e.g. warehouses, industrial plants, stores, shopping malls, parking structures, service stations, hangars etc.
- Suitable for interior or exterior applications
- Dust-proofing of prefabricated concrete elements

### CHARACTERISTICS / ADVANTAGES

- Ready to use
- Easy to apply
- Improved abrasion resistance compared to untreated concrete
- Reduced dusting of concrete floors
- Improves cleanability
- Non-yellowing
- Good penetration
- Colourless
- Odourless

### APPROVALS / STANDARDS

Impregnation for surface protection of concrete according to EN 1504-2:2004, ingress protection and physical resistance, Declaration of Performance 02 08 03 04 004 0 000001 1180, certified by notified factory production control certification body 1020, certificate of conformity of the factory production control 020025682, and provided with the CE marking.

### PRODUCT INFORMATION

<b>Chemical Base</b>	Sodium silicate water dilution
<b>Packaging</b>	20 L pail 200 L drum
<b>Shelf Life</b>	24 months from date of production
<b>Storage Conditions</b>	The product must be stored properly in original, unopened and undamaged packaging, in dry conditions at temperatures between +5 °C and +30 °C. Protect from frost.
<b>Appearance / Colour</b>	Clear liquid
<b>Density</b>	~1.2 kg/l (at +20 °C)
<b>Solid content by weight</b>	~24 %

## TECHNICAL INFORMATION

<b>Abrasion Resistance</b>	50 mg or 81.5 % increase in abrasion resistance compared to untreated sample (C 0.70) concrete according to EN 1766) (Taber Abraser, H-22 Wheel, 1000 g / 1000 cycles)	(EN 5740-1)
<b>Resistance to Impact</b>	60 Nm (class III: $\geq 20$ Nm) Sample (MC 0.40) concrete according to EN 1766	(EN 6272-1)
<b>Tensile Adhesion Strength</b>	4.8 N/mm <sup>2</sup> Sample (MC 0.70) concrete according to EN 1766	(EN 1542)
<b>Penetration Depth</b>	5.5 mm Sample (MC 0.70) concrete according to EN 1766	(EN 1504-2)
<b>Water Absorption</b>	$w = 0.03 \text{ kg}\cdot\text{m}^{-2}\cdot\text{h}^{-0.5}$ (on a substrate $w > 1 \text{ kg}\cdot\text{m}^{-2}\cdot\text{h}^{-0.5}$ )	(EN 1062-3)

## SYSTEM INFORMATION

<b>System Structure</b>	Hardener / Sealer: 1–2 coats
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## APPLICATION INFORMATION

<b>Consumption</b>	0.15–0.25 l/m <sup>2</sup> per coat This figure is theoretical and does not include for any additional material required due to surface porosity, surface profile, variations in level and wastage etc.										
<b>Yield</b>	4–7 m <sup>2</sup> /l per coat This figure is theoretical and does not include for any additional material required due to surface porosity, surface profile, variations in level and wastage etc.										
<b>Ambient Air Temperature</b>	+5 °C min. / +35 °C max.										
<b>Relative Air Humidity</b>	100 % max.										
<b>Substrate Temperature</b>	+5 °C min. / +35 °C max.										
<b>Waiting Time / Overcoating</b>	Where 2 coats are required, to ensure maximum densification, the second coat can be installed 2–4 hours following the first. Allow previous coats to become tack free before applying additional coats. <table><thead><tr><th>Temperature</th><th>Time</th></tr></thead><tbody><tr><td>+5 °C</td><td>~3.5 hours</td></tr><tr><td>+10 °C</td><td>~3 hours</td></tr><tr><td>+20 °C</td><td>~2 hours</td></tr><tr><td>+25 °C</td><td>~1.5 hours</td></tr></tbody></table> <p>Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity</p>	Temperature	Time	+5 °C	~3.5 hours	+10 °C	~3 hours	+20 °C	~2 hours	+25 °C	~1.5 hours
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+10 °C	~3 hours										
+20 °C	~2 hours										
+25 °C	~1.5 hours										
<b>Drying Time</b>	The surface is touch-dry after 2 hours at +20 °C. Maximum sealing and hardening effect achieved after ~7 days at +20 °C.										
<b>Applied Product Ready for Use</b>	<table><thead><tr><th>Substrate temperature</th><th>Fully serviceable</th></tr></thead><tbody><tr><td>+10 °C</td><td>~6 hours</td></tr><tr><td>+20 °C</td><td>~5 hours</td></tr><tr><td>+30 °C</td><td>~4 hours</td></tr></tbody></table> <p>Note: treated concrete surface must not be wetted for the first 3 days at least. This could lead to efflorescence. Note: Times are approximate and will be affected by changing ambient and substrate conditions.</p>	Substrate temperature	Fully serviceable	+10 °C	~6 hours	+20 °C	~5 hours	+30 °C	~4 hours		
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## BASIS OF PRODUCT DATA

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

## LIMITATIONS

- Do not use sprayers which have previously been used for spraying silicones or release agents (oils).
- In hot weather (above +25 °C) store Sikafloor® CureHard-24 in a cool place prior to use.
- At low temperatures (below +10 °C) the product may thicken and be difficult to spray.
- Do not mix different formulations of Sika® or other curing membranes.
- Ensure spraying equipment is cleaned thoroughly prior to use and any residues of previous membranes are removed.
- Sikafloor® CureHard-24 must be treated mechanically (from light to heavy shot blasting depending on the depth of the penetration) prior to the application of a coating system.
- Immediately wash over-spray from glass, aluminium or highly polished surfaces with water to avoid etching of surfaces.
- Do not use on substrates treated previously with curing agents, membrane forming sealers or asphalt until these layers have been removed completely.
- Sikafloor® CureHard-24 is not a curing compound, only use as curing for unregulated specification application.
- Gelification time may be increased at low temperatures (below +10 °C), high humidity (from 80 % to 100 %) or wind free conditions.
- In hot weather conditions (above +25 °C), gelling may occur before material has penetrated sufficiently. In such case, apply additional Sikafloor® CureHard-24 to keep the surface wet for the recommended 30 minutes.
- When applying, leave no dry spots in order to have homogenous performance. Touch up where necessary.
- For both old and new concrete, thoroughly wash and remove residue or excess material. This is important as it is difficult to do so if allowed to dry and may result in unsightly white stains. This residue solution is non-toxic and can be emptied into a sanitary sewer.
- Performance enhancement of the substrates will vary greatly depending on the age, cement content, humidity content, porosity and penetration of the product into the substrate.
- Sikafloor® CureHard-24 will not compensate for poor substrates with low cement content. It is not intended for substrates which are lightweight or extremely porous or have worn (aggregate exposed) surfaces.
- Sikafloor® CureHard-24 will not hide serious staining or excessive wear.

## 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

#### Fresh concrete ≥ 7 days

The curing period (≥ 7 days) must be designed so that the areas near the surface achieve the structural strength and impermeability required for durability of the concrete, and corrosion protection of the reinforcement. Strength development is closely connected to the concrete composition, fresh concrete temperature, ambient conditions, concrete dimensions and the curing period required is influenced by the same factors

#### Hardened / old concrete

Surfaces must be sound, open textured, clean, free from frost, laitance, surface water, oils, grease, coatings, all loosely adhering particles and other surface contaminants. If in doubt apply a test area first.

### SUBSTRATE PREPARATION

#### Fresh concrete

1. The concrete must be prepared by power or manual floating / tamping techniques and be cured with waterspray, blankets or plastic sheets for at least 7 days.

#### Hardened / old concrete

1. The substrate must be prepared by high pressure water cleaning or by ride-on cleaning machines. Allow to dry prior to application.
2. All dust, dirt, loose and friable material must be completely removed from all surfaces by brush and / or vacuum before application of the product.

### APPLICATION

#### IMPORTANT

The chemical reaction between Sikafloor® CureHard-24 and the concrete causes the rate of water-tightness to increase gradually

## IMPORTANT

The maximum sealing and hardening effect occurs after a minimum of 7 days.

## IMPORTANT

Gloss of the treated surface gradually increases between 30 to 90 days after application depending upon cleaning frequency.

1. Apply Sikafloor® CureHard-24 in a continuous film using a high volume low pressure spray unit.
2. Scrub material into the surface with a soft bristle broom or floor-scrubbing machine (min. 30 minutes), until the material begins to gel and becomes slippery.
3. Wet the material slightly with a water spray and re-work it into the surface for another 10 to 20 minutes.
4. After about 20 minutes, the material will return to a gel, rinse the floor and remove any excess material using a squeegee, wet vacuum or mop.
5. On porous, rough-textured or broom-finished surfaces, a second coat Sikafloor® CureHard-24 is required.
6. For large surfaces and higher placing rates, ride-on cleaning machines can be used to place, brush in and remove the excess material from the surface.

The product can be used in combination with Sikafloor® -CureHard GL.

## CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use.

Hardened / cured material can only be mechanically removed.

## MAINTENANCE

To maintain the appearance of the floor after application, Sikafloor® CureHard-24 must have all spillages removed immediately and must be regularly cleaned using rotary brushes, mechanical scrubbers, scrubber dryers, high pressure washers, wash and vacuum techniques, etc., using suitable detergents and waxes.

The frequency and intensity of the wet cleaning will directly influence the how soon and how deep the glossy anti-dust surface develops.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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### Product Data Sheet

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