BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor® CureHard-24

SODIUM SILICATE BASED TRANSPARENT SURFACE HARDENER, DUST PROOFER, SEALING AND CURING COMPOUND FOR CONCRETE

DESCRIPTION

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

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.
- On concrete slabs where no specific curing efficiency or standards are required
- Suitable for interior or exterior applications
- Dust-proofing of prefabricated concrete elements
- Suitable for protection against ingress (Principle 1, method 1.2 of EN 1504-9)
- Suitable for physical resistance (Principle 5, method 5.2 of EN 1504-9)

CHARACTERISTICS / ADVANTAGES

- Ready to use
- Easy to apply
- Improved chemical and abrasion resistance compared to untreated concrete
- Reduced dusting of concrete floors
- Slightly reduces loss of water of new concrete while setting
- Improves cleanability
- Non-yellowing
- Good penetration
- Solvent free
- Colourless and 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

Chemical Base	Sodium silicate water dilution
Packaging	15 l container, 200 l drum
Appearance / Colour	Clear liquid
Shelf Life	24 months from date of production
Storage Conditions	The product must be stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5 °C and +30 °C. Protect from frost.
Density	~1.2 kg/l (at +20 °C)
Solid content by weight	~24 %

TECHNICAL INFORMATION

Abrasion Resistance	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)
Resistance to Impact	60 Nm (class III: ≥ 20 Nm) Sample (MC(0,40) concrete according to EN 1766	(EN 6272-1)
Tensile Adhesion Strength	4.8 N/mm^2 Sample (MC(0,70) concrete according to EN 1766	(EN 1542)
Penetration Depth	5.5 mm Sample (MC(0,70) concrete according to EN 1766	(EN 1504-2)
Water Absorption	w = 0.03 kg/m^2×h$^{0.5}$ (on a substrate w > 1 kg/m^2 h$^{0.5}$)	(EN 1062-3)

SYSTEM INFORMATION

System Structure	Curing compound: 1–2 coats Hardener / Sealer: 1–2 coats

APPLICATION INFORMATION

Consumption	0.15–0.25 l/m^2/coat (4–7 m^2/l/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.
Yield	4–7 m^2/l/coat
Ambient Air Temperature	+5 °C min. / +35 °C max.
Relative Air Humidity	100 % max.
Substrate Temperature	+5 °C min. / +35°C max.
Substrate Moisture Content	Can be applied on green concrete, without any bleed water.
Waiting Time / Overcoating	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.

Temperature	Time
+5 °C	~ 3.5 hours
+10 °C	~ 3 hours
+20 °C	~ 2 hours
+25 °C	~ 1.5 hours

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity

Drying Time	The surface is touch-dry after 2 hours at +20 °C. Maximum sealing and hardening effect achieved after ~7 days at +20 °C.

Applied Product Ready for Use

Substrate temperature	Fully serviceable
+10°C	~ 6 hours
+20°C	~ 5 hours
+30°C	~ 4 hours

Note: Times are approximate and will be affected by changing ambient and substrate conditions.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Fresh concrete
Surface must be free of bleed water and of sufficient strength to withstand finishing operations.

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.
For best results with new concrete floors wait for 7–14 days after placement or until after cement has sufficiently hydrated prior to treatment with Sikafloor® CureHard-24.

SUBSTRATE PREPARATION

Fresh concrete
The concrete must be prepared by suitable power or manual floating / tamping techniques.

Hardened / old concrete
The substrate must be prepared by suitable cleaning method such as high pressure water cleaning or by ride-on cleaning machines. Allow drying prior to application. All dust, dirt, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and / or vacuum.

APPLICATION

Fresh Concrete
Apply in a continuous film using a high volume low pressure spray unit as soon as the surface is firm enough to walk on and in sufficient quantity to keep the surface damp for at least 30 minutes.
After about 30 to 45 minutes, the material begins to gel and becomes slippery. Wet the material slightly with a water spray to reduce slipperiness and rework into the surface for 10 to 20 minutes with a soft bristle broom or floor-scrubbing machine. 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.

Hardened Concrete
Apply in a continuous film using a high volume low pressure spray unit.
To ensure maximum penetration, 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. Wet the material slightly with a water spray and rework it into the surface for another 10 to 20 minutes. After this process, rinse the floor and remove any excess material using a squeegee, wet vacuum or mop.
On porous, rough-textured or broom-finished surfaces, a second coat may be required.
For large surfaces and higher placing rates, mechanical equipment such as ride-on cleaning machines can be also used to place, brush in and remove the excess material from the surface.
Thanks to proceeding chemical reaction the rate of water-tightness increases gradually, whereas maximum sealing and hardening effect occurs earliest after 7 days. Gloss of the surface gradually increases during 30 to 90 days depending upon cleaning frequency.
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.

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.
- Only use as curing compound 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.

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.

LOCAL RESTRICTIONS

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

ECOLOGY

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU Directive 2004/42/CE, the maximum allowed content of VOC (product category IIA / h type wb) is 30 g/l (Limits 2010) for the ready to use product.
The maximum content of Sikafloor® CureHard-24 is ≤ 30 g/l VOC for the ready to use product.

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.

Sika Taiwan Ltd.
No. 1380, Sec. 3, Fu-Kwo Rd., Luchu Dist.
33849 Taoyuan City, Taiwan, R.O.C.
TEL: 03 352 8622 . FAX: 03 352 0470
sika@tw.sika.com . twn.sika.com