

Product Data Sheet
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Sikafloor®-CureHard LI

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Lithium silicate based high gloss hardener and sealing crystalline agent

Product Description	<p>Sikafloor®-CureHard LI is water-based lithium silicate preparation for sealing and additional curing of existing power trowelled or polished/grinded concrete surfaces. Compared with similar products based on sodium or potassium silicate, that product in possible overdose is less prone to the formation of stubborn efflorescence.</p> <p>The product - when applied onto concrete surface - penetrates into its texture, whereas it initiates chemical reaction and subsequent crystallization of reaction products which result in filling the concrete surface pores.</p>
Uses	<ul style="list-style-type: none"> ■ improves durability and tightness of concrete surface and gives the concrete surface silk gloss ■ compared to current crystalline sodium or potassium based hardeners - the lithium based preparations eliminate occurrence of possible efflorescence at the concrete surface. ■ The result of regular cleaning in the form of simple machine washing is high gloss of the flooring surface, which positively influences aesthetic quality of the work. ■ 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	<ul style="list-style-type: none"> ■ Appearance enhancement of concrete floors ■ Dust reduction and abrasion resistance improvement ■ Sealing and impregnation of concrete surface ■ Interior or exterior application ■ Easier cleaning ■ Solvent free, no odour
Tests	
Approvals /Standards	<p>Conforms to the requirements of EN 1504-2, Principle Nr.1.2, 5.2.</p> <p>Test report from the Institut Pro Testování a Certifikaci, a.s., Ref.Nº 412501368/01, dated November 19th, 2010.</p>
Product Data	
Appearance / Colours	Clear liquid.
Packaging	15 l container, 200 l drum
Storage	
Storage Conditions / Shelf Life	12 months from the dispatching date in unopened originally sealed containers. Protect from frost and high temperatures.



Technical Data

Chemical Base	1 component water-soluble agent based on lithium silicate	
Density	1.16 kg/dm ³ ± 5 %	(EN ISO 2811-1)
Solid Content	(~ 14.5% ± 1,5%) by weight	(EN ISO 3251)

Mechanical / Physical Properties

Abrasion Resistance	290 mg or 78% increase in abrasion resistance compared to untreated sample (C(0,70) concrete according to EN 1766) (Taber Abraser, H-22 Wheel, 1000g / 1000 cycles)	(EN 5470-1)
Capillary absorption and permeability to water	w = 0,03 kg / (m ² xh ^{0,5})	(EN 1062-3)
Impact Resistance	60 Nm (class III: ≥ 20 Nm)	(EN 6272-1)
Pull - off test	4.39 N/mm ²	(EN 1542)
Depth of Penetration	5.5 mm	(Table 3 contained in ČSN EN 1504-2)

System Information

System Structure	Hardener / Sealer 1 - 2 coats
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Application Details

Consumption / Dosage	~ 0.05 – 0.10 l/m ² (i.e. ca 10 – 20 m ² /l, on power trowelled concrete) 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.
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Substrate Quality	<p>Sikafloor –CureHard –LI is designed to be applied exclusively on hardened concrete / cementitious surfaces.</p> <p>Surfaces must be sound, open textured, clean, free from frost, laitance, surface water, oils, grease, coatings, all loosely adhering particles and other surface contaminants.</p> <p>If in doubt apply a test area first.</p> <p>For best results, concrete floors must be treated with Sikafloor® -CureHard-LI at least 7 - 14 days after their placement or after the cement has had sufficient time to hydrate.</p> <p>Sikafloor® -CureHard LI can be applied onto existing or fresh made power trowelled concretes. It can even used on grinded/polished concrete or cement based screed surfaces, on concrete tiles or on stamped concrete surfaces.</p>
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Substrate Preparation	<p>The substrate must be always free from water, contamination and old coats remainders that could prevent penetration of the product.</p> <p>The substrate must be prepared by suitable mechanical preparation techniques such as high pressure water and allowed to dry or abrasive blast cleaning equipment.</p> <p>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.</p>
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Application Conditions / Limitations

Substrate Temperature	+5°C min.
Ambient Temperature	+2°C min, +40°C max.
Substrate Moisture Content	Can be applied on saturated surface dry substrates. The drier the substrate the better penetration is achieved.
Relative Air Humidity	100% max.

Application Instructions

Mixing	Product is supplied ready to use.										
Application Method / Tools	<p>The product must be applied in the specified quantity by means of mechanical or manual pressure sprayer with adjustable nozzle. Immediately after that, it must be evenly spread with a flat micro-fibre swab. Sealer remainders that are not well spread may cause white spots that can be removed by repeated washing with water. To improve efficiency, achieve gloss and visual unification of the area second layer of the product can be applied the same way after the first one is dry.</p> <p>In especially dry and warm environments the concrete surface can be properly pre-soaked with clean water prior to the product application. The action can start as soon as the surface is dry again.</p> <p>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.</p> <p>The product can be used in combination with Sikafloor®-CureHard GL.</p>										
Cleaning of Tools	Flush sprayers and nozzles must be thoroughly cleaned with clear water. Do not use sprayers that were used for spraying silicones or release agents (oils).										
Waiting Time / Overcoating	<p>Where 2 coats are required to ensure maximum densification the second coat can be installed after the first one is dry.</p> <p>Allow previous coats to become tack free before applying additional coats.</p> <table border="1"> <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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Drying Time	<p>The surface is touch-dry after 2 hours at +20 °C.</p> <p>Maximum sealing and hardening effect achieved after ca 7 days at +20 °C.</p>										
Notes on Application / Limitations	<p>In hot weather (above +25°C) store Sikafloor®-CureHard-LI in a cool place prior to use.</p> <p>In low temperatures (below +10°C) the product may thicken and be difficult to spray.</p> <p>Do not use sprayers, which have been used to spray silicones or release agents.</p> <p>Do not mix differing formulations of Sika® or other curing membranes.</p> <p>Ensure spraying equipment is cleaned thoroughly before use and residues of previous membranes are removed.</p> <p>Sikafloor®-CureHard-LI 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.</p> <p>Sikafloor®-CureHard-LI will increase abrasion resistance compared to untreated concrete of the same type.</p> <p>Immediately wash over-spray from glass, aluminium or highly polished surfaces with water to avoid etching of surfaces.</p> <p>Do not use on substrates treated previously with curing agents, membrane forming sealers or asphalt until these layers have been removed completely.</p> <p>When applying, leave no dry spots in order to have homogenous performance. Touch up where necessary.</p> <p>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.</p> <p>Sikafloor®-CureHard-LI 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.</p> <p>Sikafloor®-CureHard-LI will not hide serious staining or excessive wear.</p>										

Curing Details

Applied Product ready for use

Substrate temperature	+10°C	+20°C	+30°C
Fully serviceable	~ 4.5 hours	~ 3 hours	~ 2 hours

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

Cleaning / Maintenance

Methods

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.

Value Base

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 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.

Health and Safety Information

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

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.

Note

The following chapter is only mandatory for European countries.


CE Labeling

The harmonized European Standard EN 1504-2 „Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 : Surface protection systems for concrete” gives specifications for products and systems based on methods “hydrophobic impregnation”, “impregnation” and “coating” for the various principles presented under EN 1504-9.

Products which fall under this specification have to be CE-labelled as per Annex ZA. 1, Tables ZA1a to ZA 1g according to the scope and relevant clauses there indicated, and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

For flooring systems not dedicated to protect or reinstate the integrity of a concrete structure, EN 13813 applies. Products acc. EN 1504-2 used as flooring systems with mechanical loads also must fulfil EN 13813.

Here below indicated are the minimum performance requirements set by the standard. For the specific performance results of the product to the particular tests, please see the actual values above in the PDS.

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1020		
Sika CZ, s.r.o. Bystrcká 1132/36 CZ-624 00 Brno		
11		
1020 – CPD – 02025680		
EN 1504-2		
Surface protection system for concrete, impregnation (systems as per Product Data Sheet)		
Abrasion resistance (Taber Test)	Weight loss < 3000mg H22, 1000c, 1000gr	
Capillary absorption and permeability to water	$w < 0,1 \text{ kg/m}^2 \cdot \text{h}^{0,5}$	
Impact resistance	After loading no cracks or delamination Class I: $\geq 4 \text{ Nm}$ Class II: $\geq 10 \text{ Nm}$ Class III: $\geq 20 \text{ Nm}$	
Adhesion strength by pull-off test	(horizontal with trafficking) $\geq 1.5 \text{ N/mm}^2$	
Depth of penetration	$\geq 5 \text{ mm}$	
¹⁾ Last two digits of the year in which the marking was affixed. ²⁾ No performance determined ³⁾ Tested as part of a full system *) Please fill in your relevant producer address		

EU Regulation 2004/42

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

VOC - Decopaint Directive



Sika Services AG
Tüffenwies 16
CH-8048 Zurich
Switzerland

Phone +41 44 436 40 40
Telefax +41 44 436 46 86
www.sika.com

