

## PRODUCT DATA SHEET

# Sikagard<sup>®</sup>-705 CN

Liquid, passive corrosion inhibitor and hydrophobic impregnation for reinforced concrete

## DESCRIPTION

Sikagard<sup>®</sup>-705 CN is a 1-part, low-viscosity, reactive, passive corrosion inhibitor for concrete and cementitious substrates. It is based on silane with 99 % active ingredient. It meets the highest requirements of EN 1504-2 for hydrophobic impregnation regarding penetration depth and resistance to freeze-thaw salt stress.

## USES

The Product is used as a water-repellent, passive corrosion inhibitor for civil engineering structures and buildings subjected to:

- Freeze-thaw cycles
- Carbonation
- De-icing salts
- Marine environments

The Product is used for:

- Increasing the resistivity (Principle 8, method 8.3 of EN 1504-9)
- Moisture control (Principle 2, method 2.3 of EN 1504-9)
- Protection against ingress (Principle 1, method 1.3 of EN 1504-9)
- Mitigating the corrosion rate of de-passivated reinforcement bars
- Preventing chloride migration to reinforcement bars
- Reducing the absorption of aggressive or deleterious agents dissolved in water such as de-icing salts or chloride from a marine environment
- Reducing the capillary water absorption, protecting against mist and splashing on vertical areas

## CHARACTERISTICS / ADVANTAGES

- Very good penetration into dense substrates
- Provides a passivating environment for embedded steel reinforcement
- Resistant to many common environmental influences
- Permeable to water vapour
- Effective at stopping the alkali-silica reaction
- Good resistance to sea water
- Easy application
- Low VOC content
- 1-part ready to use
- Reduced algae and fungi growth

## APPROVALS / STANDARDS

- Initial testing DIN EN 1504-2, kiwa, No. P 13906-E IMPORTANT

### **This Product does not comply with the EU Construction Products Regulation**

Pursuant to Article 4 (1) of Regulation (EU) No 305/2011 (Construction Products Regulation) the manufacturer must draw up a Declaration of Performance when placing a product on the market which is covered by a harmonised standard (hEN) or conforms to a European Technical Assessment (ETA) which has been issued for it.

This product is covered by a hEN or conforms to an ETA and no Declaration of Performance is existing for it.

1. Do not make the product available on the market in countries of the European Union, Switzerland, Norway, Iceland, Liechtenstein and Turkey.
2. Delete this section for publication in all other countries

## PRODUCT INFORMATION

<b>Chemical Base</b>	n-Octyltriethoxysilane (99 % active ingredient)	
<b>Packaging</b>	25 kg container, 175 kg drum or 800 kg IBC Refer to the current price list for available packaging variations.	
<b>Appearance / Colour</b>	<b>Appearance</b>	Water-like liquid
	<b>Colour</b>	Colourless
<b>Shelf Life</b>	24 months from date of production.	
<b>Storage Conditions</b>	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.	
<b>Density</b>	0.88 kg/l (at +25 °C)	(DIN 51757)
<b>Flash Point</b>	+65 °C	
<b>Volatile Organic Compound (VOC) Content</b>	1 % VOC content calculated according to VOC definition given in Directive 2010/75/EU.	
<b>Viscosity</b>	~0.95 mPas·s (at 20 °C)	(DIN 53015-2019)

## TECHNICAL INFORMATION

<b>Resistance to Alkalinity</b>	Pass	(EN 13580)
<b>Freeze Thaw De-Icing Salt Resistance</b>	Pass	(EN 13581)
<b>Penetration Depth</b>	> 10 mm, Class II	(EN 1504-2)
<b>Capillary Absorption</b>	Pass	(EN 13580)
<b>Drying rate coefficient</b>	> 30 %, Class I	(EN 13579)

## APPLICATION INFORMATION

<b>Consumption</b>	~0.15 kg/m <sup>2</sup> per coat for substrates with cracks of < 300 µm For substrates with cracks between 300 µm to 750 µm refer to the method statement: Application of Sikagard® hydrophobic impregnations. 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 product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.		
<b>Product Temperature</b>	<b>Maximum</b>	+35 °C	
	<b>Minimum</b>	+5 °C	
<b>Ambient Air Temperature</b>	<b>Maximum</b>	+35 °C	
	<b>Minimum</b>	+5 °C	
<b>Dew Point</b>	Beware of condensation. The substrate and uncured applied product must be at least +3 °C above dew point to reduce the risk of condensation on the surface of the applied product.		
<b>Substrate Moisture Content</b>	<b>Substrate</b>	<b>Test method</b>	<b>Moisture content</b>
	Cementitious substrates	Calcium carbide method (CM-method)	≤ 6 %

## Waiting Time / Overcoating

Waiting time before applying a subsequent coating at +20 °C substrate temperature:

Minimum	5 hours
Maximum	1 week

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

## SYSTEM INFORMATION

### System Structure

2 to 3 coats used by itself or in combination with either surface-applied corrosion inhibitors or protective coatings.

Sikagard®-705 CN can be used as a water-repellent primer under Sikagard® protective coatings including water-based dispersions. It prevents the penetration of water at possible weak spots or after damage to the top coat, reducing the risk of consequential damages such as paint flaking.

The Product can be overcoated with water and solvent-based polymer paints. Contact the proposed paint manufacturer for recommendations.

## 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.

## 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 Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY

#### Application to new concrete

Note: The best results are achieved when the concrete is at least 28 days old. Application on younger concrete is possible but may lead to a reduced penetration depth.

1. Clean the substrate using detergents and suitable mechanical methods such as light blast cleaning, steam cleaning or high-pressure water jetting.
2. Repair surface cracks greater than 750 µm using Sika® repair mortars.
3. Protect all areas not to be treated with the Product to avoid accidental contamination.

The substrate is clean and free of all contaminants such as dirt, oil, grease, surface treatments and loose friable material which can reduce the penetration of the Product.

### MIXING

The Product is supplied ready to use and must not be diluted.

### APPLICATION

#### IMPORTANT

#### Climate conditions during application

The climate conditions during application and curing of the Product can affect the final performance achieved.

Application at temperatures below the stated minimum application temperature may reduce adhesion.

1. Do not apply the Product if rain is expected.
2. Allow enough time for the substrate to dry after rain or other inclement conditions.
3. Do not apply the Product at temperatures below the stated minimum application temperature.

#### IMPORTANT

#### Damage to bituminous surfaces

The Product can damage bituminous surfaces if left in contact.

1. Protect bituminous surfaces from exposure to the Product during application.

#### Overcoating the Product with organic coatings

Note: Before overcoating the product with organic coatings always consult the coating manufacturer for information on compatibility and any necessary preparation and priming.

#### APPLICATION

For more information refer to the method statement: Application of Sikagard® hydrophobic impregnations. Preconditions

Carry out preliminary application trials to determine the correct consumption rate for the required penetration depth.

1. **IMPORTANT** Do not to let the Product run. Working in a single pass from the bottom up, apply the Product to the substrate using a brush, roller or air-less spray equipment.
2. Apply subsequent coats either “wet on wet” or when the surface is fully dry.  
Note: On horizontal applications, avoid ponding on the surface.

### CURING TREATMENT

The Product does not require specific curing but the exposed area must be protected from rain for at least 4 hours at +20 °C.

### CLEANING OF TOOLS

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

## 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

Sikagard®-705 CN

March 2026, Version 02.01  
020303210000000032

Sikagard-705CN-en-HK-(03-2026)-2-1.pdf