BUILDING TRUST

PRODUCT DATA SHEET

Sikagard®-705 CN

Liquid, Passive corrosion inhibitor and hydrophobic impregnation for reinforced concrete

DESCRIPTION

Sikagard®-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

FEATURES

- 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

PRODUCT INFORMATION

Composition	n-Octyltriethoxysilane (99 % active ingredient)
Packaging	25 kg container, 175 kg drum Refer to the current price list for available packaging variations.

Appearance and colour	Appearance	Water-like liquid
	Colour	Colourless
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 +30 °C. Always refer to packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.	
Density	0.88 kg/l (at +25 °C)	(DIN 51757)
Flash point	+65 °C	
Volatile organic compound (VOC) content	1 % VOC content calculated according to VOC definition given in Directive 2010/75/EU.	
Viscosity	~0.95 mPas·s (at 20 °C)	(DIN 53015-2019)

TECHNICAL INFORMATION

Resistance to alkalinity	Pass	(EN 13580)
Freeze thaw de-icing salt resistance	Pass	(EN 13581)
Penetration depth	> 10 mm, Class II	(EN 1504-2)
Capillary absorption	Pass	(EN 13580)
Drying rate coefficient	> 30 %, Class I	(EN 13579)

APPLICATION INFORMATION

Consumption

Approx. 0.15 kg/m² per coat for sound concrete substrates with crack widths **< 300 µm**.
Actual consumption may vary depending on **substrate condition**, including but not limited to:

- **Water–cement ratio of the concrete**
- Concrete density and porosity
- Surface roughness and profile
- Age and moisture condition of the concrete
- Application method and equipment

Concrete with a **low water–cement ratio (e.g. high-strength or dense concrete)** will generally show **lower absorption**, and may require **higher application rates or additional coats** to achieve the intended penetration depth.
Conversely, concrete with a **higher water–cement ratio** will typically absorb more material.
For substrates with crack widths **300 µm to 750 µm**, refer to the Method Statement:
Application of Sikagard® Hydrophobic Impregnations.
Note: Consumption values are indicative and theoretical.
A **site trial is recommended** to determine the exact consumption for the specific substrate condition and proposed application system.

Material temperature	Maximum	+35 °C
	Minimum	+5 °C
Ambient air temperature	Maximum	+35 °C
	Minimum	+5 °C
Dew point	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.

Substrate moisture content

Substrate	Test method	Moisture content
Cementitious substrates	Sika Tramex Concrete Moisture Meter	≤ 6 %

Waiting time to 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 Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains 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 airless 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 EQUIPMENT

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

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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