

# PRODUCT DATA SHEET

## Sikagard<sup>®</sup>-704 S

### SILANE/SILOXANE BASED REACTIVE WATER REPELLENT IMPREGNATION

#### DESCRIPTION

Sikagard<sup>®</sup>-704 S is a one-component, low viscosity, reactive impregnation for concrete and cementitious substrates based on a mixture of highly active silanes & siloxanes. Sikagard<sup>®</sup>-704 S complies with the requirements of EN 1504-2 for hydrophobic Impregnations (penetration depth class I & resistance to freeze and thaw salt stresses)

#### USES

Sikagard<sup>®</sup>-704 S is used as water-repellent impregnation (hydrophobic treatment) for absorbent substrates such as concrete in civil engineering or building concrete structures subjected to heavy stress due to freeze and thaw cycles and de-icing salts or chloride attack in marine environment.

- Suitable for protection against ingress (Principle 1, method 1.1 of EN 1504-9),
- Suitable for moisture (Principle 2, method 2.1 of EN 1504-9)
- Suitable for increasing the resistivity (Principle 8, method 8.1 of EN 1504-9)

#### CHARACTERISTICS / ADVANTAGES

- Good penetration (close to the threshold of class II of EN 1504-2)
- Economic and easy use
- Reduces capillary water absorption, protects against driving rain and splashing on vertical areas
- Reduction of absorption of aggressive or deleterious agents dissolved in water (i.e. de-icing salts or chloride from marine environment)
- No significant change in water vapour permeability
- Increases the resistance of concrete to freeze and thaw cycles and de-icing salts
- Resistant to sea water
- Ready to use

#### APPROVALS / STANDARDS

- Conformity to the requirements of the EN 1504-2 – Polymer Institute – report P 5360E dated 23rd March 2009
- Conformity to the requirements of the EN 1504-2 – MPL, Sika Tüffenwies dated September 2008.
- Hydrophobic impregnation according to EN 1504-2, DoP 02 03 03 01 001 0 000031 1010; certified by Factory Production Control Body: 0921; certificate 0921-CPD-2073 and provided with the CE-mark

#### PRODUCT INFORMATION

<b>Chemical Base</b>	Blend of silanes and siloxanes.
<b>Packaging</b>	20 kg pail and 160 kg drum
<b>Appearance / Colour</b>	Water like liquid, colourless.
<b>Shelf Life</b>	18 months from date of production if stored in unopened, undamaged and original sealed packaging.
<b>Storage Conditions</b>	Store in dry and cool conditions. Protect from moisture.
<b>Density</b>	0.82 kg/l (20 °C)
<b>Flash Point</b>	Closed cup: ~45°C (~113°F)

Active Content	~30%	
Volatile organic compound (VOC) content	~665 g/l	(ASTM D 3960)
Viscosity	5 mPas (Rheomat RM 180, Parameter: T = 23 °C, D= 900s-1)	

## TECHNICAL INFORMATION

Resistance to Alkalinity	< 10%	(EN 13580)
Freeze Thaw De-Icing Salt Resistance	Comply	(EN 13581)
Penetration Depth	<10 mm	Class I (EN 1504-2)
	Test performed on concrete with W/C ratio of 0.70	
Water Absorption	< 7.5%	(EN 13580)
Drying Rate Coefficient	Class I: >30%	(EN 13579)

## SYSTEM INFORMATION

System Structure	2–3 coats applied "wet on wet".
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## APPLICATION INFORMATION

Consumption	Dependent on absorbency of the substrate as well as the required penetration depth: ~ 150 g/m <sup>2</sup> per coat.
Ambient Air Temperature	+5 °C min. / +35 °C max.
Substrate Temperature	+5 °C min. / +35 °C max.
Waiting Time / Overcoating	Can be overcoated with water and solvent based polymer paint Sikagard®-704 S can be used as a water repellent primer under many Sikagard® protective coatings. Penetration of water is thus prevented at possible weak spots or in the event of damage to the top coat and the risk of consequential damages such as paint flaking can be reduced. Waiting time: minimum 5 hours, maximum 1 week. If other product is intended to be used, contact the proposed paint manufacturer for specific recommendations.
Curing Treatment	Sikagard®-704 S does not require any special curing but must be protected from rain for at least 3 hours at +20 °C.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

Free of dust, dirt, oil, efflorescence and existing paint coatings.  
Cracks in concrete more than 300 µm wide must be repaired first prior to carry out the hydrophobic treatment.  
Cleaning is best done by light blastcleaning, steam cleaning or low water pressure (~150 bars) etc.  
Best results are obtained on dry, very absorbent substrates. The substrate must look dry with no damp patches.

### MIXING

Sikagard®-704 S is supplied ready for use and must not be diluted.

### APPLICATION

Sikagard®-704 S is applied using a low-pressure spray, brush or roller, in a single pass from bottom up taking care not to let the product run. Apply subsequent coats wet on wet.  
On horizontal surface, avoid excessive ponding.

### CLEANING OF TOOLS

Clean all tools and application equipment with Colma Cleaner immediately after use. Hardened / cured material can only be mechanically removed.

### LIMITATIONS

- Best results are achieved when Sikagard®-704 S is applied to 28 days old concrete - however, due to its high alkali resistance; it is possible to apply it at a very early age.
- Areas such as window frames which still need to be painted must be securely covered to avoid contact with Sikagard®-704 S.
- Areas not to be impregnated such as window panes

need to be protected from being accidentally contaminated with Sikagard®-704 S.

- Sikagard®-704 S can damage some coatings and bituminous products.
- Sikagard®-704 S can lead to darkening of concrete, apply sample areas first.
- Cannot be overcoated with limewash or cement paint.
- Refer to the latest Method Statement for detailed information regarding surface preparation, application method, etc.

## 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.

## 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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