

## PRODUCT DATA SHEET

# Sikagard®-680 SG

### Protective & Decorative Coating for Concrete

#### DESCRIPTION

Sikagard®-680 SG is a one part solvent containing coating, based on acrylic resins. It is resistant to weathering, alkalis, chloride ions and ageing. It is available in coloured grades for use on mineral substrates including concrete and other cementitious surfaces.

Sikagard®-680 SG protects concrete against aggressive atmospheric influences and promotes a self-cleaning effect on the treated surfaces. It does not adversely influence the characteristic texture of the concrete.

Suitable for use in hot and tropical climatic conditions.

#### USES

- Protection and enhancement of old and new concrete and other cementitious materials on building and infrastructures elements, especially facades.
- Protective and Finishing coat for Precast Concrete Elements
- Protect from attack by chloride ions, sulphates and carbon dioxide.

#### CHARACTERISTICS / ADVANTAGES

- Sikagard®-680 SG provides excellent UV resistance
- Due to its quick drying properties, the coating is rain resistant within a short time
- Almost no change in the texture characteristics of the concrete surface
- Sikagard®-680 SG protects the concrete against aggressive atmospheric influences, which can penetrate into the concrete in the form of salts or gases
- Very high diffusion resistance against carbon dioxide and therefore reduces considerably the rate and depth of carbonation of the concrete
- Water vapour permeability is not adversely affected
- Dirt pick up is reduced and the concrete is no longer discoloured by rain

#### ENVIRONMENTAL INFORMATION

Sikagard®-680 SG is certified according "Low Emitting Materials as per Al Sa'fat - Dubai Green Building Evaluation System" by Dubai Central Laboratory (DCL) certificate No. CL17020432

#### APPROVALS / STANDARDS

Sikagard®-680 SG follows the main requirements of EN 1504-9 (for protection against ingress, moisture control and increasing the resistivity).

## PRODUCT INFORMATION

Chemical Base	Acrylate resin in solvent
Packaging	25 kg pail
Appearance / Colour	Thixotropic liquid, available in matt standard RAL colours (RAL7038, RAL7040, RAL1015 and RAL9003). Other RAL colours subject to minimum product order.
Shelf Life	12 months from date of production
Storage Conditions	Stored properly in undamaged and unopened original sealed packaging in cool and dry conditions. Protect from direct sunlight, heat and moisture.
Density	~1.37 kg/l (25 °C) (BS EN ISO 2811-1) Dependent on colour shade, small variations are possible.
Flash Point	+32 °C (ASTM D92)
Solid content by volume	~59 % (ASTM D2697)

## TECHNICAL INFORMATION

Tensile Adhesion Strength	≥ 1.5 N/mm <sup>2</sup> (ASTM D4541)
Resistance to UV Exposure	pass (ASTM G154)
Water Vapour Transimission	~0.31 g/m <sup>2</sup> h (ASTM E96)
Chloride Ion Diffusion Resistance	~99% (ASTM C1202) ~8.7 x 10 <sup>-11</sup> cm <sup>2</sup> s <sup>-1</sup> (ASTM C1556)

## SYSTEM INFORMATION

System Structure	In normal situation	2 x Sikagard®-680 SG
	When combined with hydrophobic impregnation priming coats	1 - 2 x Sikagard®-700 S 2 x Sikagard®-680 SG

## APPLICATION INFORMATION

Consumption	~0.20 kg/m <sup>2</sup> per coat for DFT of ~85 micron 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..								
Ambient Air Temperature	+5 °C min. / +40 °C max.								
Relative Air Humidity	< 85 %								
Dew Point	Temperature must be at least 3 °C above dew point								
Substrate Temperature	+5 °C min. / +35 °C max.								
Waiting Time / Overcoating	Waiting time between coats: <table><thead><tr><th>Substrate temperature</th><th>Time</th></tr></thead><tbody><tr><td>+ 10 °C</td><td>~8 h</td></tr><tr><td>+ 20 °C</td><td>~4 h</td></tr><tr><td>+ 30 °C</td><td>~3 h</td></tr></tbody></table> Note: Refresher coats of Sikagard®-680 SG can be applied without priming if the existing coating has been thoroughly cleaned.	Substrate temperature	Time	+ 10 °C	~8 h	+ 20 °C	~4 h	+ 30 °C	~3 h
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## 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.

## LIMITATIONS

- Do not apply when there is expected rain
- In marine environments, an impregnation of Sikagard®-700 S is recommended as water repellent primer.
- On fair faced and precast concrete without Sikagard® 720 EpoCem® or SikaGard®-541 Putty, bubbles may occur if the application is carried out during rising temperatures.
- Do not apply the product to weak cementitious substrates with compressive strength < 25 Mpa, or pull off strength less than 1 Mpa - if the surface values are lower as mentioned above, we recommend a crack bridging intermediate coat such as Sikagard®-550 W Elastic (G). For more details please contact Sika Technical Department.
- The system is fully resistant for all normal atmospheric exposures and rainfall etc. Splashed water containing de-icing salts or sea water may cause a loss of gloss and colour shade variation. However the protective performances are not adversely affected.
- For lightweight concrete façade, we recommend a crack bridging intermediate coat such as Sikagard®-550 W Elastic (G).

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

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

#### Exposed concrete without existing coating:

The substrate must be dense and free from loose and friable particles. Tensile adhesion strength (pull off) of the substrate must be more than 1 N/mm<sup>2</sup>. Suitable preparation methods are steam cleaning, high pressure water jetting or blastcleaning. New concrete must be at least 28 days old. Repairs to the substrate, filling of blowholes / voids and surface levelling must be carried out by using appropriate products from the Sikafloor®, Sikadur®, Sika® MonoTop®, SikaTop®, SikaRep® or Sikagard® range of materials, refer to the latest product data sheet.

For cement based products, allow a curing time of at least 5 days before coating (except when the Sikagard-720 EpoCem is used, then coating can be ap-

plied after 24 hours).

#### Exposed concrete with existing coating:

Existing coatings must be tested to confirm their adhesion to the substrate - adhesion test average > 1.0 N/mm<sup>2</sup> with no single value below 0.7 N/mm<sup>2</sup>.

#### Inadequate adhesion:

Existing coatings must be completely removed by suitable methods and the substrate must be sufficiently sound and suitable to be coated as above.

#### Adequate adhesion:

Thorough cleaning of all surfaces by means of steam cleaning or high pressure water jetting. Normally, Sikagard®-680 SG can be applied on existing coating without any priming - It is recommended to carry out adhesion testing on a small scale prior to full scale operations.

Note: Existing water-based coating, even well adhering, must be removed completely prior to apply Sikagard®-680 SG.

#### MIXING

Sikagard®-680 SG is supplied ready for use. Stir thoroughly prior to application.

In difficult painting conditions such as very low or very high temperatures, up to 5 % of Sika® Thinner C can be added. Do not use any other thinner.

## APPLICATION

For use on very dense substrates, the first coat of Sikagard®-680 SG shall be thinned with up to 10 % Sika® Thinner C.

Sikagard®-680 SG can be applied by brush or short-piled lambskin roller.

Sikagard®-680 SG can be applied by spraying, for example with Graco spray machine, model GH 675 DI. For more information please contact Sika Technical Department.

## CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Thinner C immediately after use. Hardened / cured 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**

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