

## PRODUCT DATA SHEET

# Sikagard®-550 W IN

Anti-carbonation and crack bridging protective coating for concrete

### DESCRIPTION

Sikagard®-550 W IN is a one part, plasto-elastic coating based on UV-curing acrylic dispersion with excellent crack-bridging and anti-carbonation properties even at low temperatures.

### USES

- For protection and enhancement of concrete structures (normal and lightweight concrete), especially exposed outdoor concrete surfaces with a risk of cracking
- For concrete repair works as an elastic protective top coating on Sika® repair mortars / thin layer levelling mortar (refer to product data sheet), fibre cement and overcoating of existing sound adhered coatings

### CHARACTERISTICS / ADVANTAGES

- Crack-bridging even at low temperatures
- High diffusion resistance against CO<sub>2</sub> reducing the rate of carbonation
- Water vapour permeable
- Very good resistance against weathering and ageing
- Preventative protection for new reinforced concrete structures exposed to aggressive environments
- Environmentally friendly (solvent free)
- Reduced tendency to dirt pick up and contamination
- Exhibits good waterproofing characteristics and reduces water penetration
- Suitable coating system for coastal and marine areas (no splash zone)

### PRODUCT INFORMATION

<b>Product declaration</b>	Confirms to IRC:SP:80
<b>Chemical base</b>	Acrylic polymer (acrylate) dispersion
<b>Packaging</b>	10 kg and 25 kg plastic bucket
<b>Shelf life</b>	12 months from date of production
<b>Storage conditions</b>	The Product must be stored properly in original and unopened, sealed and undamaged packaging, in dry conditions at temperatures between +5 °C and +35 °C. Protect from direct sunlight and frost.
<b>Appearance / Colour</b>	Thixotropic liquid available in various ~RAL shades <b>IMPORTANT</b> Dark colour shades may fade more rapidly than other lighter tone colours. This has no influence on the function and performance of the product. Refreshing coat might be required at earlier interval than usual. <b>IMPORTANT</b> For colour matching: Apply colour sample and confirm selected colour under real lighting conditions. <b>IMPORTANT</b> Slight colour variation is possible between different batches of product. This has no impact of performance of the coating.

Density	1.4 ± 0.05 kg/L (at +30 °C)	(EN ISO 2811-1)
Solid content by weight	~70 %	

## TECHNICAL INFORMATION

Tensile strength	> 1.5 N/mm <sup>2</sup>	(ASTM D638)	
Elongation at break	> 200 %	(ASTM D638)	
Crack bridging ability	No failure at 3.2 mm	(ASTM C1305)	
Tensile adhesion strength	> 1.5 N/mm <sup>2</sup>	(ASTM D4541)	
Capillary absorption	w < 0.1 kg/m <sup>2</sup> ·h <sup>0.5</sup>	(EN 1062-3)	
Permeability to water vapour	Dry film thickness	d = 210 µm	(DIN 52615)
	Equivalent air layer thickness	S <sub>D</sub> , H <sub>2</sub> O = 1.69 m	
	Requirements for breathability	≤ 5 m	
Permeability to carbon dioxide	Dry film thickness	d = 210 µm	(EN 1062-6)
	Equivalent air layer thickness	S <sub>D</sub> , CO <sub>2</sub> = 141.6 m	
	Requirements for protection	≥ 50 m	
Chloride ion diffusion resistance	Negligible chloride ion penetrability	(ASTM C1202)	
Resistance to UV exposure	No colour change after 400 hours	(ASTM G53)	

## SYSTEM INFORMATION

System structure	Layer	Product <sup>1)</sup>	No of coats
	Primer <sup>2)</sup>	Sikagard®-552 IN Primer W	1
	Protective coating <sup>3)</sup>	Sikagard®-550 W IN	2

<sup>1)</sup> Please refer to the respective product data sheet for additional information.

<sup>2)</sup> For very difficult substrate (very dense or weak with tensile strength < 1 N/mm<sup>2</sup>) and at low temperature, use solvent containing primer Sikagard®-551 S Elastic Primer.

<sup>3)</sup> In case of an intensive yellow or red colour shade and/or a dark substrate, more than two coats might be required. A third coat may also be required in order to achieve the required thickness for full durability (crack bridging, adhesion after thermal cycling, etc.)

## APPLICATION INFORMATION

**Mixing ratio** The materials are supplied ready for use. Stir thoroughly prior to application.

Consumption	Product	Consumption
	Sikagard®-551 S Elastic Primer	~0.100–0.150 kg/m <sup>2</sup>
	Sikagard®-552 IN Primer W	~0.120–0.200 kg/m <sup>2</sup>
	Sikagard®-550 W IN	~0.200–0.220 kg/m <sup>2</sup> /coat

The consumption may vary depending on substrate porosity, temperature and humidity.

**Layer thickness** 200–225 microns in 2 coats (to achieve desired equivalent air thickness for CO<sub>2</sub> diffusion and Water vapour diffusion).

<b>Ambient air temperature</b>	+8 °C min. / +40 °C max.												
<b>Relative air humidity</b>	< 80 %												
<b>Dew point</b>	Substrate and ambient temperature must be at least +3 °C above dew point.												
<b>Substrate temperature</b>	+8 °C min. / +40 °C max.												
<b>Waiting time / Overcoating</b>	Waiting time between coats at +20 °C substrate temperature: <table border="1"> <thead> <tr> <th><b>Previous coating</b></th> <th><b>Next coating</b></th> <th><b>Waiting time</b></th> </tr> </thead> <tbody> <tr> <td>Sikagard®-551 S Elastic Primer</td> <td>Sikagard®-550 W IN</td> <td>18 hours min.</td> </tr> <tr> <td>Sikagard®-552 IN Primer W</td> <td>Sikagard®-550 W IN</td> <td>6 hours min.</td> </tr> <tr> <td>Sikagard®-550 W IN</td> <td>Sikagard®-550 W IN</td> <td>2 hours min.</td> </tr> </tbody> </table>	<b>Previous coating</b>	<b>Next coating</b>	<b>Waiting time</b>	Sikagard®-551 S Elastic Primer	Sikagard®-550 W IN	18 hours min.	Sikagard®-552 IN Primer W	Sikagard®-550 W IN	6 hours min.	Sikagard®-550 W IN	Sikagard®-550 W IN	2 hours min.
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	Note: <ul style="list-style-type: none"> <li>When application is on existing coatings, the waiting time for both primers will increase by 100 %.</li> <li>Refresher coats of Sikagard®-550 W IN can be applied without priming if the existing coat has been thoroughly cleaned.</li> </ul>												
<b>Applied product ready for use</b>	~7 days (full cure) at +20 °C												

## 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.

## FURTHER DOCUMENTS

Sika Method Statement: Sikagard® Protective Coatings

## 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 / PRE-TREATMENT

The substrate must be dense and free from loose and friable particles. Tensile strength of the substrate must be more than 1 N/mm<sup>2</sup>.

### Exposed concrete without existing coating

Suitable preparation methods are steam cleaning, high pressure water jetting or blastcleaning. New concrete must be at least 28 days old.

### Thin layer renderings

If required, a levelling pore sealer like Sikagard® -720 EpoCem® IN or SikaLatex® Power modified cement putty shall be applied. For cement based products, allow a curing time of at least 4 days before priming (except when the EpoCem is used, then coating can be applied within 24 hours).

### Exposed concrete with existing coating

Existing coatings must be tested to confirm their adhesion to the substrate -

- adhesion test average > 0.8 N/mm<sup>2</sup> with no single value below 0.5 N/mm<sup>2</sup> for subsequent top elastic coating

Please refer to the relevant Method Statement for more details.

- For water based coating, use Sikagard®-552 IN Primer W as primer
- For solvent based coating, use Silane Siloxane modified Sikagard®-551 S Elastic Primer

In case of doubt, carry out adherence testing to determine which primer is most suitable - wait at least 2 weeks after application prior to conduct the adhesion test as per EN 1542.

## APPLICATION

### IMPORTANT

Protect the coating from damp, condensation and direct water contact for at least 4 hours.

- Apply Sikagard®-552 IN Primer W or Sikagard®-551 S Elastic Primer evenly onto the substrate. Note: For use on very dense substrates up to 10 % Sika® Thinner C may be added to Sikagard®-551 S Elastic Primer.
- Apply 2 coats by brush, roller or airless spray. For more details, refer to Sika Method Statement: Sikagard® Protective Coatings.

## CURING TREATMENT

Sikagard®-550 W IN does not require any special curing but must be protected from rain for at least 4 hours at +20 °C.

## CLEANING OF TOOLS

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

For Sikagard®-551 S Elastic Primer use Sika® Thinner C.

## 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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### Product Data Sheet

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