

Sikagard® -550 W Elastic

Crack bridging protective coating for concrete

Product Description	Sikagard® -550W Elastic is a one-component, Plasto-elastic coating based on UV-curing acrylic dispersion with excellent crack-bridging properties even at temperature below 0°C. Sikagard® -550W Elastic complies with the requirements of EN 1504-2 as protective coating.
Uses	<ul style="list-style-type: none"> ■ Sikagard® -550W Elastic is used for protection and enhancement of concrete structures (normal and lightweight concrete), especially exposed outdoor concrete surfaces with a risk of cracking ■ Sikagard® -550W Elastic is used with concrete repair works as an elastic protective coating on Sika smoothing mortar (refer to your product / system date sheet), fibre cement and over coating of existing sounding adhering coatings ■ Suitable for Protection against ingress (Principle 1, method 1.3 of EN 1504-9) ■ Suitable for moisture control (Principle 2, method 2.3 of EN 1504-9) ■ Suitable for increasing the resistivity (Principle 8, method 8.3 of EN 1504-9)
Characteristics/ Advantages	<ul style="list-style-type: none"> ■ Crack-bridging even at low temperatures (-20°) ■ High diffusion resistance against CO₂ reducing the rate of carbonation ■ Water vapour permeable ■ Excellent resistance against weathering and ageing ■ Very good resistance against weathering and ageing ■ Environmentally friendly (solvent free) ■ Reduced tendency to dirt pick up and contamination
Tests	
Approval / Standards	LPM Report A-33' 882-2 dated June 09 The product is included in a compilation of tested products and systems as per OS 5a (OS DII) at the German Institute of Road Systems ■ <i>Sikagard® -550W Elastic has been tested as per SCAQMD Method 304-91 Result VOC Content < 50 g</i>
Product Data	
Form	
Appearance / Colours	Thixotropic liquid available in a wide range of colours.
Packaging	20 kg plastic pails
Storage	
Storage Conditions / Shelf Life	24 months from date of production if stored properly in undamaged and unopened original sealed packaging in cool and dry conditions. Protected from direct sunlight and frost



Technical Data

Chemical Base	Acrylate dispersion
Density (at +20 °C)	~ 1.39 kg/l (at +20°)
Solid Volume	~ 53.4 %
Solid Content	~ 66.1 %

Layer Thickness Minimum required dry film thickness to achieve the required characteristics (CO₂ equivalent air thickness of 50 m) = 160 microns.
Maximum required dry film thickness to achieve full durability characteristics (CO₂ diffusion, adhesion after thermal cycling and crack bridging) = 340 microns.

Carbon Dioxide Diffusion Coefficient (μCO₂)	Dry film thickness	d = 160 μm
	Equivalent air layer thickness	S _D , CO ₂ = 51 m
	Diffusion coefficient CO ₂	μCO ₂ = 3.1 x 10 ⁵
	Requirements for protection	S _D , CO ₂ ≥ 50 m

Water Vapour Diffusion Coefficient (μH₂O)	Dry film thickness	d = 230 μm
	Equivalent air layer thickness	S _D , H ₂ O = 0.78 m
	Diffusion coefficient H ₂ O	μH ₂ O = 2.5 x 10 ³
	Requirements for breathability	S _D , CO ₂ ≤ 5 m

Mechanical / Physical Properties

Elongation at Tear	Elongation at break at room temperature (not exposed to weathering): 63% Elongation at break at -20°C: 70%	
Crack-Bridging Capacity	Class A1(-20°C)	EN 1062-7
Cross Cut	GT 0	EN ISO 2409
Capillary Absorption	w = 0.02 kg/(m ² h ^{0.5})	EN 1062-3
Pull-Off	2.9 (2.8) N/mm ²	EN 1542
Adhesion after thermal Compatibility	For Outside application with De-Icing Salt Influence 2.9 (2,1) N/mm ²	EN 13687-part 1 & part 2
Artificial Weathering	Pass after 2000 hours	EN 1062-11

System Information

System Structure

System	Product	Number of applications
Priming ⁽¹⁾	Sikagard® -552W Aquaprimer	1
Top coat ⁽²⁾	Sikagard® -550 W Elastic	2 - 3

Note⁽¹⁾

Please refer to the respective data sheet for additional information.

Note⁽²⁾

For very difficult substrate (very dense or weak with tensile strength < 1 N/mm²) and at low temperature, use solvent containing primer Sikagard® -551S Primer.

Note⁽³⁾

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 is also required in order to achieve the required thickness for full durability (crack bridging, adhesion after thermal cycling, etc.)

Application Details

Consumption

Product	Per coat
Sikagard® -551S Primer	~ 0.10 - 0.15 kg/m ²
Sikagard® -552W Aquaprimer	~ 0.10 - 0.15 kg/m ²
Sikagard® -550 W Elastic	~ 0.25 - 0.35 kg/m ²

Substrate Preparation

Exposed concrete without existing coating:

The surface must be dry, solid and free from loose and friable particles.

Suitable preparation methods are steam cleaning, high pressure water jetting or blastcleaning.

New concrete must be at least 28 days old.

If required, a levelling pore sealer (e.g. Sika MonoTop® -723N, Sikagard® -720, EpoCem Sikagard® -545W Elastofill, etc.) shall be applied – refer to the respective product data sheet. For cement based products, allow a curing time of at least 14 days before coating (expect 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 and their suitability - adhesion test average >0.8 N/mm² with no single value below 0.5 N/mm². refer to the relevant Method Statement for more details.

For water based coating, use Sikagard® -552 W Aquaprimer as primer.

For solvent based coating, use Sikagard® -545 S Elastic Primer as primer.

In case of doubt, carry out adherence testing to determine which primer is most suitable – wait at least 2 weeks prior to conduct the adhesion test – an average value of 0.8 N/mm² is required with no single value below 0.5 N/mm²

Application Conditions / Limitations

Substrate Temperature +8°C min. / +30°C max.

Ambient Temperature +8°C min. / +30°C max.

Relative Air Humidity < 80%

Dew Point Temperature must be at least 3°C above dew point

Application Instructions

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

Application Method / Tools Apply Sikagard® -551S Primer or Sikagard® -552W Aquaprimer evenly with brush or roller onto substrate. For use on very dense substrates up to 10% Sika Thinner C may be added to Sikagard® -551 S Primer.

Sikagard® -550 W Elastic can be applied by brush or short hair roller or airless spray respectively.

Cleaning of Tools Clean all tools and application equipment with water immediately after use.

Hardened/cured material can only be mechanically removed.

For Sikagard® -551S Primer use Thinner C.

Waiting Time / Overcoating

Waiting time between coats at +20°C substrate temperature:

Previous coating	Waiting time	Next coating
Sikagard® -552W Aquaprimer	5 hours min.	Sikagard® -550W Elastic
Sikagard® -551S Primer	18 hours min.	Sikagard® -550W Elastic
Sikagard® -550W Elastic	8 hours min.	Sikagard® -550W Elastic

Note: When application is on existing coatings, the waiting time for both primers will increase by 100%.

Refresher coats of Sikagard® -550W Elastic can be applied without priming if the existing coat has been thoroughly cleaned.

Notes on Application / Limitations

Do not apply when there is:

- Expected rain
- Relative humidity > 80%
- Temperature below +8°C and/or below dew point
- Concrete younger than 28 days

The system is resistant to aggressive atmospheric influences.

Curing Details

Curing Treatment

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

Applied Product ready for use

Full cure: ~ 7 hours at +20°C

Value base

All technical data 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 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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the recent material Safety data Sheet 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.



Sika Egypt for Construction Chemicals
 El About City
 1st industrial zone (A)
 Section # 10 Block 13035,
 Egypt

Tel :+202- 4481 0580
 Fax :+202- 4481 0459
 Mob :+2012- 2390 8822/55
 www.sika.com.eg

