

Sikagard®-550 W Elastic

Crack bridging & Anti-Carbonation protective coating for concrete

Product Description Sikagard®-550 W Elastic is a one part, plasto-elastic coating based on UV-curing acrylic dispersion with excellent crack-bridging properties even at temperatures below 0°C.

- Uses**
- Protection and enhancement of concrete structures (normal and lightweight concrete), especially exposed concrete surfaces with a risk of cracking
 - With concrete repair works as an elastic protective top coating on Sika® mortar thin layer levelling mortar (refer to product data sheet)

- Characteristics / Advantages**
- Crack-bridging even at low temperatures (-20°C)
 - High diffusion resistance against CO₂ reducing the rate of carbonation
 - Water vapour permeable
 - Very good resistance against weathering and ageing
 - Can be diluted with water
 - Environmentally friendly (solvent free)
 - Reduced tendency to dirt pick up and contamination

Product Data

Form

Appearance / Colours Thixotropic liquid available in available ~RAL shades.

Packaging 10 kg container

Storage

Storage Conditions / Shelf-Life 6 months from date of production if stored properly in undamaged and unopened original sealed packaging in cool and dry conditions. Protect from direct sunlight and frost.

Technical Data

Chemical Base Aliphatic Acrylate

Density ~ 1.24 kg/l (at +27°C)

Solid Volume ~ 49%

Solid Content ~ 59%



Layer Thickness

d_{\min} (minimum required thickness to achieve the required characteristics - CO₂ equivalent air thickness of 50 m and crack bridging) = 200 microns.

D_{\max} (maximum required thickness not to go beyond the H₂O equivalent air thickness of 4 m) = 1635 microns.

Carbon Dioxide Diffusion Coefficient (μCO_2)

Dry film thickness	$d = 337 \mu\text{m}$
Equivalent air layer thickness	$S_D, \text{CO}_2 = 84 \text{ m}$
Diffusion coefficient CO ₂	$\mu\text{CO}_2 = 2.5 \times 10^5$
Requirements for protection	$\geq 50 \text{ m}$

Water Vapour Diffusion Coefficient ($\mu\text{H}_2\text{O}$)

Dry film thickness	$d = 319 \mu\text{m}$
Equivalent air layer thickness	$S_D, \text{H}_2\text{O} = 0.78 \text{ m}$
Diffusion coefficient H ₂ O	$\mu\text{H}_2\text{O} = 2.5 \times 10^3$
Requirements for breathability	$\leq 4 \text{ m}$

Mechanical / Physical Properties**Elongation at Tear**

(According to ASTM53504)

Elongation at break at room temperature (not exposed to weathering): 150%

Crack-Bridging Capacity

Class A1 (-20° C)

(According to EN 1602-7)

Adhesion Strength2.5 N/mm²

(According to EN 1542)

Adhesion Weathering

Pass after 2000 hours

(According to EN 1602-11)

System Information**System Structure**

System	Product	Number of applications
Priming	Sikagard®-551 W Elastic Primer	1
Top coat	Sikagard®-550 W Elastic	2

Application Details**Consumption**

Product	Per coat
Sikagard®-551 S Elastic Primer	~ 0.20 - 0.25 kg/m ²
Sikagard®-550 W Elastic	~ 0.30 kg/m ² / coat

Substrate Preparation	<p><i>Exposed concrete without existing coating:</i></p> <p>The surface must be dry, sound and free from loose and friable particles. Suitable preparation methods are steam cleaning, high pressure water jetting or blastcleaning.</p> <p>New concrete must be at least 28 days old.</p> <p><i>Exposed concrete with existing coating:</i></p> <p>Existing coatings must be tested to confirm their adhesion to the substrate - adhesion test average >0,8 N/mm² with no single value below 0.5 N/mm².</p> <p>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</p>
------------------------------	--

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +40°C max.
Ambient Temperature	+10°C min. / +40°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	<p>Apply Sikagard®-551 S Elastic Primer evenly onto the substrate. For use on very dense substrates up to 10% Sika® Thinner DS may be added to Sikagard®-551 S Elastic Primer.</p> <p>Sikagard®-550 W Elastic can be applied by brush, roller or airless spray.</p>
Cleaning of Tools	<p>Clean all tools and application equipment with clean water immediately after use. Hardened / cured material can only be removed mechanically.</p> <p>For Sikagard®-551 S Elastic Primer use Sika® Colma Cleaner</p>

Waiting Time / Overcoating	Waiting time between coats at +20°C substrate temperature:		
	Previous coating	Waiting time	Next coating
	Sikagard®-551 S Elastic Primer	6 hours min.	Sikagard®-550 W Elastic
	Sikagard®-550 W Elastic	6 hours min.	Sikagard®-550 W Elastic

Notes on Application / Limitations	<p>Do not apply when there is:</p> <ul style="list-style-type: none"> - Expected rain - Relative humidity >80% - Temperature below +8°C and/or below dew point - Concrete younger than 28 days <p>The system is resistant to aggressive atmospheric influences.</p>
---	--

Curing Details

Curing Treatment	Sikagard®-550 W Elastic does not require any special curing but must be protected from rain for at least 4 hours at +20°C.
Applied Product ready for use	Full cure: ~ 7 days at +20°C

Value Base	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.
-------------------	--

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most 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 India Pvt. Ltd.
Commercial Complex II
620, Diamond Harbour Road
Kolkata, 700 034, India

Phone +91 33 2447 2448/2449
Telefax +91 33 2468 8688/2665
www.sika.in
info@in.sika.com