

Product Data Sheet

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Sikagard® -550 W Elastic ZA

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Crack bridging protective coating for concrete

Product Description	Sikagard® -550 W Elastic ZA 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	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ 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
Tests	
Approval / Standards	Test according to ZTV SIBOS-D II from the Polymer Institute dd 16.10.01 Nr. P2438 Test according to ZTV SIBOS-D II from the Polymer Institute dd 16.10.01 Nr. P2436 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 and is registered in the LCPC (French Laboratoire des Ponts et Chaussées) list of approved paint systems for civil engineering structures.
Product Data	
Form	
Appearance / Colour	Thixotropic liquid available in almost every colour shade.
Packaging	5, 20 and 200 litre containers
Storage	
Storage Conditions / Shelf-Life	12 months from date of production if stored properly (+5°C and +30°C) in undamaged and unopened original sealed packaging in cool and dry conditions. Protect from direct sunlight and frost.
Technical Data	
Chemical Base	Acrylate dispersion
Density	~ 1.40 kg/l (at +25°C)
Solid Volume	~ 53.4%
Layer Thickness	D _{minp} (minimum required thickness to achieve the required characteristics - CO ₂ equivalent air thickness of 50m and crack bridging) = 200 microns. D _{maxp} (maximum required thickness not to go beyond the H ₂ O equivalent air thickness of 4m) = 1635 microns.

Construction

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_2O	$\mu\text{H}_2\text{O} = 2.5 \times 10^3$
Requirements for breathability	$\leq 4\text{m}$

Mechanical / Physical Properties

Elongation at Tear	Elongation at break at room temperature (not exposed to weathering): 63% Elongation at break at -20°C : 32%
Crack-Bridging Capacity	Class I _T according to ZTV SIB 90-TL/TP OS

System Information**System Structure**

System	Product ⁽¹⁾	Number of Applicators
Priming	Sikagard®-550 W Primer	1
Top Coat	Sikagard®-550 W Elastic ZA	2

Note⁽¹⁾

Please refer to the respective data sheet for additional information.

Note⁽³⁾

The number of layer depends on the pore structure in order to achieve a pore-free surface.

Application Details**Consumption**

Product	Per Coat
Sikagard®-550W Primer	~ 6.0m ² /litre
Sikagard®-550 W Elastic ZA	~ 4.0 – 6.0m ² /litre

Substrate Preparation

Exposed concrete without existing coating:

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.

New concrete must be at least 28 days old.

If required, a levelling pore sealer (e.g. Sika® MonoTop®-620) should be applied. For cement based products, allow a curing time of at least 4 days before coating.

Exposed concrete with existing coating:

Existing coatings must be tested to confirm their adhesion to the substrate - adhesion test average $> 0.8 \text{ N/mm}^2$ with no single value below 0.5 N/mm^2 .

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 steam cleaning or high pressure water jetting

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/mm^2 is required with no single value below 0.5 N/mm^2 .

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®-550W Elastic Primer evenly onto the substrate. For use on very Sikagard®-550 W Elastic ZA can be applied by brush, roller or airless spray.
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®-550W Elastic Primer use Sika® Kwiklean.

Waiting Time / Overcoatability

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

Previous Coating	Waiting Time	Next Coating
Sikagard®-550 W Elastic Primer	8 hours min	Sikagard®-550 W Elastic ZA
Sikagard®-550 W Elastic ZA	8 hours min	Sikagard®-550 W Elastic ZA

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

Refresher coats of Sikagard®-550 W Elastic ZA 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 ZA 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
Notes	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 performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the product uses.



Health and Safety Information

Protective Measures

Sikagard®-550 W Elastic Primer contains volatile, flammable liquids, observe relevant regulations concerning health and safety at work. Keep away from ignition sources, refrain from smoking. Use only in well ventilated spaces. Risk of serious damage to eyes. Wear protective goggles and gloves made of appropriate plastic material. No special precautionary measures are necessary for Sikagard®-550 W Elastic ZA. General protective and hygiene measures shall be taken.

For more detailed information, please ask for the Material Safety Data Sheet.

Ecology

Transportation Class

Important Notes

Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.

Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the Material Safety Data Sheet.

Toxicity

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 or access on the Internet under <https://eth.sika.com>



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