

PRODUCT DATA SHEET

Sikagard®-550 W Elastic (G)

Crack Bridging and anti-carbonation Protective Coating for Concrete

DESCRIPTION

Sikagard®-550 W Elastic (G) is a one component, plasto-elastic coating based on acrylic dispersion with excellent crack-bridging properties. It has excellent resistance against carbonation and ingress of chloride ions, sulphates and oxygen. Suitable for use in hot and tropical climatic conditions.

USES

- Sikagard®-550 W Elastic (G) is used for protection and enhancement of concrete structures (normal and lightweight concrete), especially exposed outdoor concrete surfaces with a risk of cracking.
- Sikagard®-550 W Elastic (G) is used with concrete repair works as an elastic protective coating on Sika® smoothing mortars (SikaRep®, Sika Monotop® range), fibre cement and overcoating of existing soundly 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)
- Can be applied on various substrates such as bricks, masonry, concrete blocks, and metal elements such as aluminum sections.
- Damp proof coating on facades for high rise and low rise residential, commercial, institutional buildings, etc.
- Vapor control layer for facade application.
- Comprehensive barrier against carbon dioxide, water, sulphates and chloride ions.
- Bridge, highway structures and underpasses.
- Multi storey car parks and underground garages.

CHARACTERISTICS / ADVANTAGES

- Crack-bridging.
- High diffusion resistance against CO₂ reducing the rate of carbonation
- Water resistive, and vapour permeable
- Very good resistance against chlorides, weathering and ageing
- Environmentally friendly (solvent free)
- Reduced tendency to dirt pick up and contamination
- Excellent properties / reaction to fire: Class A according to ASTM E84-16

SUSTAINABILITY

Sikagard®-550 W Elastic (G) 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 / CERTIFICATES

- Applus Laboratories Report No. 15/10467-1097-S for crack bridging, classified as Class A4 and Class B.3.1 according to UNE-EN 1062-7:2004 Methods A - C.2 and B - B.3.1
- Certified by Thomas Bell-Wright International Consultants according to ASTM E84-16 : Standard Test Method for Surface Burning Characteristic of Building Materials. Certificate number: TBM0300203.
- Approved by Dubai Civil Defence (DCD), issuance date: 16.2.2019.
- Sikagard®-550 W Elastic (G) follows the requirements of EN 1504-2 as a protective coating.

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December 2020, Version 03.01
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PRODUCT INFORMATION

Composition	Acrylate dispersion
Packaging	20 kg pail
Appearance / Colour	Thixotropic liquid, available in standard RAL colours: Signal Yellow: RAL 1003, Sky Blue: RAL 5015, Traffic Green: RAL 6024, Light Grey: RAL 7035, Window Grey: RAL 7040 and Pure White: RAL 9010. Other RAL colours subject to minimum product order.
Shelf life	12 months from date of production
Storage conditions	Store in cool, dry conditions in original, undamaged sealed packaging and at temperatures between +5°C and +30°C. Protect from direct sunlight, heat and moisture.
Density	~1.34 kg/l (20 °C)
Solid content by weight	~62 %
Solid content by volume	~46 %
Volatile organic compound (VOC) content	The maximum content of Sikagard®-550 W Elastic (G) is < 40 g/l VOC for the ready to use product.
Viscosity	1200 Cps (25 °C)

TECHNICAL INFORMATION

Tensile strain at break	Room temperature (not exposed to weathering): ~37 %	(EN 1504-2)									
Tensile adhesion strength	≥ 1,5 N/mm ² (or concrete failure)	(ASTM D4541)									
Crack bridging ability	Class A 4 (> 1.25 mm) Class B.3.1	(UNE-EN 1062-7:2004 Method A - C.2) (UNE-EN 1062-7:2004 Method B - B.3.1)									
Reaction to fire	<table><thead><tr><th></th><th>lab result</th><th>Class A - requirements</th></tr></thead><tbody><tr><td>Flame Spread Index (FSI)</td><td>15</td><td>0 - 25</td></tr><tr><td>Smoke Development Index (SDI)</td><td>0</td><td>0 - 450</td></tr></tbody></table>		lab result	Class A - requirements	Flame Spread Index (FSI)	15	0 - 25	Smoke Development Index (SDI)	0	0 - 450	(ASTM E84-16)
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Note: Applied dry film thickness (DFT) ~200 µm											

Behaviour after artificial weathering	No cracking, no chalking, no flaking, no wrinkling, no blistering, or any other type of failure.		(ASTM G154-16)
Water absorption	Result W = 0.024 kg/(m ² h ^{0.5})	Requirements W < 0.1 kg/(m ² h ^{0.5})	(EN 1062-3)
Chloride ion diffusion resistance	< 1000 coulombs Classification: Very Low RCP		(ASTM C1202)
Permeability to carbon dioxide	Test Diffusion equivalent air layer thickness (Sd)	Result >100 m	Requirements >50 m (BS EN 1062-6)
Note: Applied dry film thickness (DFT) ~200 µm			

SYSTEMS

System structure	System	Product ⁽¹⁾	Number of applications
	Priming ⁽²⁾	Sikagard®-552 W Aquaprimer (G)	1
	Priming (optional)	Sikagard®-550 W Elastic (G) diluted with 20 - 25% water	1
	Priming (optional)	Sikagard®-700 S	1
	Top coat ⁽³⁾	Sikagard®-550 W Elastic (G)	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/or the use of hydrophobic primer Sikagard®-700 S.

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 DFT thickness for full durability (crack bridging, adhesion after thermal cycling, etc.)

APPLICATION INFORMATION

Consumption

Product	Per coat
Sikagard®-552 W Aquaprimer (G)	~0.10 - 0.15 kg/m ²
Sikagard®-700 S	~0.15 - 0.30 kg/m ²
Sikagard®-550 W Elastic (G)	~0.25 - 0.35 kg/m ²

Some substrates will require higher consumption than indicated above. 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..

Layer thickness	Recommended minimum dry film thickness to achieve the required characteristics ≈200 microns.
Ambient air temperature	+8 °C min. / +40 °C max.
Relative air humidity	< 80 %
Dew point	Temperature must be at least 3 °C above dew point.
Substrate temperature	+8 °C min. / +40 °C max.
Waiting time to overcoating	Waiting time between coats at +23 °C substrate temperature:

<u>Previous coating</u>	<u>Minimum waiting time</u>	<u>Next coating</u>
Sikagard®-552 W Aquaprimer (G)	5 h	Sikagard®-550 W Elastic (G)
Sikagard®-552 W Aquaprimer (G)	12 h	Sikagard®-Putty AE
Sikagard®-700 S	24 h	Sikagard®-550 W Elastic (G)
Sikagard®-700 S	24 h	Sikagard®-Putty AE
Sikagard®-550 W Elastic (G)	8 h	Sikagard®-550 W Elastic (G)

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

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



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.

IMPORTANT CONSIDERATIONS

Do not apply when there is:

- Rain expected

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

The substrate must be dense and free from loose and friable particles. Pull off strength of the substrate must be more than 1 N/mm².

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 EpoCem is used, then coating can be applied after 24 hours).

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 blast cleaning. New concrete must be at least 28 days old.

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 (G) as primer.

For solvent based coating please contact Sika Technical Department for clarification.

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

APPLICATION

Apply Sikagard®-700 S or Sikagard®-552 W Aquaprimer (G) evenly onto the substrate. Sikagard®-550 W Elastic (G) can be applied by brush, roller or airless spray.

CURING TREATMENT

Sikagard®-550 W Elastic (G) does not require any special curing but must be protected from rain for at least 4 hours at +23 °C.

Full cure: ~7 d at +23 °C

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CLEANING OF EQUIPMENT

Clean all tools and application equipment with clean water immediately after use. Hardened / cured material can only be removed mechanically.
For Sikagard®-700 S use Colma Cleaner.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product 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.

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