BUILDING TRUST

PRODUCT DATA SHEET

Sikagard®-545 W Elastofill

INTERMEDIATE COAT FOR CRACK BRIDGING PROTECTIVE COATING SYSTEM

PRODUCT DESCRIPTION

Sikagard®-545 W Elastofill is an elastic acrylic copolymer dispersion intermediate
Sikagard®-545 W Elastofill is part of a crack-bridging system comprising of:

- Sikagard®-551 S Elastic Primer (solvent containing) or
- Sikagard®-552 W Aquaprimer (water-based) as a primer
- Sikagard®-545 W Elastofill as intermediate coat
- Sikagard®-550 W Elastic as top coat

Sikagard® crack bridging system complies with the requirements of EN 1504-2 as protective coating.

USES

Sikagard®-545 W Elastofill is designed as a crack-bridging intermediate coat in combination with Sikagard®-550 W Elastic
Sikagard®-545 W Elastofill as a filler coat closes pores, cavities and blowholes
Sikagard®-550 W Elastic as a coloured top coat protects and embellishes.
Sikagard® crack bridging system is used for protection and enhancement of concrete structures (normal and lightweight concrete), especially outdoor exposed concrete surfaces with a high risk of cracking.

- 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

- Water thinnable, ecologically harmless
- Easy to apply
- Easy filling properties for pores, small cavities and blowholes
- Outstanding carbonation inhibitor
- Good water vapour permeability
- Crack-bridging even at low temperatures (-20°C)
- Can retain board mark texture/formwork patterns if required
- Resistant to freeze/thaw and de-icing salts

APPROVALS / STANDARDS

- Test according to ZTV SIB 90, TL/TP-OS-D II:
- LPM, Switzerland Test report No. A -33’883-2 dated July 09
- Protective coating according to EN 1504-2, DoP 02 03 03 03 003 0 000002 1125; certified by Factory Production Control Body: 0921; certificate 0921-BPR-2046 and provided with the CE-mark

PRODUCT INFORMATION

Chemical Base	Acrylate dispersion
Packaging	15 l oval plastic pail
Appearance / Colour	Light grey paste
Shelf Life	12 months from date of production if stored properly in undamaged and unopened original sealed packaging.
Storage Conditions	Store in cool and dry conditions. Protect from direct sunlight and frost.
Density	~1.24 kg/l (at +20 °C)

Solid content by volume	~62%

TECHNICAL INFORMATION

Elongation at Break	At room temperature (not exposed to weathering)	63%	
	At –20 °C	32%	
Tensile Adhesion Strength	1.0 N/mm²		(EN 1542)
Crack Bridging Ability	Class A3 (–20 °C)		(EN 1062-7)
Freeze Thaw De-Icing Salt Resistance	0.8 (0.7) N/mm²		(EN 13687-part 1 & part 2)
Behaviour after Artificial Weathering	Pass after 2000 hours		(EN 1062-11)
Diffusion Resistance to Water Vapour	Dry film thickness	d = 600 µm	(EN ISO 7783-1 & -2)
	Equivalent air layer thickness	S_D, H_2O = 0.65 m	
	Diffusion coefficient H_2O	$\mu H_2O = 1.1 \times 10^3$	
	Requirements for breathability	S_D, $H_2O \leq 5$ m	
Capillary Absorption	w = 0.02 kg/(m²h$^{0.5}$)		(EN 1062-3)
Carbonation Resistance	Dry film thickness	d = 690 µm	
	Equivalent air layer thickness	S_D, CO_2 = 83 m	
	Diffusion coefficient CO_2	$\mu CO_2 = 1.2 \times 10^5$	
	Requirements for breathability	S_D, $CO_2 \geq 50$ m	

SYSTEM INFORMATION

System Structure

System	Product(1)	Number of application
Priming(2)	Sikagard®-552 W Aquaprimer	1
Intermediate coat(3)	Sikagard®-545 W Elastofill	1–2(3)
Top coat(4)	Sikagard®-550 W Elastic	2

(1) Refer to the respective product data sheet for additional information
(2) For concrete with a surface tensile adhesive strength < 1 N/mm² use solvent containing primer Sikagard®-551 S Elastic Primer
(3) Number of application layer of Sikagard®-545 W Elastofill depend on technical requirement, substrate condition or application (e.g. overhead application, high crack bridging requirement, etc.).
(4) For intensive yellow or red colour shades and/or a dark substrate, more than two coats might be required.

APPLICATION INFORMATION

Consumption

Product	Per coat	Per coat
Sikagard®-552 W Aquaprimer	–	~ 0.10–0.15 kg/m²
Sikagard®-545 W Elastofill	~ 0.60–0.85 l/m²	~ 0.80–1.10 kg/m²
Sikagard®-550 W Elastic	~ 0.18–0.25 l/m²	~ 0.25–0.35 kg/m²

Layer Thickness	This will depend on the site requirement and use of the product.
Ambient Air Temperature	+8 °C min. / +30 °C max.

Relative Air Humidity	< 80%
Dew Point	Substrate and ambient temperature must be at least 3 °C above dew point.
Substrate Temperature	+8 °C min. / +30 °C max.
Waiting Time / Overcoating	Waiting time between coats at +20 °C substrate temperature:

Previous coating	Waiting time	Next coating
Sikagard®-552 W Aquaprimer	5 hours min.	Sikagard®-545 W Elastofill
Sikagard®-551 S Elastic Primer	18 hours min.	Sikagard®-545 W Elastofill
Sikagard®-545 W Elastofill	12 hours min.	Sikagard®-545 W Elastofill
Sikagard®-545 W Elastofill	10 hour min.	Sikagard®-550 W Elastic
Sikagard®-550 W Elastic	8 hours min.	Sikagard®-550 W Elastic

Note:
Refresher coat of Sikagard®-545 W Elastofill or Sikagard®-550 W Elastic can be applied without priming if the existing coat has been thoroughly cleaned. Adhesion tests are always recommended in maintenance and refurbishment works.

Curing Treatment	Sikagard®-545 W Elastofill does not require any special curing but must be protected from rain for at least 6 hours at +20 °C.
Applied Product Ready for Use	Full cure: ~ 7 days at +20 °C

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Exposed concrete without old 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 cement based pore sealer (e.g. Sika® MonoTop®-620, Sikagard®-720 EpoCem® etc.) can be used – refer to the respective product data sheet. Allow a curing time of at least 4 days before coating (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 and their suitability - adhesion test average > 0.8 N/mm² with no single value below 0.5 N/mm².
For water based coating, use Sikagard®-552 W Aquaprimer as primer.
For solvent based coating, use Sikagard®-551 S Elastic Primer as primer.
To confirm correct primer it is recommended to carry out adhesion 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.
Please note:
The concrete surface must have a fine gripping texture. Very smooth surfaces may require two applications with Sikagard®-545 W Elastofill in order to fill all surface blowholes and pores etc.

APPLICATION

Sikagard®-545 W Elastofill is supplied ready for use.
Stir thoroughly prior to application.

Priming coat
Apply Sikagard®-551 S Elastic Primer orSika gard®-552 W Aquaprimer evenly onto the substrate. On very dense substrates up to 10% Sika Thinner C may be added to Sikagard®-545 W Elastofill.

Intermediate coat
Sikagard®-545 W Elastofill shall be applied by brush or mechanical spray (screw type pump).
Blowholes and pores etc. must be completely filled, using sufficient material.
Attention must be paid to ensure a uniform application.
If a decorative surface texture is to be preserved,scrape coat material into the blowholes.

Texturing of the surface
First application as described above.
For the second application, Sikagard®-545 W Elastofill shall be rolled on with short-piled rollers with the addition of 2 to 3% water. This method gives an attractive finished texture.

Top coat
Sikagard®-550 W Elastic shall 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®-551 S Elastic Primer use Sika Thinner C.

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.

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.

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.

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / c type wb) is 40 g/l for the ready to use product.
The maximum content of Sikagard®-545 W Elastofill is < 40 g/l VOC for the ready to use product.

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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