

# Sikagard® -670 W ElastoColor

Protective coating for exposed concrete

## Product Description

Sikagard®-670 W ElastoColor is a one part acrylate anti – carbonation coating. Sikagard®-670 W ElastoColor can be applied over existing coatings or directly onto the concrete surfaces. Sikagard®-670 W ElastoColor complies with the requirements of EN 1504-2 as a protective coating.

## Uses

Sikagard®-670 W ElastoColor is used for protection and enhancement of concrete structures (normal and lightweight concrete). Sikagard®-670 W ElastoColor is used with concrete repair works as a protective coating on Sika® smoothing mortar (refer to your product / system data sheet), 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)

## Characteristics / Advantages

- Water vapour permeable
- Very good resistance against weathering and ageing
- Easy application
- Environmentally friendly (solvent free)
- Prevents water ingress
- High diffusion resistance to CO<sub>2</sub> (carbon dioxide)

## Tests

**Approvals / Standards** Conforms to the requirements of EN 1504-2.

Construction



## Product Data

### Form

**Appearance / Colours** Thixotropic liquid available in white only.

**Packaging** 20 l pails

### Storage

**Storage Conditions / Shelf-Life** 12 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** Filled acrylate dispersion

**Density** ~ 1.30 kg/l (at +20°C)

**Solid Volume** ~ 60%

**Solid Content** ~ 45%

**Layer Thickness** Minimum required dry thickness to achieve full durability characteristics (CO<sub>2</sub> diffusion, adhesion after thermal cycling, etc.) = 130 microns.

### Carbon Dioxide Diffusion Coefficient (μCO<sub>2</sub>)

Dry film thickness	d = 130 μm
Equivalent air layer thickness	S <sub>D, CO<sub>2</sub></sub> = 1766 m
Diffusion coefficient CO <sub>2</sub>	μCO <sub>2</sub> = 13.6 × 10 <sup>-5</sup>
Requirements for protection	≥ 50 m

### Water Vapour Diffusion Coefficient (μH<sub>2</sub>O)

Dry film thickness	d = 120 μm
Equivalent air layer thickness	S <sub>D, H<sub>2</sub>O</sub> = 0.40 m
Diffusion coefficient H <sub>2</sub> O	μH <sub>2</sub> O = 3400
Requirements for breathability	≤ 5 m( Class 1)

## System Information

### System Structure

**Normal absorbent concrete and/or well cured smoothing coatings**  
(Sika® MonoTop®-620, etc.):

System	Product	Number of applications
-	Sikagard®-670 W ElastoColor	2

**Smooth non absorbent concrete :**

Priming	Sikagard®-551 S Elastic Primer	1
Top coat*	Sikagard®-670 W ElastoColor	2

**Absorbent concrete:**

Priming	Sikagard®-670 W ElastoColor diluted with 5% water	1
Top coat*	Sikagard®-670 W ElastoColor	1-2

**Marine environment, concrete exposed to de-icing salt splashes:**

Priming	Sikagard® hydrophobic impregnation	1
Top coat*	Sikagard®-670 W ElastoColor	2

Note:

A third coat of Sikagard®-670 W ElastoColor might be required dependent of the substrate porosity or if applied on a dark and well adhering existing coating.

### Application Details

#### Consumption

Product	Per coat
Sikagard®-551 S Elastic Primer	~ 0.10 - 0.15 kg/m <sup>2</sup>
Sikagard®-552 W Aquaprimer	~ 0.10 - 0.15 kg/m <sup>2</sup>
Sikagard® hydrophobic impregnation	Refer to local Product Data Sheet
Sikagard®-670 W ElastoColor	~ 0.18 - 0.23 kg/m <sup>2</sup>

### 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 cementitious smoothing coating or pore filler (e.g. Sika® MonoTop®-610, etc.) shall be applied.

For cement based products, allow a curing time of at least 4 days before coating (except when Sikagard® 720 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/mm<sup>2</sup> with no single value below 0.5 N/mm<sup>2</sup>.

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

For solvent based coating, use Sikagard-551 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/mm<sup>2</sup> is required with no single value below 0.5 N/mm<sup>2</sup>.

## Application Conditions / Limitations

<b>Substrate Temperature</b>	+8°C min. / +35°C max.
<b>Ambient Temperature</b>	+8°C min. / +35°C max.
<b>Relative Air Humidity</b>	< 80%
<b>Dew Point</b>	Temperature must be at least 3°C above dew point.

## Application Instructions

**Mixing** The product is supplied ready for use and must be not thinned unless the 1<sup>st</sup> coat is used as a primer (refer to coating system structures). In these instances, add up to 2 - 5% of water and mix thoroughly. Un-thinned material must be stirred up thoroughly prior to application.

**Application Method / Tools** Sikagard®-670 W ElastoColor can be applied by brush, roller or airless spray.  
For airless spray application:  
Pressure: ~ 150 bar  
Nozzle bore: 0.38 - 0.53 mm  
Spray angle: ~ 50 - 80°

**Cleaning of Tools** Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.  
For Sikagard®-551 S Elastic Primer use Sika® Thinner C.

## Waiting Time / Overcoating

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

Previous coating	Waiting time	Next coating
Sikagard®-552 W Aquaprimer	12 hours min.	Sikagard®-670 W ElastoColor
Sikagard®-551 S Elastic Primer	18 hours min.	Sikagard®-670 W ElastoColor
Sikagard® hydrophobic impregnation	5 hours min.	Sikagard®-670 W ElastoColor
Sikagard®-670 W ElastoColor	1 hour min.	Sikagard®-670 W ElastoColor

Note: A refresher coat of Sikagard®-670 W ElastoColor 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.

At temperatures below +8°C to very absorbent substrates and with strong wind, there is a risk of drying cracks and reduced adhesion.

Dark colour shades (especially black, dark red and blue, etc.) may fade more rapidly than other lighter tone colours. Refreshing coat might be required at earlier interval than usual.

## Curing Details

**Curing Treatment** Sikagard®-670 W ElastoColor does not require any special curing but must be protected from rain for at least 2 hours at +20°C.


**Applied Product ready for use** Final drying: ~ 4 hours at +23°C

<b>Value Base</b>	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.
<b>Local Restrictions</b>	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.
<b>Health and Safety Information</b>	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.
<b>Legal Notes</b>	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.

## CE Labelling

The harmonised European standard EN 1504-2 “Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 Surface protection system for concrete” specifies the requirements for coatings to be used to protect concrete structures (either building or civil engineering structures).

Coatings used as concrete protection fall under this specifications – they need to be CE-labelled as per Annex Za, table Za.1d & 1e, conformity 2+ and 3 and fulfil the requirements of the given mandate of the Construction Product Directives (89/106/EC).

 <b>0866</b>	
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<b>EN 1504-2</b> <b>Surface protection products</b> <b>Protective coating</b>	
<b>Permeability to CO<sub>2</sub></b>	<b>S<sub>D</sub> &gt; 50 m</b>
<b>Permeability to water vapour</b>	<b>S<sub>D</sub> &lt; 5 m (class I)</b>
<b>Capillary absorption and permeability to water</b>	<b><math>\omega &lt; 0,1 \text{ kg/m}^2 \cdot \text{h}^{0,5}</math></b>
<b>Adhesion Strength by pull-off test</b>	<b><math>\geq 0,8 (0,5) \text{ N/mm}^2</math></b>
<b>Reaction to fire after application</b>	<b>Class B +s1</b>
<b>Dangerous substances comply with 5.3</b>	



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