Sikagard®
Protective and Decorative Coatings and Sealers for Exterior Concrete and Masonry
Sika’s Protective Coatings offer a first and lasting line of defence against concrete’s natural enemies: carbonation, chlorides and water.

Corrosion of the steel embedded in concrete represents the greatest risk to any concrete structure. Two major causes of this corrosion are carbonation and chloride ion intrusion.

CARBONATION:
Initially, concrete, a highly alkaline material, provides the perfect protection against corrosion. Over time, however, inadequate design, contaminated constituents, poor placing of reinforcement and concrete, exposure to environmental influences and the impact of concrete defects make it possible for atmospheric carbon dioxide to react with the calcium hydroxide in concrete and form calcium carbonate. This phenomenon, called carbonation, results in the reduction of the pH value of the concrete, thus neutralizing the natural protection provided by the concrete to the reinforcing steel. Once this occurs, corrosion is made possible when moisture and oxygen reach and react with the embedded steel.

Sika Canada Inc. Presents its Range of Protective and Decorative Coatings for Exterior Concrete and Masonry

Featuring Sikagard® 550W Elastocolor and Sikagard® 670W – coatings designed not only to enhance the appearance of concrete structures, but more importantly, to protect them against deterioration and damage. These two systems are designed specifically to protect concrete buildings and structures against:

- Carbon dioxide and water ingress - the root causes of carbonation, reinforcement corrosion and concrete deterioration.
- Chloride ion ingress – from atmospheric and environmental sources – which diminishes the protection provided by concrete to reinforcing steel, leading to corrosion-based concrete damage and potential loss of structural integrity.
- Atmospheric gases, acid rain and other air-borne pollutants – which also contribute to concrete contamination.

Sikagard® 550W Elastocolor and Sikagard® 670W now available in over 450 factory-produced colours!

For the first time, all the protective benefits of the Sikagard® range of water-based coatings -- perfectly matched to your colour requirements -- thanks to the new Sika ColorWorks program!

Sika is proud to introduce its colour-matching program, one of the best in the industry. Simply select your desired colour* by referencing the Sika ColorWorks colour fan, indicate the ColorWorks Code when specifying or ordering, and your coating will be produced, in factory, to the desired colour. It’s that simple! And best of all, no minimum quantities are required.

*In addition to the ColorWorks Program, Sikagard Protective Coatings can also be produced to custom-matched colours.
**Sika Coatings**

Years of use around the world have shown Sika coatings to offer:

- **Durability**: long-lasting coatings which increase the service life and reduce maintenance of the structures to which they are applied
- **Protective properties** – offering protection against the ingress of moisture and aggressive gasses and chemicals
- **Environmentally-friendly**, water-based, VOC-free formulations created to support LEED Certification requirements

- **Excellent weather and freeze/thaw damage resistance**
- **Water-vapour permeability**, thus allowing structures to breathe
- **Resistance** to dirt pick-up and mildew
- **Long-lasting UV resistance** and colour stability
- **Highly aesthetic**, smooth or textured finishes
- **Low maintenance finishes** which can easily be refreshed

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**CHLORIDES:**

Chloride-induced corrosion occurs when the concrete is exposed directly or indirectly to chlorides via de-icing salts, contaminated construction materials, or in marine environments. When the chloride ions reach the reinforcement, they destroy the passivating film on the steel, even in uncarbonated concrete, making it vulnerable to corrosion when moisture and oxygen are present.

**By using the Sikagard® protective coatings, an additional long-term barrier is created between the reinforcing steel in the structure and the naturally-occurring elements.**

Sika’s coatings are designed to prevent the ingress of aggressors such as moisture, chlorides, carbon dioxide, and the gasses and pollution which compromise the pH level of the concrete surrounding the steel rebar. They are water vapour permeable -- to allow your structure to breathe -- and resistant to the UV light which causes so many coatings to fail.
Sikagard® Coatings

Rigid vs. Flexible vs. Elastic Coatings: How to Choose?

Protective coatings for reinforced concrete, whether rigid, flexible or elastic, are all designed to protect buildings and structures to varying degrees from the elements which eventually lead to deterioration and the corrosion of reinforcing steel. This corrosion – or rust – in turn, can cause expansion within the concrete and ultimately, staining, cracking and spalling of the concrete from the rebar, leaving it exposed to the environment and to further corrosion.

Rigid coatings offer static protection and serve primarily to enhance the aesthetic value of a structure; because they are inflexible, they cannot respond appropriately to dynamic and crack-inducing movement in structures without eventually being breached.

Flexible coatings, as their name implies, are capable of undergoing non-reversible change; that is, they can deform -- or bend -- under stress, but then do not return to their original shape when the stress is removed.

Unlike the first two types of coverings, elastic coatings deform under stress from external forces and then return to their original shape when the stress is removed. This makes them ideal for structures subject to dynamic, crack-inducing movement.

Sikagard® 550W Elastocolor

An elastic coating designed to beautify and offer long-lasting, maximum protection on buildings and structures subject to micro-cracking.

Buildings prone to micro-cracking require an elastic shell, capable of accommodating and bridging existing and future dynamic micro-cracks. Rigid or flexible coatings, however good, don’t perform adequately on these types of structures; cracks develop, the coating is breached and opportunities for the ingress of moisture and other contaminants are created. Sikagard® 550W Elastocolor is designed specifically for use on concrete, mortar, stucco, masonry and exterior finishing systems under these conditions: the coating cyclically bridges existing, dynamic micro-cracks and remains permanently elastic after installation, even at sub-zero temperatures.

Sikagard® 670W

An environmentally-friendly, flexible coating, designed to protect and beautify structures not subject to dynamic cracking.

Flexible coatings are ideal for structures where dynamic cracking is not an issue. Like Sikagard® 550W Elastocolor, Sikagard® 670W protects against the ingress of moisture, gasses and chemicals, the sources of reinforcing steel corrosion, thus increasing the durability of any structure to which it is applied.

Designed for use on above-grade, exterior applications, Sikagard® 670W has been thoroughly tested under North American conditions and has proven that, in addition to enhancing the appearance of your building or structure, it acts as an excellent carbonation barrier.

Sikagard® Color A50

A flexible coating, also designed to protect and beautify buildings not subject to dynamic cracking.

As with the Sikagard® 670W, it is designed for use on buildings and structures not prone to dynamic cracking. Unlike Sikagard® 670W, it has a solvented formulation which makes it possible to apply it and have it cure at temperatures as low as 0°C (32°F). It, too, is breathable, protects against the ingress of water, carbon dioxide and chlorides and provides excellent weathering properties. It is resistant to weak solvents, alkalis and mineral acids and its harder film gives it superior abrasion resistance. Sikagard® Color A50 meets the Alberta Ministry of Transportation requirements as a Type 3 coating for use as a film-forming sealer on concrete surfaces and is approved by the MTQ.

Two coats of this self-priming coating are all you need to protect and aesthetically enhance concrete, brick, and block.
Sikagard® Sealers

Sikagard® SN100

Sikagard® SN100 is a penetrating monomeric silane solution which forms a water-repelling layer within the surface of concrete and masonry. It penetrates deep into substrates where it resists abrasion, creating a long-lasting barrier against water and weathering. It acts to reduce corrosion by significantly restricting water and water-borne chloride ion intrusion, while allowing the concrete and masonry to breathe.

Because it contains 100% active ingredients, it is a high performance product suitable for both horizontal and vertical surfaces. Approved by the Alberta Ministry of Transportation as a Type 1c sealer, it is designed for use on traffic-bearing surfaces under demanding conditions, such as on parking garages, bridge decks and ramps, or similarly exposed structures. Its VOC content is less than 300g/l.

Sikagard® SN40

While Sikagard® SN40 offers essentially the same features as the Sikagard® SN100, it is a more economical version for use in less demanding environments.

It contains 40% active ingredient and is approved by the Alberta Ministry of Transportation as a Type 1a and 1b sealer for use on bridge decks, abutments, parkades and barrier walls. It is also approved by the Ministère du Transport du Québec under standard MTQ 3601.

Sikagard® SX10

Sikagard® SX10 is composed primarily of a siloxane solution, which reacts in contact with atmospheric moisture and forms a polysiloxane layer, a transparent water-repellant. It is an effective, economical treatment for use on vertical surfaces, such as solid or hollow-core brick and block walls, exposed aggregate concrete panels and concrete façades and retaining walls. Treated surfaces shed many water-borne pollutants and are easier to clean, thus protecting the original appearance and integrity of the structure.

For Sheer Protection of Concrete and Masonry Structures:

Sika offers a range of unpigmented, hydrophobic sealers which do not alter the decorative integrity of concrete, masonry and brickwork on buildings and structures. In general, sealers consist of hydrophobic (water-repellent) impregnations which are capable of resisting various degrees of moisture ingress, from driving rain to water under pump action as a result of passing vehicles.

Sealers are typically used on buildings and structures to reduce the passage of water and chloride into the building fabric...

...which, in turn, minimizes the availability of moisture as a catalyst for reinforcement corrosion. Additionally, protection against the ingress of water reduces the harmful effect of damp upon people, materials and equipment, protects against pollution-based staining and damage due to repeated freeze/thaw cycles.

Sealers are not resistant to carbon dioxide diffusion and thus carbonation, are incapable of bridging dynamic cracks, and do not offer the same life expectancy as coatings.
Primer/Base Coats

Optional, Complementary Primer/Base Coats for Use with the Sikagard® 550W Elastocolor and Sikagard® 670W Systems

Though the Sikagard® 550W Elastocolor and 670W coatings are typically primerless, Sika has created two complementary products to enhance their performance for use under particular situations:

- Sikagard® 552W Aqua Primer for use on chalky or excessively porous substrates
- Sikagard® Elastic Base Coat to provide textured or smooth, high build undercoats.

Where required, the use of Sikagard® 552W Aqua Primer on excessively porous or chalky substrates can facilitate application, reduce consumption and optimise the adhesion of the protective coatings.

The use of Sikagard® Elastic Base Coat is designed to increase the aesthetic value of the Sikagard® coatings: the textured formula, in particular, is recommended to hide surface blemishes and imperfections, and to diminish the appearance of surface undulations. The smooth formula offers an economic alternative to a first coat of the Sikagard® 550W Elastocolor. Both bridge dynamically moving cracks, protect against the ingress of carbon dioxide and chlorides and are water vapour permeable.

Both products are suitable for use with Sikagard® 550W Elastocolor and Sikagard® 670W, and can be used conjointly.

### Sikagard® Coatings Selector & Specification Chart

<table>
<thead>
<tr>
<th></th>
<th>Elastomeric/Rigid</th>
<th>Crack-Bridging</th>
<th>Chloride Barrier &amp; De-Icing Salts Resistant</th>
<th>Weathering &amp; Frost Resistance</th>
<th>UV Light Resistance</th>
<th>Water-Repellent</th>
<th>Water Vapour Permeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sikagard® 550W Elastocolor</td>
<td>Elastomeric</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sikagard® 670</td>
<td>Flexible</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sikagard® Color A50</td>
<td>Flexible</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>

### Sikagard® Primer and Base Coat Selector & Specification Chart

<table>
<thead>
<tr>
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<th>UV Light Resistance</th>
<th>Water-Repellent</th>
<th>Water Vapour Permeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sikagard® 552W Aqua Primer</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>Yes</td>
</tr>
<tr>
<td>Sikagard® Elastic Base Coat</td>
<td>Elastomeric: Can be used with Rigid systems as well.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>n/a</td>
<td>n/a</td>
<td>Yes</td>
</tr>
</tbody>
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### Sikagard® Sealers Selector & Specification Chart

<table>
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<th>UV Light Resistance</th>
<th>Water-Repellent</th>
<th>Water Vapour Permeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sikagard® SN100</td>
<td>n/a</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>n/a</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sikagard® SN40</td>
<td>n/a</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>n/a</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sikagard® SX10</td>
<td>n/a</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>n/a</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* In addition to the over 400 colours available through the ColorWorks Program, Sika can custom-match any colour with a lead time of 10 business days.

** Dependant upon porosity of substrate.

### NOTE
Product selection must be based on the specific requirements of the application, such as substrate type, application conditions and the intended service. In certain applications, primers and undercoats may be required. Preparation and application information is available on the Product Data Sheet for each individual product. For any additional information and for help in selecting the coating best suited to your application, please consult your local Sika Technical Representative.
The Environment

Sika’s Commitment to Sustainability and the Environment:

As a world-leading manufacturer of construction materials, Sika recognizes the importance of producing durable products that promote a sustainable future. Therein lies our motivation for creating coatings which contribute to the preservation and longevity of concrete and masonry structures while respecting the natural environment. In an effort to comply with Green and LEED building efforts, Sikagard products are being designed, wherever possible, to be:

- Water-based
- Low odour
- Low VOC
- Non-toxic
- User- and environmentally-friendly

As you browse through this brochure, simply look for the following logo:

![a GREEN product](image)

### Table: Coverage Rate and Application Temperature

<table>
<thead>
<tr>
<th>Dirt Pick-Up and Mildew Resistant</th>
<th>VOC Content</th>
<th>Coverage Rate**</th>
<th>Application Temperature</th>
<th>Method of Application</th>
<th>Dry Film Thickness Required</th>
<th>Colours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>≤ 50 g/L</td>
<td>2.5 m²/L (101 ft²/US gal)/Coat</td>
<td>5º to 35ºC (40º to 95ºF)</td>
<td>Brush, Roller or Spray</td>
<td>16 mils is recommended.</td>
<td>Unlimited *</td>
</tr>
<tr>
<td>Yes</td>
<td>≤ 75 g/L</td>
<td>7.4 m²/L (300 ft²/US gal)/Coat</td>
<td>5º to 35ºC (40º to 95ºF)</td>
<td>Brush, Roller or Spray</td>
<td>Minimum of 5 mils is recommended, achieved with 2 coats.</td>
<td>Unlimited *</td>
</tr>
<tr>
<td>Yes</td>
<td>≤ 525 g/L</td>
<td>7.4 to 9 m²/L (300 to 366 ft²/US gal)/Coat</td>
<td>0º to 35ºC (32º to 95ºF)</td>
<td>Brush, Roller or Spray</td>
<td>Minimum of 4 mils is recommended, achieved with 2 coats.</td>
<td>Unlimited *</td>
</tr>
<tr>
<td>n/a</td>
<td>≤ 50 g/L</td>
<td>7 to 10 m²/L (285 to 407 ft²/US gal)/Coat</td>
<td>5º to 35ºC (40º to 95ºF)</td>
<td>Brush, Roller or Spray</td>
<td>n/a</td>
<td>Opaque/Clear</td>
</tr>
<tr>
<td>n/a</td>
<td>≤ 75 g/L</td>
<td>2.5 m²/L (101 ft²/US gal)/Coat</td>
<td>5º to 35ºC (40º to 95ºF)</td>
<td>Brush, Roller or Spray</td>
<td>Smooth: 8 mils; Textured: 11 mils.</td>
<td>Off-White</td>
</tr>
</tbody>
</table>

### Table: VOC and Application Details

<table>
<thead>
<tr>
<th>Dirt Pick-Up and Mildew Resistant</th>
<th>VOC *** Content</th>
<th>Coverage Rate**</th>
<th>Application Temperature</th>
<th>Method of Application</th>
<th>Dry Film Thickness Required</th>
<th>Colours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>≤ 320 g/L</td>
<td>4.8 m²/L (198 ft²/US gal)/Coat</td>
<td>-10ºC (14ºF) and rising</td>
<td>Brush, Roller or Spray</td>
<td>n/a</td>
<td>Clear</td>
</tr>
<tr>
<td>Yes</td>
<td>≤ 650 g/L</td>
<td>5.5 m²/L (220 ft²/US gal)/Coat</td>
<td>-10ºC (14ºF) and rising</td>
<td>Brush, Roller or Spray</td>
<td>n/a</td>
<td>Clear</td>
</tr>
<tr>
<td>Yes</td>
<td>≤ 750 g/L</td>
<td>1.5 to 3 m²/L (61 to 122 ft²/US gal)/Coat</td>
<td>-10ºC (14ºF) and rising</td>
<td>Brush, Roller or Spray</td>
<td>n/a</td>
<td>Clear</td>
</tr>
</tbody>
</table>

*** Sikagard silane and siloxane sealers react with silica within mineral substrates, such as concrete, and generate an alcohol which is released as a VOC. This effect is experienced with all silanes as a class, whether waterborne, solvent borne or 100% silanes. As partially reacted compounds at the time of manufacture, siloxanes inherently generate less VOCs. When compared to competitive products, Sika materials produce lower VOC values. Additionally, our superior coverage rates further reduce the impact of the VOCs released.

Approvals:
Alberta Ministry of Transportation (AMT)
Ministère du transport du Québec (MTQ)
Sealing, Waterproofing & Restoration Institute (SWRI)
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, within their shelf life. 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 recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.

Sika:  Your local partner... with global expertise

Sika Canada Inc., as a member of the Sika Group, is a wholly-owned subsidiary of Sika AG, based in Baar, Switzerland. The international group supplies specialty chemicals and products worldwide and is a leader in the production and processing of materials for the construction industry. The Sika Group has subsidiaries in more than 71 countries and employs over 12,000 people.

Recognized as a leader in the development of value-added products, Sika is committed to continuously renewing and improving its products, systems and procedures. This commitment is an ongoing one with all manufacturing facilities around the world having earned ISO 9001:2000 Certification.

Also available from Sika