Construction

Sikagard®-203 W

Single component, waterborne modified acrylic resin surface coating

Product Description	Sikagard®-203 W is a single component, coloured, waterborne modified acrylic resin based intermediate and surface coating containing an organic, active in-film antimicrobial, which is proven to inhibit bacteria such as Staphylococcus aureus and Escherichia coli (according to ISO 22196:2011).
Uses	■ Embedment, intermediate, and top coat for internal walls and ceilings ■ For concrete, bricks, cement based and gypsum substrates, metallic surfaces, timber, tiles and plastic ■ Suitable for pharmaceutical, medical engineering, food and beverage industry, hospitals, healthcare facilities, kitchens and prisons and leisure facilities.
Characteristics / Advantages	■ Good resistance to repeated cleaning regimes using mild detergents and cleaning solutions ■ Tough and highly durable ■ Good covering and hiding power (opacity) ■ Good water vapour permeability ■ Elastomeric, resists cracking and flaking ■ Matt finish ■ Seamless, easy to clean finish ■ Low odour

Tests

Approval / Standards	
Water Vapour Diffusion	4.8 g/m²/day at 520 µm; acc. BS 3177 (temperate)
Fire Resistance	Exova GmbH, Classification report 2010-1168-K1-1 B s2 d0; acc. EN13501-1
Wet-srub resistance	ILF Magdeburg, Test report: 1-034/10 Class 1; acc. EN 13300
Hiding power	ILF Magdeburg, Test report: 1-034/10 Class 3; acc. EN 13300

Antibacterial activity	Hohenstein Laboratories GmbH, Test report: 10.8.3-0058-1 Acc. ISO 22196, 2007 and JIS Z 2801,2000 test report available on request

Product Data

Form

Appearance / Colour	Resin: Medium Viscosity Liquid, coloured, matt Standard colour shade: light grey (RAL 7035), pearl white (RAL 1013), cream white (RAL 9001),grey white (RAL 9002), white (RAL 9010), light blue (RAL Design 240 80 20), sage (RAL Design 140 90 05), magnolia (RAL Design 085 90 10) Special colours may be made to order subject to minimum order quantities.
Packaging	Sikagard®-203 W: 5.0 litres (= 6.75kg) drums 15.0 litres (= 20.55kg) containers

Storage

Storage Conditions/ Shelf-Life	12 months from date of production if stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5°C and +25°C. Avoid exposure to frost and sources of heat.

Technical Data

Chemical Base	Waterborne acrylic copolymer dispersion		
Density	Sikagard®-203 W:	~ 1.35 kg/l	(DIN EN ISO 2811-1)
Solid Content	~ 46.7 % (by volume) / ~ 61.4% (by weight)		
Adhesion	*To concrete:* > 1.5 N/mm^2 (failure in concrete)		
Gloss	< 5 gloss units @ 60º	(Classified as “dead matt” to BS EN 13300:2001)	
Surface Granularity	< 0.01mm	(Classified as “fine” to BS EN 13300:2001)	
Resistance to QUV	No appreciable change other than a minor reduction in gloss. (ASTM G154-04: 2500 hours QUV-B)		

Mechanical / Physical Properties

Tensile Elongation	Unreinforced:	approx. 90%	(BS EN ISO 527-3)
Tensile Strength	Unreinforced:	4.5 N/mm²	(BS EN ISO 527-3)
Hardness (Persoz)	10		

Resistance

Chemical resistance	10% solutions of acids and alkalis including nitric acid and caustic soda failed to cause breakdown of the membrane.
Impact	No cracking or de-lamination
Hydrogen Peroxide	Not resistant to a disinfection regime, based on direct H_2O_2 gas exposure

System Information

System Structures

System 1:
Good surface of block work, brick, stone, calcium silicate board, concrete, high pressure laminate, insulation materials, mastic, moisture resistant plasterboard, plasterboard, sand & cement render, tiles and timber (please refer to Technical Customer Services for further information):

Primer:	1 x Sika® Bonding Primer
Top coat:	2 x Sikagard®-203 W

System 2:
Maintenance of good surfaces of block work, brick, stone, calcium silicate board, concrete, high pressure laminate, insulation materials, mastic, moisture resistant plasterboard, plasterboard, sand & cement render, tiles and timber (please refer to Technical Customer Services for further information):

Primer:	1 x Sika® Bonding Primer
Intermediate coat:	1 x Sikagard®-203 W
Top coat:	2 x Sikagard® -203 W or 2 x Sikagard®-205 W or 2 x Sikagard®-206 W or 2 x Sikagard®-307 W

System 3:
Poor surface of block work, brick, stone, calcium silicate board, concrete, high pressure laminate, insulation materials, mastic, moisture resistant plasterboard, plasterboard, sand & cement render, tiles and timber on areas where medium or heavy mechanical stress is expected (please refer to Technical Customer Services for further information):

Primer:	1 x Sika® Bonding Primer
Intermediate coat:	1 x Sikagard®-203 W embedment coat with either Sika® Reemat Lite or Premium (depending upon specification) 1 x Sikagard®-203 W
Top coat:	2 x Sikagard® -203 W or 2 x Sikagard®-205 W or 2 x Sikagard®-206 W or 2 x Sikagard®-307 W

System 4:
Poor surface of block work, brick, stone, calcium silicate board, concrete, high pressure laminate, insulation materials, mastic, moisture resistant plasterboard, plasterboard, sand & cement render, tiles and timber on areas where high mechanical stress or strong impact stress is expected (please refer to Technical Customer Services for further information):

Primer:	1 x Sika® Bonding Primer
Intermediate coat:	1 x Sikagard®-203 W embedment coat , with Sika® Reemat Premium followed wet in wet by Sika® Reemat Lite 1 x Sikagard®-203 W
Top coat:	2 x Sikagard®-203 W or 2 x Sikagard®-205 W or 2 x Sikagard®-206 W or 2 x Sikagard®-307 W

Note:
- For metal substrates apply 1 x Sikalastic® Metal Primer instead of Sika® Bonding Primer (please refer to Sikalastic® Metal Primer product datasheet for further information).
- Timber must be knot stopped, stable, free from shakes and non-checking. Sand if necessary and apply Bonding Primer.

Application Details

Consumption / Dosage

Coating System	Product	Consumption
System 1		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m²
Top coat	2 x Sikagard®-203 W	Approx. 0.35 kg/m², each coat

System 2		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m²
Intermediate coat	1 x Sikagard®-203 W	Approx. 0.35 kg/m²
Top coat	2 x Sikagard®-205 W or 2 x Sikagard®-206 W or 2 x Sikagard®-307 W	Depending on the product used, see individual product datasheets
System 3		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m²
System 3.1 Intermediate coat with Sika® Reemat Lite	 1 x Sikagard®-203 W 1 x Sika® Reemat Lite 1 x Sikagard®-203 W	 Approx. 0.35 kg/m² Approx. 0.03 kg/m² Approx. 0.35 kg/m²
System 3.2 Intermediate coat with Sika® Reemat Premium	 1 x Sikagard®-203 W 1 x Sika® Reemat Premium 1 x Sikagard®-203 W	 Approx. 1.40 kg/m² Approx. 0.225 kg/m² Approx. 0.70 kg/m²
Top coat	2 x Sikagard®-205 W or 2 x Sikagard®-206 W or 2 x Sikagard®-307 W	Depending on the product used; see individual product datasheets

System 4:		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m²
Intermediate coat with Sika® Reemat Premium followed wet in wet by Sika® Reemat Lite	1 x Sikagard®-203 W 1 x Sika® Reemat Premium 1 x Sika® Reemat Lite 1 x Sikagard®-203 W	Approx. 1.40 kg/m² Approx. 0.225 kg/m² Approx. 0.03 kg/m² Approx. 0.70 kg/m²
Top coat	2 x Sikagard®-205 W or 2 x Sikagard®-206 W or 2 x Sikagard®-307 W	Depending on the product used; see individual product datasheets

These figures are theoretical and do not allow for any additional material required due to surface porosity, surface profile, variations in level and wastage etc.

Note: For metal substrates apply 1 x Sikalastic® Metal Primer (Approx. 0.20 kg/m²) instead of Sika® Bonding Primer (please refer to Sikalastic® Metal Primer product datasheet for further information).

Substrate Quality

The substrate must be sound, clean, dry and free of all contaminants such as dirt, laitance, mould, oil, grease and surface treatments, etc.

Brickwork, block work, stonework:
Inspect the substrate. Spalling, flaking and damaged areas should be repaired using compatible materials to match surroundings or replace as necessary.

If in doubt apply a test area first.

Substrate Preparation

All surfaces to be coated should be thoroughly cleaned by conventional means.

Exposed metal surfaces to be included in the coating schedule should be wire brushed or mechanically abraded to remove rust/ scale or oxidation. Return to a clean, bright metal wherever possible.

Ensure that surfaces are free from visible dampness and that all dust, loose and friable material is completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.

Application Conditions / Limitations

Substrate Temperature

+8 °C min. / +35 °C max.

Ambient Temperature

+8 °C min. / +35 °C max

Substrate Moisture Content	Visible damp free (maximum 18% wood moisture equivalent). < 6% pbw moisture content Test method: Sika®-Tramex meter, < 4% CM - measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene sheet).
Relative Air Humidity	80% max.
Dew Point	Beware of condensation! The substrate and uncured coating must be at least 3°C above dew point to reduce the risk of condensation or blooming on the wall finish.

Application Instructions

Application Method / Tools	Prior to application, confirm substrate moisture content, relative humidity and dew point. *Pimer:* Sika® Bonding Primer can be applied by short-piled roller, brush or airless spray. Sikalastic® Metal Primer can be applied by short-piled roller, brush or airless spray. *Intermediate coat:* 1 x Sikagard®-203 W can be applied by short pile or sheepskin roller (for embedment coat only), brush or airless spray. Preferred application is by airless spray (tip size 0.38 to 0.53mm). *Top Coat:* Sikagard®-203 W shall be applied by conventional airless spray (tip size 0.38 to 0.53mm) to achieve a smooth surface. Application by brush and roller is possible, the surface of the coating might be lightly textured (for further information please contact Technical Customer Services). Sikagard®-205 W , Sikagard®-206 W, Sikagard 207 W and Sikagard®-307 W see individual PDS.
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically or with proprietary paint stripper).

Over coating times

Before applying Sikagard®- Hygienic top coats - on Sikagard®-203 W - allow:

Substrate temperature	Minimum	Maximum
+10°C	~24 hours	7 days
+20°C	~4 hours	7 days
+30°C	~4 hours	7 days

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Notes on Application / Limitations

Minimum two coats, dependent on requirements.

Ensure entire surface is fully dried before proceeding. Crazing may occur over coating un-dried surfaces or when applying excessively thick material.

Always ensure good ventilation when using Sikagard®-203 W in a confined space, to ensure drying and full curing.

The gloss of the applied material is influenced by humidity, temperature and absorbency of the substrate.

The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking (for further information please contact Technical Customer Services).

For spray application the use of protective health & safety equipment is mandatory!

If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO_2 and H_2O water vapour, which may adversely affect the finish. For heating use only electric powered warm air blower systems.

New concrete should be allowed to cure/hydrate for a minimum of 10 days and preferably 28 days.

Curing Details

Applied Product ready for use

Temperature	Tack free	Full cure
+10 °C / 50% r.h.	~ 8 hours	~ 7 days
+20 °C / 50% r.h.	~ 4 hour	~ 7 days
+30 °C / 50% r.h.	~ 3 hour	~ 7 days
Note: Times are approximate and will be affected by changing ambient conditions.		

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.

Health and Safety Information

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.

Legal Notes

EU Regulation 2004/42 **VOC - Decopaint Directive**	According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / **j** type **wb**) is 140 / 140 g/l (Limits 2007 / 2010) for the ready to use product. The maximum content of **Sikagard®-203 W** is < 140 g/l VOC for the ready to use product.
USGBC LEED rating	Sikagard®-203 W conforms to the requirements of LEED EQ Credit 4.2: Low –Emitting Materials: Paints & Coatings SCAQMD Method 304-91 VOC Content < 100g/l

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