

Product Data Sheet
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Sikagard®-216 W



Sikagard®-216 W

Single component, waterborne modified acrylic resin surface coating with a matt finish

Product Description	Sikagard®-216 W is a single component, coloured, waterborne, modified acrylic resin based surface coating containing a silver ion based, active in-film antimicrobial, which is proven to inhibit bacteria such as Staphylococcus aureus and Escherichia coli (according to ISO 22196:2011).
Uses	<ul style="list-style-type: none">■ Coloured coating for internal walls and ceilings■ For concrete, bricks, cement based and gypsum substrates, metallic surfaces, timber, tiles and plastic■ Suitable for clean rooms in the pharmaceutical and medical industry. Also suitable for food and beverage industry, hospitals, healthcare facilities, kitchens and prisons and leisure facilities■ Maintenance layer on existing coatings
Characteristics / Advantages	<ul style="list-style-type: none">■ Easy application■ Fast drying, two coats in one working day■ Elastomeric, resists cracking and flaking■ Good resistance to repeated cleaning regimes using mild detergents and cleaning solutions■ Tough and highly durable■ Good water vapour permeability■ Seamless, easy clean finish■ Matt finish■ Good covering and hiding power (opacity)■ Low odour
Tests	
Approval / Standards	
Water Vapour transmission	19.3 g/m ² /day at 130µm DFT, acc. BS 3177 (temperate)
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 1; acc. EN 13300
Antibacterial activity	Hohenstein Laboratories GmbH, Test report: 10.8.3-0058-4 Acc. ISO 22196, 2007 and JIS Z 2801,2000 test report available on request
Biological resistance	Frauenhofer Institute, Stuttgart Germany, Biological resistance certificate Sikagard-216; CSM Statement of qualification – ISO 846, excellent, Report No. SI 1103-544

Construction



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Product Data

Form

Appearance / Colour	Resin: Liquid, coloured 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.
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Packaging	Sikagard [®] -216 W:	5.0 litres (= 6.16 kg) containers 15.0 litres (= 18.50 kg) containers
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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 heat sources.
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Technical Data

Chemical Base	Waterborne acrylic copolymer dispersion		
Density	Sikagard [®] -216 W:	~ 1.23 kg/l	(DIN EN ISO 2811-1)
Gloss	< 10 gloss units at 85°	(Classified as "matt" to BS EN 13300:2001)	
Surface Granularity	<0.01mm	(Classified as "fine" to BS EN 13300:2001)	
Solid Content	~ 42.4 % (by volume) / ~ 53.8% (by weight)		
Adhesion	<i>To concrete:</i> > 1.5 N/mm ² (failure in concrete)		

Mechanical / Physical Properties

Tensile Elongation	Unreinforced:	approx. 30%	(BS EN ISO 527-3)
	Sika [®] Reemat Lite:	approx. 5.89%	(BS EN ISO 527-3)
Tensile Strength	Unreinforced:	10 N/mm ²	(BS EN ISO 527-3)

Resistance

Chemical resistance	10% solutions of acids and alkalis including nitric acid and caustic soda failed to cause breakdown the membrane.
Hydrogen Peroxide	Resistant to a disinfection regime, based on H ₂ O ₂ gas exposure up to 24 hours

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 plaster board, plasterboard, sand & cement render, tiles and timber (please contact Technical Customer Services for further information):

Primer: 1 x Sika® Bonding Primer
Top coat: 2 x Sikagard®-216 W

System 2:

Maintenance of good surfaces of block work, brick, stone, calcium silicate board, concrete, high pressure laminate, insulation materials, mastic, moisture resistant plaster board, 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®-218 W
Top coat: 2 x Sikagard®-216 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®-218 W
embedment coat, with either Sika® Reemat Lite or Premium (depending upon specification)
1 x Sikagard®-218 W
Top coat: 2 x Sikagard®-216 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®-218 W
embedment coat, with Sika® Reemat Premium followed wet in wet by Sika® Reemat Lite
1 x Sikagard®-218 W
Top coat: 2 x Sikagard®-216 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.
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Application Details

Consumption / Dosage

Coating System	Product	Consumption
System 1		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m ²
Top coat	2 x Sikagard®-216 W	Approx. 0.21 kg/m ² , each coat
System 2		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m ²
Intermediate coat	1 x Sikagard®-218 W	Approx. 0.39 kg/m ²
Top coat	2 x Sikagard®-216 W	Approx. 0.21 kg/m ² , each coat
System 3		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m ²
System 3.1		
Intermediate coat with Sika® Reemat Lite	1 x Sikagard®-218 W 1 x Sika® Reemat Lite 1 x Sikagard®-218 W	Approx. 0.35 kg/m ² Approx. 0.03 kg/m ² Approx. 0.35 kg/m ²
System 3.2		
Intermediate coat with Sika® Reemat Premium	1 x Sikagard®-218 W 1 x Sika® Reemat Premium 1 x Sikagard®-218 W	Approx. 1.40 kg/m ² Approx. 0.225 kg/m ² Approx. 0.70 kg/m ²
Top coat	2 x Sikagard®-216 W	Approx. 0.21 kg/m ² , each coat
System 4		
Primer	1 x Sika® Bonding Primer	Approx. 0.10 kg/m ²
Intermediate coat with Sika® Reemat Premium followed wet in wet by Sika® Reemat Lite	1 x Sikagard®-218 W 1 x Sika® Reemat Premium 1 x Sika® Reemat Lite 1 x Sikagard®-218 W	Approx. 1.40 kg/m ² Approx. 0.225 kg/m ² Approx. 0.03 kg/m ² Approx. 0.70 kg/m ²
Top coat	2 x Sikagard®-216 W	Approx. 0.21 kg/m ² , each coat

Note:

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.

Substrate Quality

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

Brick work, block work, stone work:

Inspect the substrate. Spalling, flaking or 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:

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% r.h. 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. <i>Primer:</i> 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. <i>Intermediate coat:</i> Sikagard®-218 W can be applied by short pile or sheepskin roller (for embedment coat only), brush or airless spray (tip size 0.38 to 0.53mm). Preferred application is by airless spray <i>Top Coat:</i> Sikagard®-216 W can be applied by short or medium pile roller, brush and airless spray (tip size 0.28 to 0.48mm)
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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).
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Waiting Time / Over coating Before applying Sikagard®-216 W - on Sikagard®-218 W - allow:

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

Before applying Sikagard®-216 W - on Sikagard®-216 W - allow:

Substrate temperature	Minimum	Maximum
+10 °C	~4 hours	7 days
+20 °C	~1 hours	7 days
+30 °C	~1 hours	7 days

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

Notes on Application / Limitations

Application by roller may result in a slight surface texture when using standard coverage rates. If a smoother surface is required apply 3 thinner coats to produce the same overall DFT.

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

Always ensure good ventilation when using Sikagard®-216 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 CO₂ and H₂O 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 hours	~ 7 days
+30 °C / 50% r.h	~ 3 hours	~ 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

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.

Construction

**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®-216 W** is < 140 g/l VOC for the ready to use product.

**USGBC
LEED rating**

Sikagard®-216 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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