

Sikagard®-183 W CR

2-part water dispersed epoxy seal coat

Product Description	Sikagard®-183 W CR is a two part, coloured, water dispersed epoxy resin based coating.
Uses	<ul style="list-style-type: none">■ Coloured seal coat for walls and ceilings interior■ For concrete, bricks, cement based and gypsum substrates■ Suitable for clean rooms in the electronic, pharmaceutical, medical engineering, food and beverage industry■ Maintenance layer on existing epoxy floors
Characteristics / Advantages	<ul style="list-style-type: none">■ Easy application■ Good chemical and mechanical resistance■ Very low VOC and particle emission■ Good covering and hiding power (opacity)■ High resistance to carbonation■ Easy to clean■ Good sag resistance■ Low odour
Tests	
Approval / Standards	<ul style="list-style-type: none">■ Approved for the use in nuclear power plants according to DIN EN 55991, without exposure.■ Decontamination according to DIN EN 25415 (excellent)■ Out-gassing datasheet Sikagard -183 W CR at +90 °C-M+W Zander Holding AG■ Eurofins Emission testing according AgBB-scheme and guidelines of the DIBt (AgBB-Committee for Health related Evaluation of Building Products; DIBt-German Institute for Building Technology). Sampling, testing and evaluation were performed according to ISO 16000, Report No. 764256F■ ISEGA Certificate of Conformity 27592 U 09-Sikagard-183 W CR may be used safely as top layer or wearing surface on floors in the food sector. The short term contact of the coating with foodstuff is safe as far as no hygienic regulations are violated.■ ISO class 5 –particle emission certificate Sikagard-183 W CR in accordance with ISO 14644-1; Cleanroom Suitable Materials CSM Statement of Qualification- Report No. SI 0706-406■ ISO class -9.6 –AMC/VOC emission certificate Sikagard -183 W CR in accordance with ISO 14644, Cleanroom Suitable Materials CSM Statement of Qualification- Report No. SI 0706-406
USGBC LEED Rating	<ul style="list-style-type: none">■ Sikagard®-183 W CR conforms to the requirements of LEED EQ Credit 4.2: Low –Emitting Materials: Paints & Coatings SCAQMD Method 304-91



Product Data

Form

Appearance / Colour	Resin - part A:	liquid, coloured
	Hardener - part B:	liquid, honey coloured
Standard colour shade: ~ RAL 7032, ~ RAL 7035, ~ RAL 7038, ~ RAL 9010		

Packaging	Part A:	10.0 kg containers
	Part B:	6.0 kg 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 +30 °C. Protect from frost.
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Technical Data

Chemical Base	Epoxy, water dispersed.		
Density	Part A:	~ 1.75 kg/l	(DIN EN ISO 2811-1)
	Part B:	~ 1.02 kg/l	
	Mixed resin liquid:	~ 1.40 kg/l	
Solid Content	~ 45% (by volume) / ~ 59% (by weight)		
Viscosity	~ 1800 mPas at +23 °C (part A+B)		
Adhesion	<i>To concrete:</i> > 1.5 N/mm ² (failure in concrete)		

Mechanical / Physical Properties

Abrasion Resistance	123 mg (CS 10/1000/1000) (14 days / +23 °C) (ASTM D 4060, Taber Abraser Test)
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Resistance

Thermal Resistance

Exposure*	Dry heat
Permanent	+80 °C
Short-term max. 7 d	+80 °C
Short-term max. 12 h	+120 °C

Short term moist/wet heat* up to +80 °C where exposure is only occasional (i.e. during steam cleaning etc.)

*No simultaneous chemical and mechanical exposure.

System Information

System Structures

On gypsum plaster boards and plasters:

Primer: 1 x Sikagard®-183 W CR + 5 wt.% water (roller application)
Coating: 1 - 2 x Sikagard®-183 W CR undiluted (roller application)

On concrete

Pore filler: 1 x Sikagard®-185 Primer
(optional) 1 - 2 x Sikagard®-185 Porefiller
if it is necessary to apply a dry film thickness of more than 1.5 mm
add 10% quartz sand (0.1 - 0.7mm) For thin layer application up to 8%
water can be added.

Or

1 - 2 x Sikadur®-331 W
depending on the quality of the concrete add up to 30% quartz sand
(0.1-.7mm) to improve pore filling properties. For thin layer application
up to 5% water can be added.

Primer: 1 x Sikagard®-183 W CR + 5 wt.% water (roller coating)
Coating: 1 - 2 x Sikagard®-183 W CR undiluted (roller application)

On normally absorbent surfaces with normal exposure:

Primer: 1 x Sikagard®-183 W CR + 5 wt.% water (roller coating)
Coating: 1 - 2 x Sikagard®-183 W CR undiluted (roller application)

On strongly absorbent surfaces, pre-dampening of the surface is recommended:

Primer: 1 x Sikagard®-183 W CR + 10 wt.% water (roller application)
Intermediate: 1 x Sikagard®-183 W CR + 5 wt.% water (roller application)
Coating: 1 - 2 x Sikagard®-183 W CR undiluted (roller application)

Maintenance layer on existing epoxy floors

Coating: 1 - 2 x Sikagard®-183 W CR undiluted (roller application)

Note: Sikagard®-183 W CR can also be applied by airless spray instead of roller application.

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Skim coats		
Sikadur®-331 W	1 - 2 x Sikadur®-331 W	0.6 - 1.8 kg/m ² for each coat
Sikagard®-185 Primer	1 x Sikagard®-185 Primer	0.1 - 0.2 kg/m ²
Sikagard®-185 Porefiller	1 x 2 Sikagard®-185 Porefiller Portland cement CEM I 32.5R (DIN EN 197-1), white,	1.0 - 2.0 kg/m ² for each coat 0.2 - 0.4 kg/m ² for each coat
Top coat		
Primer	1 x Sikagard®-183 W CR diluted with 5 wt.% water	0.15 - 0.20 kg/m ²
Roller coat	1 - 2 x Sikagard®-183 W CR	0.20 - 0.25 kg/m ² for each coat
Spray application	1 - 2 x Sikagard®-183 W CR	0.30 - 0.50 kg/m ² for each coat

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 concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².

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

If in doubt apply a test area first.

Substrate Preparation	<p>Concrete substrates must be prepared mechanically using grinding equipment or high pressure water jetting to remove cement laitance and achieve an open textured surface.</p> <p>Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.</p> <p>Repairs to the substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor[®], Sikadur[®], Sika MonoTop[®] and Sikagard[®] range of materials.</p> <p>All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.</p>
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Application Conditions / Limitations

Substrate Temperature	+10 °C min. / +35 °C max.
Ambient Temperature	+10 °C min. / +35 °C max.
Substrate Moisture Content	<p>< 6% pbw moisture content.</p> <p>Test method: Sika[®]-Tramex meter, CM - measurement or Oven-dry-method.</p> <p>No rising moisture according to ASTM (Polyethylene sheet).</p>
Relative Air Humidity	80% r.h. max.
Dew Point	<p>Beware of condensation!</p> <p>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 or floor finish.</p> <p>Note: Low temperatures and high humidity conditions increase the probability of blooming.</p>

Application Instructions

Mixing	Part A : part B = 100 : 60 (by weight)
Mixing Time	<p>Prior to mixing, stir part A mechanically. When all of part B has been added to part A, mix continuously for 3 minutes until a uniform mix has been achieved.</p> <p>To ensure thorough mixing pour materials into another container and mix again to achieve a consistent mix.</p> <p>Over mixing must be avoided to minimise air entrainment.</p>
Mixing Tools	Sikagard [®] -183 W CR must be mechanically mixed using an electric stirrer (300 - 400 rpm) or other suitable equipment.
Application Method / Tools	<p>Prior to application, confirm substrate moisture content, relative humidity and dew point.</p> <p>If > 6% pbw moisture content, Sikagard[®]-720 EpoCem[®] may be applied on walls and Sikafloor[®]-81 EpoCem[®] on floors as a T.M.B. (temporary moisture barrier) system.</p> <p><i>Seal coat:</i> Sikagard[®]-183 W CR can be applied by short-piled roller, brush or airless spray.</p>
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically.

Pot life

Temperatures	Time
+10 °C	~ 60 min
+20 °C	~ 45 min
+30 °C	~ 20 min

**Waiting Time /
Over coating**

Before applying Sikagard®-183 W CR - on Sikagard®-183 W CR - allow:

Substrate temperature	Minimum	Maximum
+10°C	24 hours	3 days
+20°C	16 hours	2 days
+30°C	12 hours	24 hours

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.

With relative air humidity of $\geq 80\%$ the waiting time / overcoat is increased by 24 hours.

Always ensure good ventilation when using Sikagard®-183 W CR in a confined space, to ensure drying and full curing.

Freshly applied Sikagard®-183 W CR should be protected from rain, condensation and water for at least 24 hours.

Avoid "puddling" on horizontal surfaces.

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 exact colour matching, ensure the Sikagard®-183 W CR in each area is applied from the same control batch numbers.

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

Under certain conditions, under floor heating or high ambient temperatures combined with high point loading, may lead to imprints in the resin.

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.

Tools

Recommended Supplier of Tools:

PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com

Curing Details**Applied Product ready
for use**

Temperature	Tack free	Light exposure	Full cure
+10°C	~ 18 hours	~ 5 days	~ 7 days
+20°C	~ 12 hours	~ 3 days	~ 7 days
+30°C	~ 8 hours	~ 2 days	~ 5 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.
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®-183 W CR is < 140 g/l VOC for the ready to use product.



台灣西卡股份有限公司 Sika Taiwan Ltd.
桃園縣蘆竹鄉 33849 富國路三段 1380 號
TEL :03-352-8622 · FAX: 03-352-0470
sika@tw.sika.com · http://tw.sika.com

Sika Services AG
Tüffenwies 16
CH-8048 Zurich
Switzerland
Phone +41 44 436 40 40
Telefax +41 44 436 46 86
www.sika.com

